

# Trip Generation and Distribution

30 W Garfield Bay Road, Sagle, Idaho 83860

Project: We are proposing to create a small subdivision consisting of 7 new single family homes. The property has most recently been used as an RV park with over 20 stalls.

Landowner: MPCP Family, LP of 3641 E Quiet Ridge Cir, Sandy Ut 84092

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Date: 11/16/21

## Summary

The purpose of this report is to assess the trip generation of the proposed 7 lot single family home subdivision which will replace the current, albeit dormant, use as an RV park. The property is bordered by Garfield Bay Rd to the north, West Garfield Bay Rd to the east and Honeycutt Rd to the south. All 3 roads are public county roads with minimal traffic. The busiest one is Garfield Bay Rd.

The scope of this report is based on information provided by the Institute of Engineers and Land Use 10<sup>th</sup> Edition (section 210) as well as information provided by Bonner County at <https://evogov.s3.amazonaws.com/media/136/media/61453.pdf>.

## Existing Site Conditions

The property consisting of approximately 2 acres is currently an inactive RV park with 26 RV sites, 3 rental cabins, and 1 laundry/bath building. The site is bordered by county roads on 3 sides and undeveloped land on the fourth side. The 3 sides with county roads currently have vacation, part time cabins with the exception of 2-3 homes that have permanent residents.

## Trip Generation

Projected traffic impacts were calculated using rates and equations contained on the Bonner County website noted above and cross referenced with the Institute of Engineers and Land Use.

Land Use	AM Peak Hour Rate	PM Peak Hour Rate	Number of Units	Total Trips/Hour
Single Family Detached Home	.77	n/a	7	5.39
Single Family Detached Home	n/a	1.02	7	7.14

\*Note that the 10<sup>th</sup> Edition of the Institute of Engineers and Land Use shows a peak rate of approximately 3% less than those shown in the table above. The AM peak trip rate is .76 per the manual and the PM peak trip rate is .99

## Conclusion

Based on the calculations noted the subdivision is projected to generate approximately 7 trips during the peak PM hours. However, because the homes will largely be used as vacation homes and the public boat ramp and public beach are both approximately 100 yards from the subdivision, we anticipate the actual peak number of trips/hour will be less than 7 as many of the residents will just be using the local amenities. Furthermore, due to the large variance in the schedule of people on vacation we anticipate that the traffic will be more evenly distributed throughout the day than would be expected for full time residents during regular daily life.

## APPENDIX A

### TRIP GENERATION RECREATIONAL HOMES (210)

#### INSTITUTE OF TRANSPORTATION ENGINEERS COMMON TRIP GENERATION RATES (PM Peak Hour) (Trip Generation Manual, 10th Edition)

