

# **OHV USE AND PREFERENCES IN IOWA**

## **Results of the 2022 Survey of Iowa Registered OHV Owners**

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prepared for  
IOWA DEPARTMENT OF NATURAL RESOURCES

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## 1. SUMMARY

Off-highway vehicles (OHVs) include utility vehicles (UTVs, also referred to as side-by-sides), all-terrain vehicles (ATVs), and off-road motorcycles (dirt bikes, MX). The Iowa Department of Natural Resources (DNR) is the registering agency in Iowa for OHVs, provides OHV rider education, partners with other entities to manage the Iowa OHV parks, and administers a grant program for development and maintenance of OHV parks and trails in Iowa. Given these responsibilities, Iowa DNR has interest in better information about the patterns of OHV use in Iowa and perceptions held by Iowa's registered OHV owners about riding opportunities and the use of registration fees.

The University of Tennessee's Human Dimensions Research Lab specializes in research about outdoor recreation in natural places and previously has conducted studies about OHV use and rider preferences for other agencies, including the U.S. Forest Service, the National Park Service, and states agencies. Based on this prior experience, Iowa DNR engaged the Human Dimensions Lab to conduct a survey of Iowa registered OHV owners. The results of this survey are the focus of this report.

The survey was administered through mail and email. Participation rates in both survey types were good: the response rate to the emailed survey was 25.4% and to the mailed survey was 21.7%. Given these response rates along with the total number of responses (n=5,298) and the distribution of respondents both geographically and by vehicle ownership type, the data produced by the survey provide results that are statistically sound and representative of Iowa registered OHV owners.

Recreation is the primary reason for OHV ownership for more than two-thirds of Iowa registered OHV owners, while 30% own their OHVs primarily for work purposes (including the 10% who use their vehicles exclusively for agricultural purposes). Just under 2% own an OHV primarily for mobility purposes for a person with physical disability. However, the large share who own their OHVs primarily for recreation ride less frequently than those who own them for work and mobility purposes, with mean number of days ridden in 2021 being 95, 150, and 126 respectively.

The popularity of UTVs is reflected in vehicle ownership and use. Overall, Iowa registered OHV owners rode an average of 108 days in 2021, with a median of 65 days. Owners who primarily ride UTVs ride more days than those who own ATVs and off-road motorcycles, with mean days ridden in 2021 being 143, 94, and 63, respectively. With respondents reporting all OHV types they own, 71% reported owning a UTV and 65% said it was the OHV type they primarily use.

While Iowa OHV riders might begin to ride more frequently on Iowa roads because of new regulations in 2022, the survey revealed that a large majority (81%) of Iowa registered OHV owners and 91% of owners whose primary OHV is an UTV were already riding on Iowa roads in 2021. Most of this riding occurred on county roads - both gravel and paved - rather than state roads. Off-road motorcycle riders were less likely to ride on roads than other riders, with only 44% reporting on-road riding in 2021. Eighty-two percent (82%) of those who ride on roads do so for recreational purposes.

Some contrasts are observed in riding patterns. Despite the large share of OHV riders using Iowa roads, only 13% of the OHV-riding injuries reported by Iowa registered OHV riders happened when riding on roads. In contrast, 17% of Iowa registered OHV owners road in an Iowa OHV park in 2021, while 37% of OHV-related injuries occurred there. The varied rate of injury could be a reflection of the different types or styles of riding that occur in the two locations. Two percent (2%) of survey respondents report a member of their riding group experienced an OHV-related injury in 2021.

Another contrast is the share of OHV owners who ride out-of-state and those who ride in Iowa OHV parks, 32% and 17%, respectively. Riders travel out of state for OHV riding vacation experiences and because they are seeking different OHV riding experiences. Wisconsin is a favored destination, with it having been the riding destination of 46% of Iowa registered OHV riders who traveled out of state to ride. Iowa riders who used an Iowa OHV park in 2021 report moderate levels of satisfaction with the Iowa OHV parks. Of the four Iowa OHV park-riding features assessed (including riders' own riding experiences, park management, and riding management), park riders report lowest levels of satisfaction with the "types of riding experiences available" at Iowa OHV parks. Off-road motorcycle riders use the Iowa OHV parks more than riders who use other vehicle types, and they report slightly greater satisfaction with Iowa OHV parks, including the types of riding experiences available there. The two highest rated motivations for trips to Iowa OHV parks are experiencing a sense of escape and personal freedom and socializing with family and friends. These

motivations are largely consistent with those reported in other OHV rider assessments. Iowa OHV park riders did not identify any issues of significant concern at the parks, but the issue about which their concern was greatest were temporary park closures due to damage. Their second greatest concern was two-way riding on one-way trails. In keeping with this concern, respondents identified trailhead signage indicating 1-way or 2-way trails to be the greatest need at the Iowa OHV park they most frequently used in 2021. Washing stations and trailhead maps were the two other highest priority needs.

All respondents, including those who reported using their OHVs exclusively for agricultural purposes, shared their opinions about priorities for OHV registration fees. Moderate to high levels of support were expressed for all options except law-enforcement on roads and OHV parks, which received neutral-to-moderate support. The highest levels of support were shown for establishing new OHV riding areas in Iowa and maintaining existing Iowa OHV riding areas. Iowa OHV club members expressed stronger support than non-club-members for adding amenities to existing parks, maintaining existing parks, and established new Iowa OHV riding areas.

The structure of the following sections of the report closely follows the structure of the survey. Section 2 addresses survey methods. Sections 3 and 4 address OHV ownership and vehicle use generally. Section 5 is an overview of use of various riding locations - roads, Iowa OHV parks, and out-of-state riding trips - while sections 6, 7, and 8 delve deeply into OHV riding at each of these locations. Section 9 presents results about preferred uses of OHV registration fees. The final section of the report presents the demographic characteristics of the survey respondents.

## **2. METHODS**

On behalf of Iowa Department of Natural Resources (DNR), the Human Dimension Research Lab at the University of Tennessee conducted a mixed mode survey of registered owners of Off Highway Vehicles (OHVs) in Iowa between August and October of 2022. The purpose of the survey was to characterize the OHV riding patterns and preferences, as well as registered OHV owners' perceptions of the OHV parks in Iowa.

### **2.1 SURVEY SAMPLE, MODES, AND RESPONSE RATES**

The survey was distributed to registered OHV owners in Iowa, using registration data captured by Iowa Department of Natural Resources staff in July 2022. The total database included 75,906 registered vehicles. Duplicate contacts were removed, with duplicates identified either by repeat customer identification numbers, mailing addresses, or email addresses. Once duplicates were removed there remained 59,465 registration records. Registrations held only in a business's name with no personal contact totaled 2,252, and these were removed from the contacts list. There remained 24,327 registered OHV owners for whom email and postal addresses were available and 32,886 with only postal mail addresses.

We used two methods to deliver the survey. This bi-modal survey process accomplishes two objectives. First, it assures the method of survey delivery (email vs. U.S. postal mail) does not introduce bias in the collected data that might result if only owners who shared email addresses were contacted. Second, it maximizes the opportunity for registered Iowa OHV owners to participate in the survey while maintaining cost efficiency since a mailed survey is far more expensive to implement than an emailed survey.

Invitations to the online survey were sent to 18,293 working email addresses. The target was 20,000, the maximum number allowed by the Qualtrics software license of the University of Tennessee in the four-week period during which invitations and reminders were to be sent. The 20,000 were drawn by random sampling from the 24,327 registrations that had email addresses. The difference between the targeted 20,000 and the delivered 18,293 results from email addresses that are determined to be incorrect or incomplete by the software and those that bounced or failed. Emailed invitations explained the purpose of the survey and provided a link to the online survey that used Qualtrics survey software. Initial email invitations occurred in two waves and were sent on August 11, 2022 and August 18, 2022. One reminder email was sent to non-respondents one week after their initial invitation. The online/email survey response rate was 25.4%, based on the 4,648 responses.

From the available 32,886 Iowa registered OHV owners who had only a U.S. mail address associated with their registration, we selected a random sample of 3,200 contacts using the randomization feature in Microsoft Excel. The

survey packets mailed to these 3,200 contacts included a letter explaining the purpose of the survey, the survey booklet, and an envelope with postage prepaid. A second survey packet was sent to non-respondents three weeks after the initial mailing. Mailings occurred on August 11, 2022 and September 7, 2022. Six hundred and fifty (650) people returned completed surveys. Another 45 OHV owners returned surveys that indicated they had not owned their OHV in 2021 (the timeframe addressed in the survey questions). The mailed survey response rate was 21.7%<sup>1</sup>.

Development of the survey questionnaire occurred through a consultative process among several representatives of Iowa DNR and the University of Tennessee Human Dimensions Research Lab (HD Lab) staff. A previous survey about OHV use in Tennessee was the starting point for consideration of the topics that the survey might address. Iowa-specific circumstances - such as Iowa OHV parks and changing Iowa law governing use of ATVs and UTVs on county and state roads - also were considerations in developing the survey questionnaire.

## 2.2 SURVEY RESPONDENTS' REPRESENTATIVENESS OF IOWA OHV REGISTRATIONS

Comparing characteristics of the survey respondents to characteristics of the Iowa DNR OHV registrations is done to assure that the survey respondents are representative of the universe of OHV registrations. Specifically, we focus here on two characteristics: 1) the geographic distribution by county of survey respondents and 2) the type of vehicles they own (ATV, UTV, and off-road motorcycles). We can be assured of the representativeness of the data if the geographic distribution of respondents is proportional to the geographic distribution of Iowa OHV owners. Similarly, we can be assured the survey represents Iowa OHV registrations if the shares of ATV, UTV, and off-road motorbike-owning survey respondents are proportional to shares of vehicle types among all registered OHVs in Iowa. Although it is never expected to have a perfect match between the distribution of the population (registered OHVs) and the distribution of survey respondents, statistical analysis can determine whether their relationship, or more specifically lack of parity, could introduce bias in the survey results. The details of the two comparisons are presented below. In summary, survey respondents are found to be a near perfect match by geography to OHV registrations and a very close match by OHV type: ATV, UTV (side-by-side), and off-road motorcycle.

### 2.1.1 Geographic distribution

The county-by-county distribution of Iowa OHV registrations in 2021 is shown in Table 2.1. The registration data, provided to the Human Dimensions Research Lab by Iowa DNR, offer a snapshot of registrations. Because registrations can be added or removed at any point in the year, the numbers could vary somewhat depending on when the data were captured. OHV registrations by county range from 82 in Adams County to 4,292 in Polk County, with a statewide average of 756 and median of 612 OHVs registered per county.

Also shown in Table 2.1 is the distribution of survey respondents by county. These data reflect only the survey respondents (n=4,797) who shared their home zip codes. Respondents reside in every Iowa County, with a range of 3 in Taylor County to 249 in Linn County.

**Table 2.1. Geographic distribution of registered OHVs and survey responses**

A. COUNTY	B. # of Registered OHVs	C. % of Total	D. # of Responses*	E. % of Total	F. Difference
Adair	359	0.479	12	0.250	-0.232
Adams	82	0.110	5	0.104	-0.006
Allamakee	1301	1.738	57	1.188	-0.560
Appanoose	213	0.284	18	0.375	0.089
Audubon	298	0.398	18	0.375	-0.025
Benton	1182	1.579	60	1.251	-0.338
Black Hawk	1681	2.245	142	2.960	0.701
Boone	932	1.245	56	1.167	-0.085

<sup>1</sup> Subsequent to closing the survey to new data, the Human Dimensions Lab received another 24 completed surveys. With these surveys included response rate to the mailed survey would increase to 22.6%.

<b>A. COUNTY</b>	<b>B. # of Registered OHVs</b>	<b>C. % of Total</b>	<b>D. # of Responses*</b>	<b>E. % of Total</b>	<b>F. Difference</b>
Bremer	742	0.991	75	1.563	0.566
Buchanan	1078	1.440	75	1.563	0.115
Buena Vista	743	0.992	46	0.959	-0.039
Butler	668	0.892	44	0.917	0.020
Calhoun	484	0.646	23	0.479	-0.171
Carroll	816	1.090	39	0.813	-0.284
Cass	441	0.589	22	0.459	-0.134
Cedar	919	1.227	56	1.167	-0.068
Cerro Gordo	855	1.142	69	1.438	0.289
Cherokee	692	0.924	34	0.709	-0.221
Chickasaw	605	0.808	36	0.750	-0.063
Clarke	235	0.314	7	0.146	-0.170
Clay	923	1.233	50	1.042	-0.198
Clayton	1378	1.840	93	1.939	0.087
Clinton	1233	1.647	68	1.418	-0.239
Crawford	409	0.546	13	0.271	-0.279
Dallas	1151	1.537	110	2.293	0.746
Davis	191	0.255	5	0.104	-0.152
Decatur	183	0.244	5	0.104	-0.142
Delaware	1176	1.571	59	1.230	-0.350
Des Moines	631	0.843	60	1.251	0.403
Dickinson	1131	1.511	85	1.772	0.252
Dubuque	2861	3.821	169	3.523	-0.321
Emmet	486	0.649	34	0.709	0.056
Fayette	1080	1.442	63	1.313	-0.138
Floyd	473	0.632	37	0.771	0.136
Franklin	352	0.470	22	0.459	-0.014
Fremont	190	0.254	12	0.250	-0.005
Greene	267	0.357	12	0.250	-0.109
Grundy	293	0.391	17	0.354	-0.039
Guthrie	391	0.522	28	0.584	0.058
Hamilton	613	0.819	46	0.959	0.135
Hancock	526	0.703	39	0.813	0.106
Hardin	307	0.410	29	0.605	0.192
Harrison	416	0.556	22	0.459	-0.100
Henry	610	0.815	31	0.646	-0.173
Howard	480	0.641	23	0.479	-0.166
Humboldt	585	0.781	27	0.563	-0.223
Ida	204	0.272	10	0.208	-0.066
Iowa	747	0.998	60	1.251	0.247
Jackson	1514	2.022	84	1.751	-0.283
Jasper	1094	1.461	54	1.126	-0.344
Jefferson	363	0.485	25	0.521	0.033

<b>A. COUNTY</b>	<b>B. # of Registered OHVs</b>	<b>C. % of Total</b>	<b>D. # of Responses*</b>	<b>E. % of Total</b>	<b>F. Difference</b>
Johnson	1505	2.010	123	2.564	0.542
Jones	1228	1.640	73	1.522	-0.128
Keokuk	407	0.544	18	0.375	-0.172
Kossuth	1018	1.360	53	1.105	-0.263
Lee	820	1.095	60	1.251	0.149
Linn	3285	4.387	249	5.191	0.776
Louisa	555	0.741	46	0.959	0.213
Lucas	232	0.310	10	0.208	-0.103
Lyon	716	0.956	36	0.750	-0.212
Madison	633	0.845	81	1.689	0.838
Mahaska	614	0.820	36	0.750	-0.075
Marion	963	1.286	76	1.584	0.290
Marshall	611	0.816	35	0.730	-0.091
Mills	301	0.402	23	0.479	0.075
Mitchell	616	0.823	44	0.917	0.089
Monona	259	0.346	13	0.271	-0.077
Monroe	357	0.477	8	0.167	-0.313
Montgomery	217	0.290	14	0.292	0.000
Muscatine	620	0.828	68	1.418	0.584
O'Brien	773	1.032	49	1.021	-0.017
Osceola	391	0.522	16	0.334	-0.192
Page	176	0.235	8	0.167	-0.070
Palo Alto	450	0.601	23	0.479	-0.125
Plymouth	911	1.217	45	0.938	-0.286
Pocahontas	326	0.435	16	0.334	-0.105
Polk	4292	5.732	212	4.419	-1.348
Pottawattamie	1013	1.353	76	1.584	0.223
Poweshiek	662	0.884	38	0.792	-0.097
Ringgold	172	0.230	7	0.146	-0.085
Sac	486	0.649	23	0.479	-0.174
Scott	1766	2.359	142	2.960	0.587
Shelby	342	0.457	21	0.438	-0.022
Sioux	1678	2.241	83	1.730	-0.525
Story	938	1.253	112	2.335	1.074
Tama	581	0.776	33	0.688	-0.093
Taylor	124	0.166	3	0.063	-0.104
Union	275	0.367	18	0.375	0.006
Van Buren	419	0.560	22	0.459	-0.104
Wapello	533	0.712	34	0.709	-0.007
Warren	1290	1.723	101	2.105	0.372
Washington	763	1.019	55	1.147	0.121
Wayne	169	0.226	7	0.146	-0.081
Webster	1545	2.064	67	1.397	-0.679

A. COUNTY	B. # of Registered OHVs	C. % of Total	D. # of Responses*	E. % of Total	F. Difference
Winnebago	440	0.588	42	0.876	0.284
Winneshiek	790	1.055	50	1.042	-0.019
Woodbury	1203	1.607	81	1.689	0.072
Worth	369	0.493	23	0.479	-0.016
Wright	454	0.606	38	0.792	0.182
TOTAL	74872		4797		

\*The 4,797 respondents included here are those who provided zip code/county data. Some respondents did not provide this information.

To test the geographic representativeness of the survey responses, we compared the percentage of registered OHVs in each county to the percentage of survey respondents in each county. Over-representation occurs when the percentage of survey respondents from a county is greater than the percentage of OHVs in that county. A positive value (Table 2.1, Column F.) indicates some overrepresentation in survey responses from that county. A negative value indicates the survey responses underrepresent the county. A perfect match is not expected. The data show a very close match in representation.

To statistically test the representativeness of survey data, we performed a paired samples test and confirmed that there is no significant difference between the percentages of OHV owners by county and survey respondents by county (Std. deviation of .325126 and  $p=1.0$ ). We also compared the difference to 2X the standard deviation from the mean of the differences (Table 2.2). Only 7 of the 99 Iowa counties fall beyond this norm. This small number indicates the data are on whole representative of the geographical distribution of OHV registrations in Iowa.