Setting/Location	Setting/Location
General Urban/ Dense Multi- Code Description Unit of Measure Trips Per Unit Suburban Use Urban	General Urban/ Dense Multi- Code Description Unit of Measure Trips Per Unit Suburban Use Urban
	Tees/Driving 432 Golf Driving Range Positions 1.25
<b>PORT AND TERMINAL</b>	
30 Intermodal Truck Terminal 1,000 SF GFA 1.72	
90 Park-and-Ride Lot with Bus Service Parking Spaces 0.43	433 Batting Cages Cages 2.22
	434 Rock Climbing Gym 1,000 SF GFA 1.64
<b>INDUSTRIAL</b>	
110 General Light Industrial 1,000 SF GFA 0.63	435 Multi-Purpose Recreational Facility 1,000 SF GFA 3.58
130 Industrial Park 1,000 SF GFA 0.40	436 Trampoline Park 1,000 SF GFA 1.50
140 Manufacturing 1,000 SF GFA 0.67	437 Bowling Alley 1,000 SF GFA 1.16
150 Warehousing 1,000 SF GFA 0.19	440 Adult Cabaret 1,000 SF GFA 2.93
151 Mini-Warehouse 1,000 SF GFA 0.17	444 Movie Theater 1,000 SF GFA 6.17
154 High-Cube Transload & Short-Term Storage Warehouse 1,000 SF GFA 0.10	445 Multiplex Movie Theater 1,000 SF GFA 4.91
155 High-Cube Fulfillment Center Warehouse 1,000 SF GFA 1.37	452 Horse Racetrack Seats 0.06
156 High-Cube Parcel Hub Warehouse 1,000 SF GFA 0.64	454 Dog Racetrack Attendees 0.15
157 High-Cube Cold Storage Warehouse 1,000 SF GFA 0.12	460 Arena 1,000 SF GFA 0.47
160 Data Center 1,000 SF GFA 0.09	462 Professional Baseball Stadium Attendees 0.15
170 Utilities 1,000 SF GFA 2.27	465 Ice Skating Rink 1,000 SF GFA 1.33
180 Specialty Trade Contractor 1,000 SF GFA 1.97	466 Snow Ski Area Slopes 26.00
	473 Casino/Video Lottery Establishment 1,000 SF GFA 13.49
<b>RESIDENTIAL</b>	
210 Single-Family Detached Housing Dwelling Units 0.99	480 Amusement Park Acres 3.95
220 Multifamily Housing (Low-Rise) Dwelling Units 0.56	482 Water Slide Park Parking Spaces 0.28
221 Multifamily Housing (Mid-Rise) Dwelling Units 0.44 0.18	488 Soccer Complex Fields 16.43
222 Multifamily Housing (High-Rise) Dwelling Units 0.36 0.19	490 Tennis Courts Courts 4.21
231 Mid-Rise Residential with 1st-Floor Commercial Dwelling Units 0.36	491 Racquet/Tennis Club Courts 3.82
232 High-Rise Residential with 1st-Floor Commercial Dwelling Units 0.21	492 Health/Fitness Club 1,000 SF GFA 3.45
240 Mobile Home Park Dwelling Units 0.46	493 Athletic Club 1,000 SF GFA 6.29
251 Senior Adult Housing - Detached Dwelling Units 0.30	495 Recreational Community Center 1,000 SF GFA 2.31
252 Senior Adult Housing - Attached Dwelling Units 0.26	
	<b>INSTITUTIONAL</b>
253 Congregate Care Facility Dwelling Units 0.18	520 Elementary School 1,000 SF GFA 1.37
254 Assisted Living 1,000 SF GFA 0.48	522 Middle School / Junior High School 1,000 SF GFA 1.19
255 Continuing Care Retirement Community Units 0.16	530 High School 1,000 SF GFA 0.97
260 Recreation Homes Dwelling Units 0.28	534 Private School (K-8) Students 0.26
265 Timeshare Dwelling Units 0.63	536 Private School (K-12) Students 0.17
270 Residential Planned Unit Development Dwelling Units 0.69	537 Charter Elementary School Students 0.14
	538 School District Office 1,000 SF GFA 2.04

LODGING	
310 Hotel Rooms 0.60	540 Junior / Community College 1,000 SF GFA 1.86
311 All Suites Hotel Rooms 0.36 0.17	550 University/College 1,000 SF GFA 1.17
312 Business Hotel Rooms 0.32	560 Church 1,000 SF GFA 0.49
320 Motel Rooms 0.38	561 Synagogue 1,000 SF GFA 2.92
330 Resort Hotel Rooms 0.41	562 Mosque 1,000 SF GFA 4.22
	565 Daycare Center 1,000 SF GFA 11.12
RECREATIONAL	
411 Public Park Acres 0.11	566 Cemetery Acres 0.46
416 Campground / Recreation Vehicle Park Acres 0.98	571 Prison 1,000 SF GFA 2.91
420 Marina Berths 0.21	575 Fire and Rescue Station 1,000 SF GFA 0.48
430 Golf Course Acres 0.28	580 Museum 1,000 SF GFA 0.18
431 Miniature Golf Course Holes 0.33	590 Library 1,000 SF GFA 8.16

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## INSTITUTE OF TRANSPORTATION ENGINEERS COMMON TRIP GENERATION RATES (PM Peak Hour) (Trip Generation Manual, 10th Edition)