**Table 2.2. Distribution of OHV registrations and survey respondents (% by county and standard deviation)**

	Minimum	Maximum	Mean	Std. Deviation
% of OHVs (by county)	.110	5.732	1.01009	.849166
% of survey responses (by county)	.063	5.191	1.01010	.879798
difference	-1.074	1.348	.00618	.325126

### 2.1.2 OHV-Type Distribution

Survey respondents who use their OHVs exclusively for agricultural purposes - 10.3% of all respondents - addressed only the questions about use of OHV registration fees and themselves. Other respondents reported the types of OHVs they owned, including ATVs, UTVs/side-by-sides, and off-road motorcycles. Among this group, 21.5% own more than one OHV type. The distributions of vehicle types owned and vehicle types primarily used are presented in Table 2.3. Respondents reported all vehicle types they owned, and those respondents who owned more than one type of OHV also reported the OHV type they used most frequently in 2021. UTVs/side-by-sides are owned by 71% of respondents and are the most used OHV type of 68% of respondents (including those who own only a UTV). This is nearly double the reported UTV registrations in 2018<sup>2</sup>, suggesting an overrepresentation of UTV owners.

However, there are two mitigating factors. The first is that 19% of the owners of UTVs also own either an ATV or off-road motorcycle or both other OHV types, so their riding experiences and perceptions are certainly influenced by their ownership of other OHV types, even if they do use their UTV more often than the other vehicle type. Secondly, UTVs are most rapidly expanding sector of the OHV market, so registrations in 2021 were likely 18% higher in 2021 than in 2018,

<sup>2</sup> M. Imerman 2019. "Iowa Off-Highway Vehicle Operations, Operators, Expenditures and Economic Impacts." Regional Strategic, Ltd. Prepared for the Iowa Off-Highway Vehicle Association. 2019 (Feb 1).

based on projected 6% compound average annual growth in UTV sales<sup>3</sup> with a base market of \$7 billion in 2020. Although ATV sales are projected to experience similar growth, the ATV base market in 2021 was \$3 billion<sup>4</sup>. Because of the dual and multiple OHV-type ownership among UTV owners and because of the growth in UTV market, the overrepresentation of UTV owners is not thought to bias survey results. As a check on this conclusion, several question sets compare the responses among various OHV owner types.

**Table 2.3. Distribution of survey respondents by vehicle types owned and vehicle type primarily used in 2021, compared to OHV registrations by vehicle type in 2018**

Vehicle type	% survey respondents who own this vehicle type*	% survey respondents who used this OHV type exclusively or most frequently (2021)	2018 registrations (%)**
ATV	41.3	26.3	50.3
UTV/side-by-side	70.6	67.5	37.3
Off-road motorcycle	12.3	6.1	12.4
Total	124.2	100.0	100.0

\*Number who own this vehicle type/number of non-agriculture-exclusive respondents. Totals to greater than 100% because respondents could report ownership of more than one vehicle type.

\*\*As reported in M. Imerman 2019. "Iowa Off-Highway Vehicle Operations, Operators, Expenditures and Economic Impacts." Regional Strategic, Ltd. Prepared for the Iowa Off- Highway Vehicle Association. 2019 (Feb 1).

### 3. OHV OWNERSHIP AND USE

The riding patterns of Iowa registered OHV owners could vary depending on the purpose of their OHV ownership. Primary reasons for OHV ownership are work, recreation, or as a mobility device for a person with a physical disability. Further, vehicle registration type varies based on whether the vehicle is used exclusively for agricultural purposes (a subcategory of work). Table 3.1 shows that recreation is the primary reason for ownership among 68% of Iowa registered OHV owners, whereas work is the primary reason for 30% of vehicle owners. Ten percent of respondents indicated they owned their OHV(s) exclusively for agricultural purposes. These respondents did not subsequently address questions about their OHV riding, but they have registered OHVs they did address the questions about preference for allocation of OHV registration fees. Nearly 2% of respondents indicated their primary reason for owning an OHV was as a mobility device for a person with a disability. Of this subset, 76% reported that they had a physical disability, and 32% reported a person in their typical riding group had a physical disability.

More than 20% of respondents own more than one type of OHV (Table 3.2); thus the percentages of types of vehicles owned adds to more than 100%. Off-road utility vehicles (UTVs) are predominant, with 63% of respondents owning them and 68% of respondents indicating UTVs are the vehicle type used most frequently in 2021. Thirty-seven percent (37%) of respondents own all-terrain vehicles (ATVs), but only 26% indicate that ATVs are the vehicle type used most frequently in 2021. While 11% of respondents own off-road motorcycles, only 6% report them to be their most frequently used vehicles.

<sup>3</sup> Global Market Insights. 2021 (May). U.S. Utility Terrain Vehicles (UTV) Market Size By Displacement (Below 400 CC, 400-800 CC, Above 800 CC), By Propulsion Type (Gasoline, Diesel, Electric), By Application (Utility, Sports, Recreation, Military), COVID19 Impact Analysis, Regional Outlook, Growth Potential, Price Trends, Competitive Market Share & Forecast, 2021-2027. Report ID: GMI4542. Online summary at <https://www.gminsights.com/industry-analysis/us-utility-terrain-vehicle-utv-market>

<sup>4</sup> Global Market Insights. 2022 (August). All-Terrain Vehicle (ATV) Market Size By Product (Youth, Adult), By Displacement (Below 400cc, 400-800cc, Above 800cc), By Application (Utility, Sports, Recreation, Military), COVID-19 Impact Analysis, Regional Outlook, Growth Potential, Competitive Market Share & Forecast, 2022-2030. Report ID: GMI1765. Online summary at <https://www.gminsights.com/industry-analysis/all-terrain-vehicle-atv-market>



**Table 3.1. Primary reason for owning an OHV**

Reasons	Percentage	Number
Work, used exclusively for agricultural purposes	10.3	544
Work, not used exclusively for agricultural purposes	20.0	1057
Recreation	67.8	3577
As a mobility device for a person with a physical disability	1.8	93

**Table 3.2. OHVs of respondents\***

	Own this vehicle type (%)	Vehicle type used most frequently in 2021
All -terrain vehicle (ATV)	41.3	26.3
Off-road utility vehicle (side-by-side; UTV)	70.6	67.5
Off-road motorcycle (dirt bike; motocross)	12.3	6.1
Own more than one vehicle type	21.5	-

\*Respondents who used their OHV exclusively for agricultural purposes did not report OHV types owned and used.

#### 4. OHV RIDING

Iowa's registered OHV owners are, on average, an experienced group, averaging 18 years of OHV riding experience (Table 4.1). The reported range in years of riding is 0-70. Those reporting 0 years of experience are, for example, the registered owner of a youth's OHV or bought the vehicle in 2022.

**Table 4.1. Years of OHV riding experience\***

Riders, by vehicle type	Years (mean)	Range
All vehicle types	17.8	0 - 70
All-terrain vehicle (ATV)	20.1	-
Off-road utility vehicle (side-by-side; UTV)	16.3	-
Off-road motorcycle (dirt bike; motocross)	23.5	-

\*Respondents who used their OHV exclusively for agricultural purposes did not provide this information

Respondents characterized their ridership level using a 5-point scale, ranging from beginner (1) to expert (5). On this self-assessment of riding skill, Iowa registered OHV owners scored themselves as 3.9, roughly one point below expert. This level of expertise is not inconsistent with the average 17.8 years of riding experience of Iowa registered OHV owners. Although UTV riders' mean age is younger than other OHV riders, UTV riders assessed their ridership level to be higher (more expert) than either ATV or off-road motorcycles. This difference is small, but significant (Table 4.2).

**Table 4.2. Ridership level and preferred trail difficulty\***

Riders, by vehicle type	Ridership level**† (mean)	Preferred level of trail difficulty***††
All vehicle types	3.90	3.12
All terrain vehicle (ATV)	3.76	3.06
Off-road utility vehicle (side-by-side; UTV)	3.97	3.11
Off-road motorcycle (dirt bike; motocross)	3.72	3.47

\*Respondents assessed their ridership skill on a 5-point scale, ranging from 1 beginner to 5 expert.

\*\*Respondents reported their preferred level of trail difficulty using a 5-point scale, ranging from 1 easiest to 5 extreme.

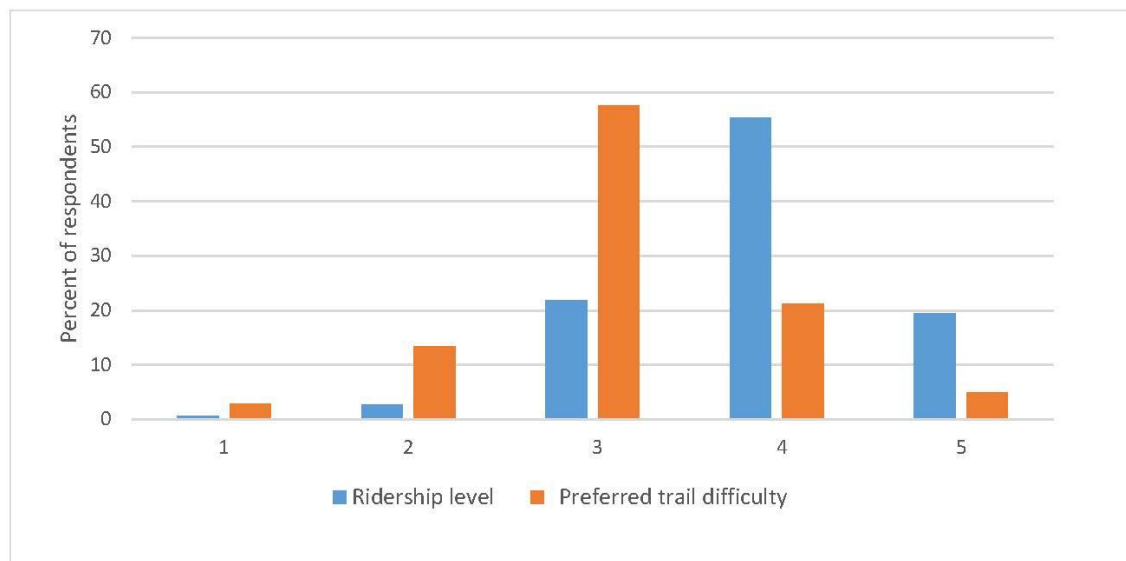
†The difference between UTV riders vs. both ATV and off-road motorcycle riders is small but statistically significant. Results of one-way ANOVA comparison of means: ( $F(2,4664) = 46.88, p < .001$ ).

††The difference between motorbike riders vs. both ATV and UTV riders is small but statistically

significant. Results of one-way ANOVA comparison of means: ( $F(2,4646) = 20.211, p < .001$ )

Iowa registered OHV owners also identified their preferred level of trail difficulty on a 5-point scale, where 1 was “easiest” and 5 was “extreme.” The mean score for preferred level of trail difficulty is 3.12, falling roughly at the mid-point. Off-road motorcycle riders report preference for a slightly more challenging trail (mean score 3.47), and the difference between this group of riders and ATV and UTV riders is small but significant (Table 4.2).

Figure 4.1 shows the distribution of both ridership level and preferred trail difficulty responses. Very small shares of Iowa registered OHV owners assess their skill to be “beginner” (0.6%) or their preferred trail difficulty to be “easiest” (2.9%). Just under 5% of respondents indicate a preference for trails of “extreme” difficulty (level 5 on the 5-point scale). The statistical correlation between the two variables on a case-by-case basis shows there is a positive relationship between skill and preferred trail difficulty, i.e., as skill increases so does preference for trail difficulty. However, the correlation is somewhat low at .358, where a perfect correlation would be 1.0<sup>5</sup>. This lack of correlation is to be expected, in part because Iowa OHV riders assess their ridership skill higher than their preferred trail difficulty (Figure 4.1).



**Figure 4.1. Comparison of self-assessed ridership level and preferred trail difficulty. Higher numbers indicate greater ridership skill (from 1=beginner to 5=expert) and greater trail difficulty (from 1=easiest to 5=extreme).**

Iowa registered OHV owners reported, on average, rather frequent OHV riding (Table 4.3). The mean number of days they rode in 2021 was 108. Days of riding ranges from zero days to every day of the year. There is an association between the primary reason the respondent owns an OHV and the number of days it is ridden (Table 4.4). Owners who indicate their primary purpose is either work or a mobility device for a person with a physical disability ride, respectively, 55 and 30 days more than owners whose primary purpose is recreation. The vehicle type is also associated with the number of days it is ridden, with the mean number of days a UTV is ridden being, on average, 49 and 81 days more than ATVs and off-road motorcycles, respectively.

To assess the purposes associated with OHV riding days, the survey questionnaire asked respondents to indicate what percentage of their riding was for each of four purposes: 1) recreation; 2) transportation, for example, going to work, school, the grocery store, etc.; 3) work or business purposes; and 4) maintenance and chores on my property. The 10.3% of survey respondents who indicated their OHVs were registered exclusively for agricultural purposes are not included here. Many Iowa registered OHV owners indicated that 100% of their riding was for a single purpose (Table 4.5): nearly 16% reported using their OHV only for recreational riding, more than 3% indicated they use it only for chores on their property, and less than 1% use their OHV only for transportation or business purposes. On average, respondents report that 50% of their OHV riding was recreational.

<sup>5</sup> A Pearson correlation coefficient was computed to assess the linear relationship between ridership level and preferred trail difficulty. There was a positive correlation between the two variables,  $r(4617) = .358, p = < .001$ .

**Table 4.3. Number of days Iowa registered OHV owners rode their OHVs in 2021**

Mean number of days	108
Median number of days	65
Range	0 - 365

**Table 4.4. Days riding an OHV, by primary reason for owning an OHV and by vehicle type**

Reason for owning an OHV	Mean days ridden
Work	149.7*
Recreation	95.1*
Mobility device for accessibility	125.8*
Vehicle type	
ATV	93.6 †
UTV	142.7 †
Off-road motorcycle	62.5 †

\*A one-way ANOVA statistical analysis was conducted to determine the effect of ownership purpose on mean days ridden. The result shows a significant effect, [ $F(2, 4500) = 40.156, p < .001$ ]. Tukey's post hoc test showed a significant difference between days ridden by those who own OHV primarily for work (M=149.7; SD=109.41) vs. recreation (M=95.1; SD=93.81) and between mobility device (M=125.83; SD=115.68) and recreation.

†A one-way ANOVA statistical analysis was conducted to determine the effect of vehicle type on mean days ridden. The result show a significant effect, [ $F(2, 1067) = 123.485, p < .001$ ]. Tukey's post hoc test showed a significant difference among all three vehicle types: ATV (M=93.57; SD=91.08), UTV (M=142.74; SD=106.26) and off-road motorcycle (M=2.53; SD=73.09).

**Table 4.5. Purposes for riding OHVs in Iowa\***

	Recreational riding	As transportation to work, school, the grocery store, etc.	For work or business purposes, including agricultural activity	For maintenance and chores on my property
Mean %	49.7	9.1	13.9	27.1
Median %	50.00	.00	.00	20.00
Std. Deviation	34.320	17.765	22.790	29.063
% who use their OHV only for this purpose*	15.7	0.6	0.7	3.3

\*This analysis does not include the 10.3% of all survey respondents who indicated their OHVs were used exclusively for agricultural purposes.

The survey captured information about the rates of injury when riding an OHV. Respondents reported for themselves and the members in their riding group. In 2021, 1.4% of riding groups had a member who experienced an injury while riding their OHV. Thirty-seven percent (36.5%) of the injuries occurred in Iowa OHV parks (Figure 4.2). This share is large given that 17% of Iowa registered OHV owners used an Iowa OHV park in 2021. The next largest share of injuries (27%) occurred on the rider's own property. Out-of-state locations and motocross tracks and races account for most of the injuries that occurred "elsewhere." Although 81% of Iowa registered OHV owners report riding on roads in Iowa, about 13% of injuries occurred to riders when they were riding roads. Most injuries (54%) required medical treatment and 9.5% were serious enough to require medical evacuation.

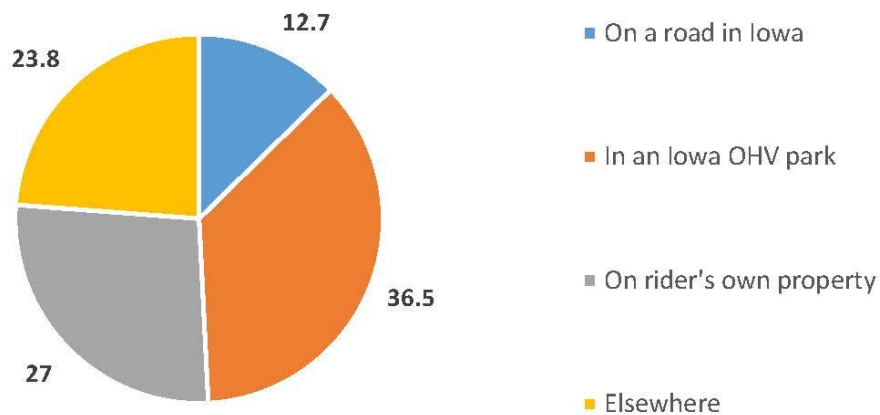


Figure 4.2. Locations where OHV riding injuries occurred in 2021 (% of total).

## 5. LOCATIONS OF OHV RIDING IN IOWA - AN OVERVIEW

A key objective of the survey was learning about the riding patterns of Iowa's registered OHV owners, specifically at what types of locations they ride their OHVs. Respondents were asked a series of questions that began, "In 2021, did you ride your OHV on...?" The riding locations included riders' own property, public ice, Iowa roads, Iowa OHV parks, and OHV riding areas outside of Iowa. The resulting information is presented in Table 5.1, which shows the percentage of Iowa registered OHV owners who rode at each type of riding location. These percentages are derived from the 4,472 owners who reported using their OHV for purposes other than "exclusively for agriculture."

Eighty-one percent (81%) of Iowa registered OHV owners who used their OHV for purposes other than exclusively for agriculture rode on roads and 76% rode on their own property. These shares are more than double the next largest group, which is the 32% of Iowa registered OHV owners who left Iowa to ride in a designated OHV riding area out-of-state. Twenty-two percent (22%) of Iowa registered OHV owners rode on public ice in 2021, and 17% rode in an Iowa OHV park in 2021.

More than three-quarters of owners who primarily ride ATVs and UTVs - 76% and 78%, respectively - and just 53% of off-road motorcycle riders rode on their own property in 2021. Similar differences exist between off-road motorbike riders and other Iowa registered OHV riders with regard to their riding days on public ice and Iowa roads: a much smaller share of motorbike riders using either public ice or Iowa roads (12% and 44%, respectively). In comparison, 30% of ATV riders used public ice and 91% of UTV riders used roads in Iowa. In strong contrast to this pattern, we observe that 78% of off-road motorcycle rider used an Iowa OHV park in 2021, compared to only 11% of UTV riders and 18% of ATV riders.