Setting/Location	Setting/Location
General Urban/ Dense Multi- Code Description Unit of Measure Trips Per Unit Suburban Use Urban	General Urban/ Dense Multi- Code Description Unit of Measure Trips Per Unit Suburban Use Urban
	864 Toy/Children's Superstore 1,000 SF GFA 5.00
MEDICAL	
610 Hospital 1,000 SF GFA 0.97	865 Baby Superstore 1,000 SF GFA 1.82
620 Nursing Home 1,000 SF GFA 0.59	866 Pet Supply Superstore 1,000 SF GFA 3.55
630 Clinic 1,000 SF GFA 3.28 5.18	867 Office Supply Superstore 1,000 SF GFA 2.77
640 Animal Hospital / Veterinary Clinic 1,000 SF GFA 3.53	868 Book Superstore 1,000 SF GFA 15.83
650 Free-Standing Emergency Room 1,000 SF GFA 1.52	
	869 Discount Home Furnishing Superstore 1,000 SF GFA 1.57
OFFICE	
710 General Office Building 1,000 SF GFA 1.15 0.87	872 Bed and Linen Superstore 1,000 SF GFA 2.22
712 Small Office Building 1,000 SF GFA 2.45	875 Department Store 1,000 SF GFA 1.95
714 Corporate Headquarters Building 1,000 SF GFA 0.60	876 Apparel Store 1,000 SF GFA 4.12 1.12
715 Single Tenant Office Building 1,000 SF GFA 1.74*	879 Arts and Craft Store 1,000 SF GFA 6.21
720 Medical-Dental Office Building 1,000 SF GFA 3.46	880 Pharmacy / Drugstore without Drive-Through Window 1,000 SF GFA 8.51
730 Government Office Building 1,000 SF GFA 1.71	881 Pharmacy / Drugstore with Drive-Through Window 1,000 SF GFA 10.29
731 State Motor Vehicles Department 1,000 SF GFA 5.20	882 Marijuana Dispensary 1,000 SF GFA 21.83
732 United States Post Office 1,000 SF GFA 11.21	890 Furniture Store 1,000 SF GFA 0.52
733 Government Office Complex 1,000 SF GFA 2.82	897 Medical Equipment Store 1,000 SF GFA 1.24
750 Office Park 1,000 SF GFA 1.07	899 Liquor Store 1,000 SF GFA 16.37
760 Research and Development Center 1,000 SF GFA 0.49	
	SERVICES
770 Business Park 1,000 SF GFA 0.42	911 Walk-In Bank 1,000 SF GFA 12.13
	912 Drive-In Bank 1,000 SF GFA 20.45
RETAIL	
810 Tractor Supply Store 1,000 SF GFA 1.40	918 Hair Salon 1,000 SF GFA 1.45
811 Construction Equipment Rental Store 1,000 SF GFA 0.99	920 Copy, Print, and Express Ship Store 1,000 SF GFA 7.42
812 Building Materials and Lumber Store 1,000 SF GFA 2.06	925 Drinking Place 1,000 SF GFA 11.36
813 Free-Standing Discount Superstore 1,000 SF GFA 4.33	926 Food Cart Pod Food Carts 3.08
814 Variety Store 1,000 SF GFA 6.84	930 Fast Casual Restaurant 1,000 SF GFA 14.13
815 Free Standing Discount Store 1,000 SF GFA 4.83	931 Quality Restaurant 1,000 SF GFA 7.80
816 Hardware / Paint Store 1,000 SF GFA 2.68	932 High-Turnover (Sit-Down) Restaurant 1,000 SF GFA 9.77 9.80
817 Nursery (Garden Center) 1,000 SF GFA 6.94	933 Fast Food Restaurant without Drive-Through Window 1,000 SF GFA 28.34
818 Nursery (Wholesale) 1,000 SF GFA 5.18	934 Fast Food Restaurant with Drive-Through Window 1,000 SF GFA 32.67 78.74
820 Shopping Center 1,000 SF GFA 3.81 3.81 4.92	Fast Food Restaurant with Drive-Through Window and No
823 Factory Outlet Center 1,000 SF GFA 2.29	935 Indoor Seating 1,000 SF GFA 42.65
840 Automobile Sales (New) 1,000 SF GFA 2.43	936 Coffee/Donut Shop without Drive-Through Window 1,000 SF GFA 36.31
841 Automobile Sales (Used) 1,000 SF GFA 3.75	937 Coffee/Donut Shop with Drive-Through Window 1,000 SF GFA 43.38 83.19
842 Recreational Vehicle Sales 1,000 SF GFA 0.77	Coffee/Donut Shop with Drive-Through Window and No
843 Automobile Parts Sales 1,000 SF GFA 4.91	938 Indoor Seating 1,000 SF GFA 83.33
848 Tire Store 1,000 SF GFA 3.98	939 Bread / Donut / Bagel Shop without Drive-Through Window 1,000 SF GFA 28.00
849 Tire Superstore 1,000 SF GFA 2.11	940 Bread / Donut / Bagel Shop with Drive-Through Window 1,000 SF GFA 19.02
850 Supermarket 1,000 SF GFA 9.24	941 Quick Lubrication Vehicle Shop 1,000 SF GFA 8.70
851 Convenience Market (Open 24 Hours) 1,000 SF GFA 49.11	942 Automobile Care Center 1,000 SF GFA 3.11
853 Convenience Market with Gasoline Pumps 1,000 SF GFA 49.29	943 Automobile Parts and Service Center 1,000 SF GFA 2.26
854 Discount Supermarket 1,000 SF GFA 8.38	944 Gasoline / Service Station 1,000 SF GFA 109.27
	945 Gasoline / Service Station with Convenience Market 1,000 SF GFA 88.35
	947 Self Service Car Wash Wash Stalls 5.54