Table 5.1 also shows the intensity of use - average number of riding days - for Iowa registered OHV owners. On average, riders rode 100 days on their own property and 80 days on Iowa roads. Their frequencies of riding on both public ice and OHV areas outside of Iowa are similar, with Iowa registered OHV owners using these riding areas just under 14 days annually.

Table 5.1. Percentage of registered OHV owners who rode in different locations in 2021, by primary OHV type used

Location	Percentage of riders who use each type of riding location				Average number of riding days per rider
	All vehicle types	Primary ATV riders*	Primary UTV riders*	Primary off-road motorcycle riders*	
Riders' own property	76.1	75.9	78.3	53.4	99.6
Public ice	22.2	29.8	20.2	11.6	13.7
Iowa roads	80.8	63.2	91.1	44.0	80.0
Iowa OHV park	16.7	18.3	10.5	78.0	
OHV area outside of Iowa	32.2	18.9	36.8	40.2	13.8

\*"Primary" indicates a registered OHV owner who owns only that vehicle type or indicated it is the vehicle type they primarily use.

## 6. ON-ROAD OHV RIDING IN IOWA

As noted in Table 5.1, nearly 81% of registered OHV owners rode their OHVs on roads, including 63% of ATV owners, 91% of UTV owners, and 44% of off-road motorcycle owners.

Nearly all (98%) OHV owners who report riding on Iowa roads use county road (Table 6.1). There are little differences observed among vehicle types. A much smaller percentage of owners, 29%, ride on state roads. Differences among vehicle types are considerable. Eighteen percent (18%) of ATV owners ride on state roads; and more than double that share - 38% - of off-road motorcycle owners ride on state roads. More than three-quarters (76%) of registered OHV owners report riding on both paved and gravel roads, 21% ride only on gravel roads, and 3% ride only on paved roads.

**Table 6.1. Percentage of on-road OHV riders who ride on Iowa roads, by road ownership and road surface type**

	All vehicle types	Primary ATV riders*	Primary UTV riders*	Primary off-road motorcycle riders*
County roads	98.1	97.1	98.4	97.5
State roads	29.1	18.3	31.6	37.7
Paved roads	2.9	4.0	2.6	3.3
Gravel roads	21.1	34.0	17.5	23
Both paved and gravel	76.0	61.9	79.9	73.8

\*"Primary" indicates a registered OHV owner who owns only that vehicle type or indicated it is the vehicle type they primarily use.

Respondents reported the county or counties on which they rode OHVs on roads. Of these 57% reporting riding county roads only in their county of residence, while 43% reported riding in another county, either instead of their county of residence or in addition to their county of residence (Figure 6.1).



**Figure 6.1. Riding location of Iowa registered OHV owners when they ride on county roads.**

Among the OHV riders who report riding on roads, 82% report riding on roads for recreation (Table 6.2). A slightly larger share of off-road motorcycle riders use roads for recreational purposes than do ATV and UTV riders (88% vs. 81% and 82%, respectively). Transportation is a reported on-road riding purposes for nearly half of the UTV and off-road motorcycle riders (47% of each), and a much smaller share (26%) of ATV riders use their OHVs on roads for transportation. Overall, about half (51%) of OHV riders report riding on roads for work or business purposes including agriculture. This share does not include the 10% of all registered OHV owners who reported they used their vehicles exclusively for agricultural purposes. A much smaller share of off-road motorcycle riders ride on roads for work purposes, compared to ATV and UTV riders (24% vs. 46% and 54%, respectively).

**Table 6.2. Percentages of on-road OHV riders by purposes of on-road riding**

	All vehicle types	Primary ATV riders*	Primary UTV riders*	Primary off-road motorcycle riders*
Recreation	81.9	81.2	81.9	87.7
Transportation to get to school, work, the grocery store, etc.	42.8	25.6	47.2	47.5
Work or business, including agriculture	51.3	45.8	54.0	23.8

\*“Primary” indicates a registered OHV owner who owns only that vehicle type or indicated it is the vehicle type they primarily use.

## 7. OHV RIDING IN IOWA OHV PARKS

There are seven OHV parks open in Iowa, each established and maintained through combinations of local land ownership, OHV club maintenance and operation, and Iowa DNR oversight and patrolling. Another park, River Valley, closed in 2021. In 2021, seventeen percent (16.7%) of registered OHV owners rode in at least one Iowa OHV park, and 4.5% rode in more than one park. The Iowa registered OHV owners who use their OHVs exclusively for agriculture are not included in this calculation. Table 7.1 shows the share of OHV owners who rode in each of the seven Iowa OHV parks in 2021.

**Table 7.1. Use of Iowa OHV Parks**

Park	Percent of registered OHV owners who used this park*
Any Iowa OHV park	16.7
More than one Iowa OHV park	5.4
Bluff Creek Park (in Mahaska County)	3.7
Gypsum City Park (in Webster County)	8.2
Lakeview OHV Park (in Johnson County)	4.6
Nicholson Ford OHV Park (in Marshall County)	0.7
Rathbun OHV Park (in Appanoose County)	1.6
Riverview OHV Park (in Black Hawk County)	2.9
Tama County OHV Park	1.2

\*These percentages exclude the registered OHV owners who reported using their OHVs exclusively for agricultural purposes.

Respondents characterized their “typical trip” to an OHV park. Recall that from among Iowa registered OHV owners, those who visited an Iowa OHV park included 18% of ATV, 11% of UTV owners, and 78% of off-road motorcycle owners. Thus, although there are fewer registered off-road motorcycles, this vehicle type represents 31% of the vehicles used in Iowa OHV parks, whereas UTVs and ATVs account for 38% and 32% respectively. Eighty-six percent (86%) of those who used Iowa OHV parks in 2021 reported their typical trip was a one-day trip, while the remaining 14% indicated their typical trip was a multi-day trip. Other characteristics of riders’ typical trips to Iowa OHV parks are shown in Table 7.2.

**Table 7.2. Characteristics of registered Iowa OHV owners’ trips to Iowa OHV parks**

Park	Mean	Median	Range
Distance traveled to the OHV park (miles)	57.3	50	1 - 325
Hours you ride per trip	5.8	5	<1 - 150
Number of OHVs in the riding group	3.5	3.0	1 - 30
Number of people in the riding group	5.1	40	1 - 74
Percent of groups with members under 18 years old	5.4%	-	-

Table 7.3 shows OHV park users’ levels of satisfaction with four different characteristics of Iowa OHV parks. A score of

3.0 equates to the “neutral” position on the 5-point scale which ranges from “very dissatisfied” to “very satisfied.” OHV park users express moderate satisfaction -an average score of 3.6 or higher - with each of these park characteristics: types of riding opportunities, their riding experiences, park management, and riding management. When scores are averaged, neutral positions can occur either when people do not have strong opinions about the item or when people have very different opinions about the item. Thus, Table 7.3 also shows the percent of Park users who are either dissatisfied or satisfied with each park feature. “Types of riding experiences” is the feature about which the largest share (21%) of park users expressed dissatisfaction. However, another 61% of park users expressed satisfaction with riding opportunities, making this the characteristic with the most divergent opinions.

Some differences in satisfaction emerged among riders of specific vehicle types in Parks (Table 7.4). Both ATV and off-road motorcycle riders express more satisfaction than UTV riders with the types of riding experiences offered at OHV parks and with their actual experiences in OHV parks.

**Table 7.3. Iowa OHV park users’ levels of satisfaction with Iowa OHV park characteristics**

Characteristic	Average score*	Standard deviation	% who are dissatisfied**	% who are satisfied***
Different types of OHV riding opportunities at Iowa OHV Parks	3.56	1.159	21.4	60.8
My OHV riding experience in Iowa OHV parks	3.85	1.008	11.6	71.2
OHV park management (trail and facility maintenance)	3.87	1.001	10.8	70.2
OHV riding management (safety patrols and policing)	3.71	.927	5.1	53.7

\*Average score on a 5-point scale, where 1 is extremely dissatisfied, 2 is somewhat dissatisfied, 3 is neutral, 4 is somewhat satisfied, and 5 is extremely satisfied.

\*\*% dissatisfied is the percentage of respondents who indicated either “strongly dissatisfied” or “somewhat dissatisfied.”

\*\*\*% satisfied is the percentage of respondents who indicated either “strongly satisfied” or “somewhat satisfied.”

**Table 7.4. Satisfaction with Iowa OHV park characteristics, by OHV vehicle type ridden on typical OHV park trip (Average score)\***

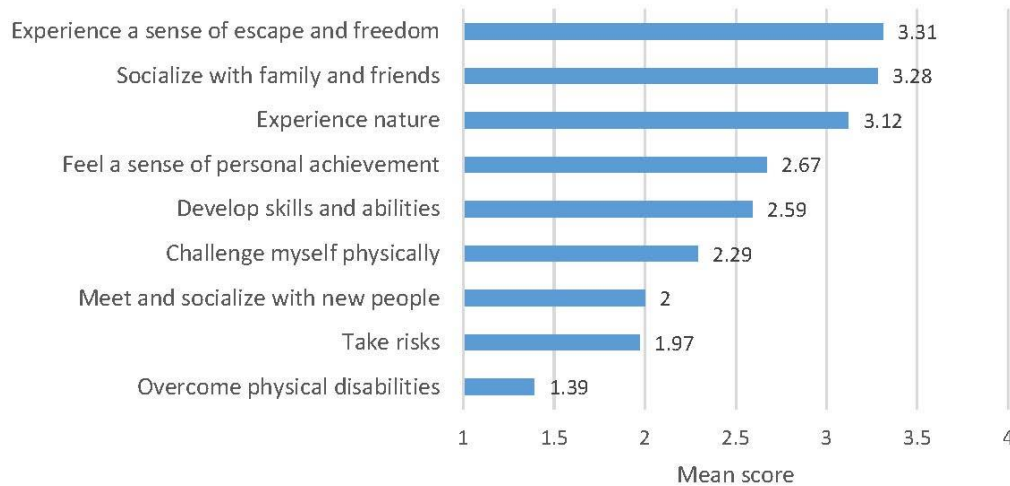
Purpose	a. ATVs	b. UTVs	c. Off-road motorcycles	P values**
Different types of OHV riding opportunities at Iowa OHV Parks	3.66	3.29	3.80	a. vs. b. = .001 b. vs. c. = <.001
My OHV riding experience in Iowa OHV parks	3.98	3.57	4.06	a. vs. b. = <.001 b. vs. c. = <.001
OHV park management (trail and facility maintenance)	3.98	3.78	3.88	Differences are not significant
OHV riding management (safety patrols and policing)	3.75	3.65	3.75	Differences are not significant

\*Average score on a 5-point scale, where 1 is extremely dissatisfied, 2 is somewhat dissatisfied, 3 is neutral, 4 is somewhat satisfied, and 5 is extremely satisfied.

\*\*p value of less than .05 is considered to have significance (i.e., the difference between the two values is not random). Only p values that show a significant difference are included here.

Respondents evaluated a number of potential reasons they might have for riding in Iowa OHV parks. Awareness of riders’ motivations can help park managers better understand the components of the riding experience that Park users value. Figure 7.1 shows these evaluations which used a 4-point scale where 1 is a reason that does not apply to the respondent and 4 is a significant reason for riding in Iowa OHV park. The top three scored reasons, each having a score greater than 3, are experiencing a sense of escape and freedom, socializing with family and friends, and experiencing nature. Taking risks scored just below a 2 on the 4-point scale, lower than all other reasons except overcoming physical disabilities. The respondents altogether scored “overcoming physical disabilities” as a 1.4, a position which suggests the

reason does not apply at all. However, among respondents who indicated they have a physical disability, the motivation “overcoming physical disabilities” scores a 2.9. Off-road motorcycle riders also reasons that are somewhat different than other riders.



**Figure 7.1. Reasons that Iowa registered OHV owners ride in Iowa OHV parks (mean score on 4-point scale where 1 is “does not apply” and 4 is “significant” reason)**

Some differences exist between UTV, ATV and motorcycle riders on reasons that involve the physical and skill components of riding: “taking risks,” “challenging myself physically,” and “developing new skills and abilities.” Table 7.5 presents these distinctions. Motorcycle riders express much stronger motivations than other riders relating to the physical components of riding, scoring “taking risk” at 2.2, “challenging myself physically” at 2.9, and “developing skills and abilities” at 3.2. ATV riders also scored these reasons somewhat higher than did UTV riders. The only other observed difference in reasons for riding OHV parks is that UTV riders are more motivated by meeting new people than are ATV and motorcycle riders (2.63 vs. 2.38 and 2.33, respectively).

OHV park visitors assessed the seriousness of a set of potential issues occurring at Iowa OHV parks. Specifically, they considered the park they used most frequently in 2021. In summary, OHV park users do not perceive any serious issues at OHV parks, in that all issues scored less than a 2, which is labeled a “minor problem” on the 4-point scale (Figure 7.2). The highest scoring issue was temporary closures due to damage at a park, which is an issue of inconvenience whereas other issues considered involve safety features at the parks or potential impacts of OHV riding.

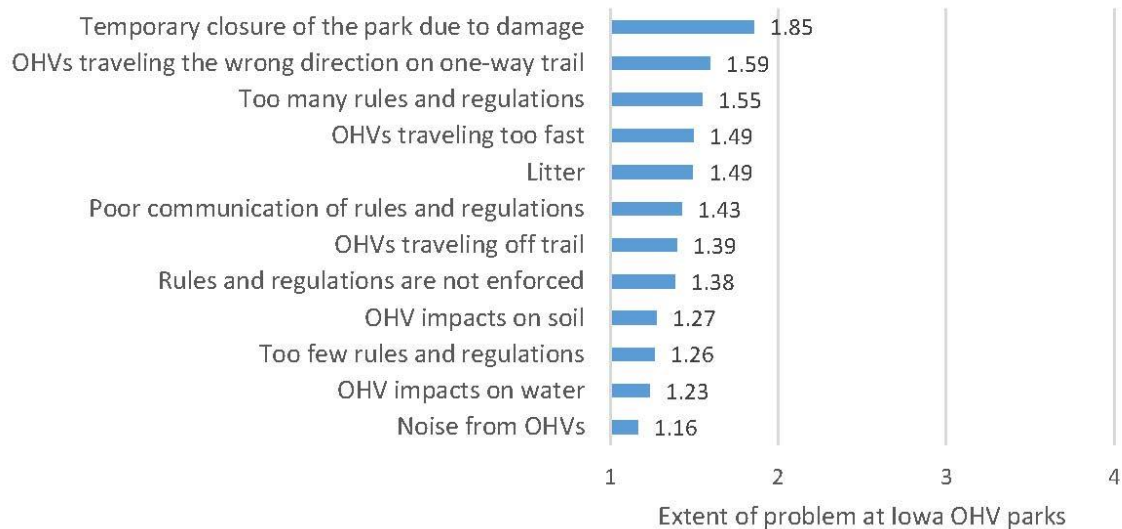
**Table 7.5. Differences among ATV, UTV and off-road motorcycle riders’ reasons for riding in Iowa OHV parks\***

Reason	a. ATVs	b. UTVs	c. Off-road motorcycles	P values**
Challenge myself physically	2.14	1.92	2.90	a. vs. b. = .040 b. vs. c. = <.001 a. vs. c. = <.001
Develop skills and abilities	2.51	2.2	3.16	a. vs. b. = .001 b. vs. c. = <.001 a. vs. c. = <.001
Take risks	1.91	1.85	2.16	b. vs. c. = .007 a. vs. c. = <.001
Meet and socialize with new people	2.38	2.63	2.33	a. vs. b. = .026 b. vs. c. = .004

\*Average score on a 4-point scale, where 1 is this reason does not apply to me and 4 is this is a significant reason for riding in an Iowa OHV park.

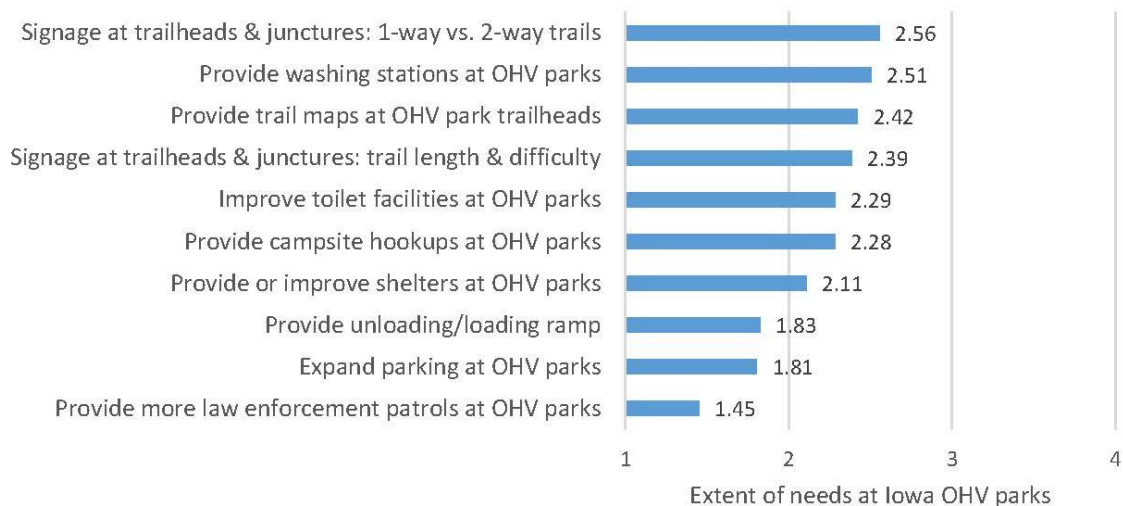
\*\*The statistical significance of differences is determined by a one-way ANOVA test with Tukey’s post hoc analysis. *p* value of less than .05 is considered to have significance (i.e., the difference between the two values is not random). Only *p* values that show a significant difference are included here.