857 Discount Club 1,000 SF GFA 4.18	948 Automated Car Wash 1,000 SF GFA 14.20
860 Wholesale Market 1,000 SF GFA 1.76	949 Car Wash and Detail Center Wash Stalls 13.60
861 Sporting Goods Superstore 1,000 SF GFA #B 2.02 1.65	950 Truck Stop 1,000 SF GFA 22.73
862 Home Improvement Superstore 1,000 SF GFA #B 2.33 3.35	960 Super Convenience Market/Gas Station 1,000 SF GFA 69.28
863 Electronics Superstore 1,000 SF GFA 4.26	970 Winery 1,000 SF GFA 7.31

**Note:** All land uses in the 800 and 900 series are entitled to a "pass-by" trip reduction of 60% if less than 50,000 ft<sup>2</sup> or a reduction of 40% if equal to or greater than 50,000ft<sup>2</sup>.

\*From 9th edition, no PM peak hour in 10th

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An area designated as **General Urban/Suburban** in the *Trip Generation Manual* is an area associated with almost homogeneous vehicle-centered access. Nearly all person trips that enter or exit a development site are by personal passenger or commercial vehicle.

The area can be fully developed (or nearly so) at low-medium density with a mix of residential and commercial uses. The commercial land uses are typically concentrated at intersections or spread along commercial corridors, often surrounded by low-density, almost entirely residential development. Most commercial buildings are located behind or surrounded by parking.

The mixing of land uses is only in terms of their proximity, not in terms of function. A retail land use may focus on serving a regional clientele or a services land use may target motorists or pass-by vehicle trips for its customers. Even if the land uses are complementary, a lack of pedestrian, bicycling, and transit facilities or services limit non-vehicle travel.

An area designated as **Dense Multi-Use Urban** in the *Trip Generation Manual* is a fully developed area (or nearly so), with diverse and complementary land uses, good pedestrian connectivity, and convenient and frequent transit. This area type can be a well-developed urban area outside a major metropolitan downtown or a moderate size urban area downtown.

The land use mix typically includes office, retail, residential, and often entertainment, hotel, and other commercial uses. The residential uses are typically multifamily or single-family on lots no larger than one-fourth acre. The commercial uses often have little or no setback from the sidewalk. Because the motor vehicle still represents the primary mode of travel to and from the area, there typically is on-street parking and often public off-street parking.

The complementary land uses provide the opportunity for short trips within the Dense Multi-Use Urban area, made conveniently by walking, biking, or transit. The area is served by significant transit (either rail or bus) that enables a high level of transit usage to and from area development.

# SITE PLAN