**Figure 7.2. Assessment of issues at the Iowa OHV park riders use most frequently (4-point scale, where 1 is “not a problem” and 4 is “serious problem”)**

OHV park riders also assessed need for park management actions (Figure 7.3). Actions ranged from signage and law enforcement patrols relating to trail safety to amenities such as shelters and toilet facilities. The assessment used a four-point scale, where 1 indicated no need and 4 indicated a significant need. In the assessment, no specific need rose above a level of “moderate need” on average, but several were scored slight-to-moderate. The highest scored need, with a score of 2.56, was signage at trailheads that indicates whether the trail is a one-way or two-way trail, indicating some concern about safety on trails. However, safety concerns did not seem to warrant additional law enforcement patrols since that need scored the lowest of all (1.45). Of the amenities included in the evaluation, the greatest need was expressed for washing stations at the OHV parks (2.51). The remaining management action needs and their scores are listed in Figure 7.3.



**Figure 7.3. Assessment of needs at the Iowa OHV park riders use most frequently (4-point scale, where 1 is “no need” and 4 is “significant need”)**

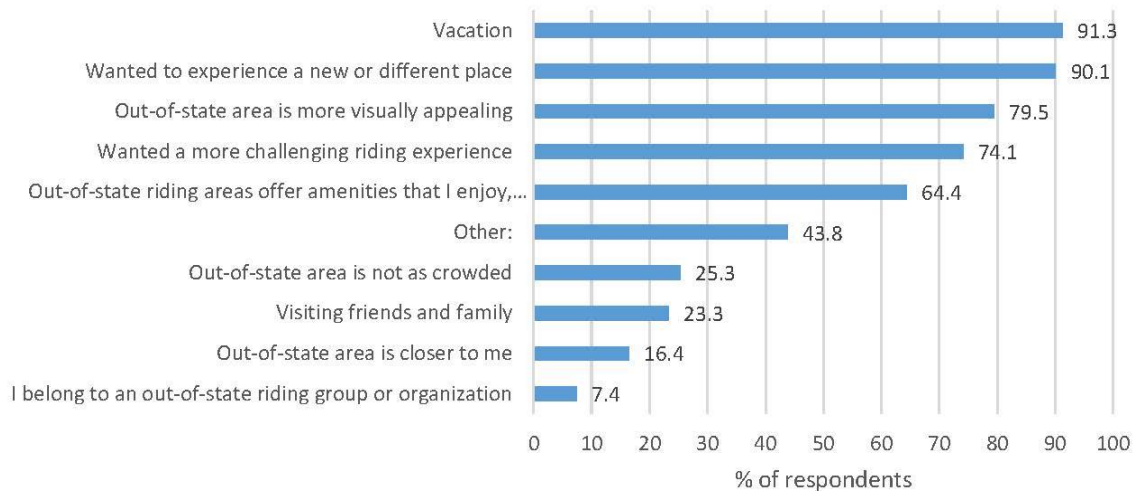
To assess OHV park users understanding of the shared-responsibility arrangements that underpin the ownership and management of Iowa OHV parks, survey respondents were asked to identify which entity owned the land, provided maintenance of trails and facilities, and provided patrol and law enforcement. For each item, 3% or more respondents noted that they did not know who had responsibility. A majority of respondents indicated the state owned the Park land and 42% said the state provided maintenance of trails and facilities. These assessments underrate the contributions of local jurisdictions and OHV clubs.

**Table 7.6. Perceptions of responsibilities for Iowa OHV parks**

	State	Local jurisdiction	OHV clubs	Don't know
Owns land	76.4	9.8	10.9	3.0
Provides maintenance of trails & facilities	42.3	10	44.1	3.6
Provides patrol and law enforcement	81.3	9.6	5.6	3.4

## 8. TRIPS OUT-OF-STATE FOR OHV RIDING

In 2021, 32% of Iowa registered OHV owners whose vehicles were not used exclusively for agricultural purposes rode in an OHV riding area outside of Iowa. Among those who make out-of-state trips, the average number of days out-of-state is 13.9 (median number of days is 10; range is 1-200). Figure 8.1 presents the reasons Iowa registered OHV owners traveled out of state for OHV riding. Respondents used a 3-point scale with 1 indicating the reason did not apply to them, while 2 and 3 indicate the reason explains their out-of-state OHV trips somewhat or definitely, respectively. Vacationing and experiencing a new place top the list, with 90% of those who travel out of state indicating those are reasons for their trips. The following two highest scored reasons relate to the visual appeal and the challenge offered by other destinations. Only one-quarter of respondents indicated their trips were related to family visits or because of proximity to other locations.



**Figure 8.1. Reasons Iowans travel out-of-state to ride OHVs: percentage who indicate the reason explains their out-of-state trips**

Out-of-state destinations include all the states adjacent to Iowa, but the most popular riding location for out-of-state OHV riding trips is Wisconsin. More than 45% of those who traveled out of state went to Wisconsin to ride in 2021 (Figure 8.2). Wisconsin is also frequently mentioned in the additional comments that survey respondents shared. South Dakota is the second most visited location, while Missouri and Minnesota hosted 8% and 11% of the registered Iowa OHV owners who rode out of state in 2021. Proximity alone is not a deciding factor since several states not adjacent to Iowa attracted more Iowa registered OHV owners than did Nebraska (Figure 8.2). Roughly 25% of those who traveled out of state to ride OHVs rode in at least two states, in addition to Iowa, in 2021.

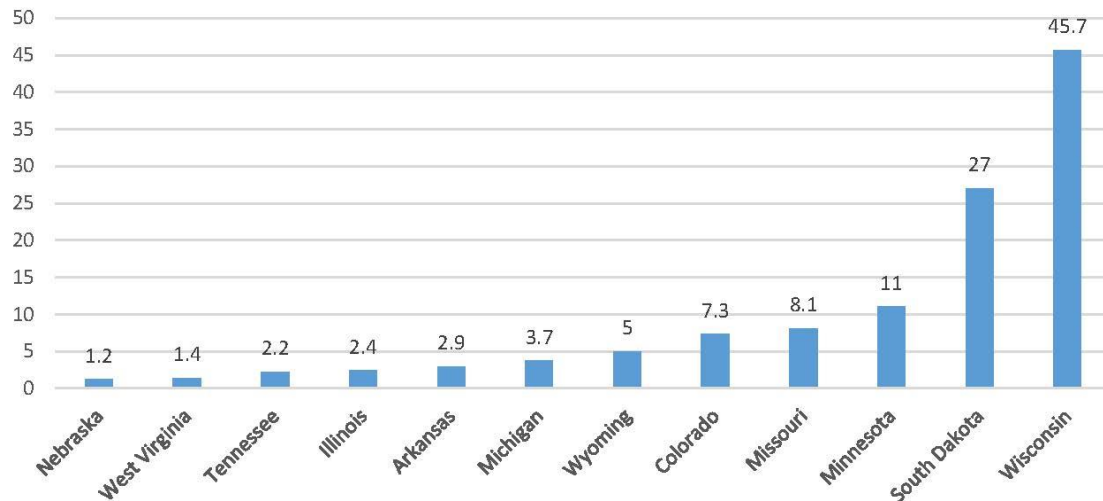


Figure 8.2. Destinations of lowans' out-of-state OHV trips (% of lowans who rode OHVs in each state in 2021)

## 9. PREFERENCES FOR ALLOCATION OF OHV REGISTRATION FEES

All respondents, including those who indicated they use their registered OHV exclusively for agricultural purposes, were asked to express their opinions about various purposes to which OHV registrations could be allocated. The six purposes, the respondents' average score assigned to each purpose, and the percentage of respondents who indicated opposition to or support for using fees for each purpose are shown in Table 9.1. The purposes are sorted in Table 9.1 according to their average scores, with law enforcement on roads receiving the lowest average score (3.34) and establishing new OHV riding areas receiving the highest score (4.13).

None of the six purposes for OHV registration fees scored an average below 3.0. A score of 3.0 equates to the "neutral" position on the 5-point scale which ranges from "strongly object" to "strongly support." However, when averaging scores, neutral positions can occur either when people do not have strong opinions about the item or when people have very different opinions about the item. The lowest scored purpose - law enforcement on county roads - is supported by fewer registered OHV owners (34%) than all other purposes and opposed by more OHV owners (27%) than all other purposes.

A majority of registered OHV owners support using registration fees for OHV safety training and adding amenities to existing OHV areas, while more than 70% of owners support using fees for maintaining existing OHV areas and establishing new OHV areas.

Because OHV clubs in Iowa have responsibility for OHV park maintenance, club members could express preferences for use of registration fees that are different than Iowa registered OHV owners who do not belong to an OHV club. Some differences are observed between OHV club members and OHV registrants who are not members of any OHV club (Table 9.2). Club members are more supportive than non-club members of adding amenities to the existing parks, ongoing maintenance of the parks, and adding more

OHV parks. This difference could be explained by the higher rates of ridership in OHV parks in Iowa by club members: 39% of club members report having ridden in OHV parks in Iowa, while only 14% of non-club members have done so. Between these groups, there is a negligible difference in preference for allocating OHV registrations to law enforcement within the OHV parks.

**Table 9.1. Preferences for allocation of OHV registration fees**

Purpose	Average score*	Standard deviation	% who oppose using fees for this purpose**	% who support using fees for this purpose***
Law enforcement on county roads	3.08	1.244	27.3	34.3
Law enforcement at OHV parks	3.34	1.101	16.0	40.5
OHV safety training	3.62	0.990	8.1	50.7
OHV park amenities, for example bathrooms, shelters, and camping at designated OHV riding areas	3.84	1.023	6.9	61.8
Maintain and restore existing OHV riding areas	4.05	0.990	4.9	70.0
Establishing new OHV riding areas	4.13	1.047	6.0	71.5

\*Average score on a 5-point scale, where 1 is strongly opposed, 2 is somewhat opposed, 3 is neutral, 4 is somewhat support, and 5 is strongly support.

\*\*% oppose is the percentage of respondents who indicated either “strongly opposed” or “somewhat opposed.”

\*\*\*% support is the percentage of respondents who indicated either “strongly support” or “somewhat support.”

**Table 9.2. Differences in preferences for allocation of OHV registration fees, by OHV club membership**

Purpose	OHV club members*	No club membership	<i>P</i> value**
Law enforcement on county roads	2.90	3.10	0.894
Law enforcement at OHV parks	3.35	3.34	.039
OHV safety training	3.64	3.62	.765
OHV park amenities, for example bathrooms, shelters, and camping at designated OHV riding areas	4.21	3.84	<.001
Maintain and restore existing OHV riding areas	4.47	4.03	<.001
Establishing new OHV riding areas	4.67	4.10	<.001

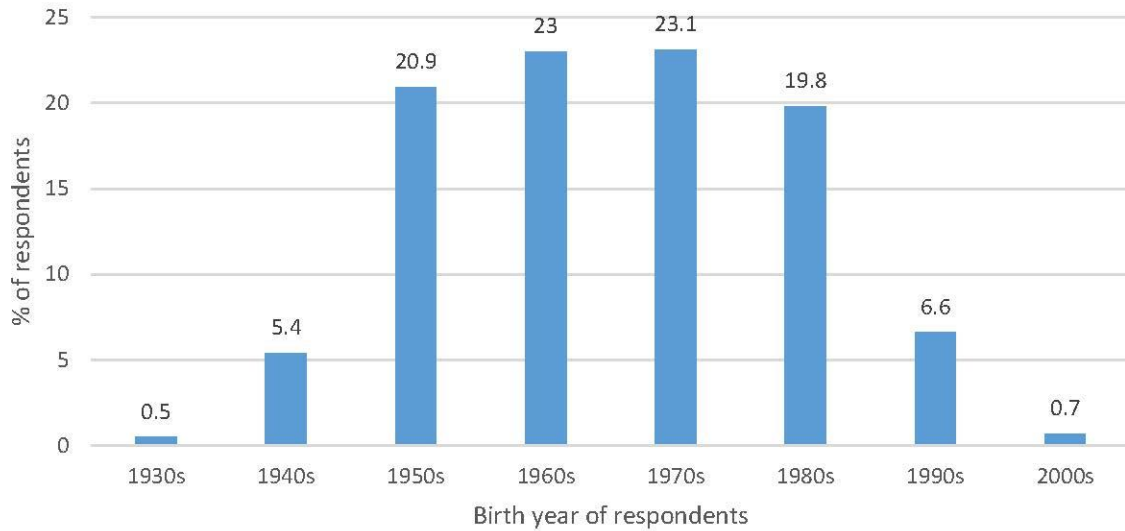
\*Membership in any of 12 clubs listed in the survey or another OHV club as named by the survey respondent.

\*\*Although only 4% of survey respondents were members in an OHV club, the number of respondents was sufficient to produce results of statistical significance. *P* value of less than .05 is considered to have significance (i.e., the difference between the two values is not random)

## 10. DEMOGRAPHICS OF IOWA REGISTERED OHV OWNERS

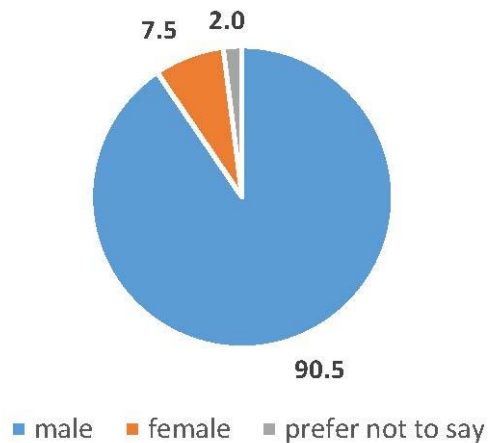
Survey respondents provided basic demographic information about themselves, including year of birth, gender, education level, race and ethnicity, and household income. Those results are presented here.

Survey respondents ranged in age from 18 to 92. Because registrations are made to persons 18 years or older, the first birth year represented in the data is 2004, and only 0.7% of respondents are born in the 2000s. Similarly, 0.5% of respondents were born in the 1930s and between ages 83 and 92. Most respondents - roughly 87% - were born between 1950 and 1989.



**Figure 10.1. Age distribution of survey respondents.**

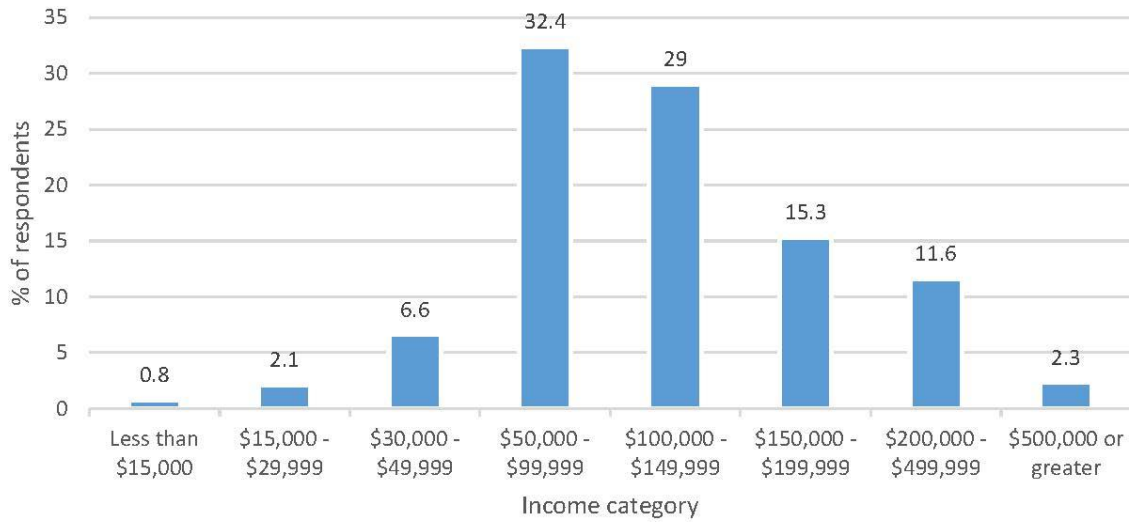
More than 90% of respondents were male, and 7.5% female (Figure 10.2).



**Figure 10.2. Gender distribution of survey respondents.**

The survey included among its demographic questions a two standard questions to capture the ethnicity and race of respondents. The number of persons in some categories is so small as to prevent disclosure, so here we present only broad statements about ethnicity and race of Iowa registered OHV owners. Less than 1% are Hispanic and less than 1% identify as mixed race or Black, Native American, or Asian. Two percent (2%) of respondents selected “prefer not to answer” or “other” and indicated race was irrelevant (e.g. “human race” or “American”). The remaining respondents identified as White/Caucasian.

Figure 10.3 shows the distribution of survey respondents by total taxable household income in 2021. Percentages exclude the respondents who indicated “prefer not to say.” Ownership of an OHV requires the individual have some disposable income, and this is reflected in the small numbers of respondents reporting income of less than \$30,000. The data show OHV ownership appeals to lowans of all income categories.

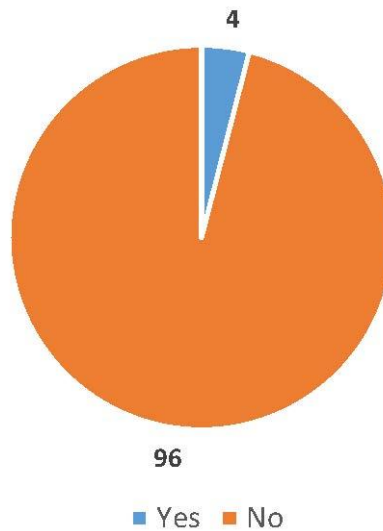


**Figure 10.3. Income distribution of survey respondents.**

OHV clubs in Iowa are key to Iowa OHV park management. It was possible, also, that OHV clubs could promote the survey and, thus, their members could be overrepresented in the data. We therefore asked respondents to indicate whether they held membership in an OHV club. Only 4% of survey respondents had membership in any OHV club. Clubs specifically listed, including “other,” with which respondents could indicate membership are presented in Table 10.1.

**Table 10.1. OHV clubs in which survey respondents could indicate membership**

None	River Valley Trail Riders OHV Club
Iowa Off Highway Vehicle Association	Roads to Trails UTV/ATV Club
Iowa Offroad Club (IROC)	South Central Dirt Riders
Lakeview Off Road Riders	Trailblazers Off Road Club
Little Sioux OHV Club	Two Rivers ATV Club
North East (Iowa) Action Trailriders (NEAT) Club	Webster County Wheelers
North Iowa Dirt Riders	Other



**Figure 10.4. Survey respondents' membership in an OHV club in Iowa (%).**