



Missouri Department of Natural Resources  
Division of State Parks  
800-334-6946

# **Recreational Vehicle Industry Trends**

## **Project Completion Report**

**Submitted to**

**Missouri Department of Natural Resources  
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## Introduction

### INTRODUCTION

Since the early 19<sup>th</sup> century, camping has been a permanent fixture in the American outdoor recreation landscape; however, with the advent of the “tent and bed” Model T in the early 1900s (see Figures 1 – 3), a new era of camping was introduced and the “recreational vehicle” was born. As the popularity of recreational vehicle (RV) camping increased, so to did the need for campgrounds providing special accommodations for these campers. In fact, there are now more than 16,000 public and private campgrounds nationwide that provide facilities for RV camping (Recreational Vehicle Industry Association [RVIA], 1999).



*From the archives of the RV/MH Heritage Foundation,  
<http://www.rv-mh-hall-of-fame.org>*

The abundance of RV campgrounds and parks gives some indication of the prevalence of RV use among campers, whose preference for this type of camping appears to be increasing. Research has shown that there were 9.3 million motorhomes, conventional travel trailers, fifth-wheel trailers, truck campers, folding camping trailers and van conversions on the road in 1999

(RVIA, 1999). Of further significance, the number of households owning a RV, currently at 8.6 million, is expected to reach 10.4 million by the year 2010. This growth in RV use and purchase is expected to increase with the aging population of the U.S. Research has shown that RV users tend to be older. For example, 40% of RV users and owners are 55 years of age or older and another 40% are between the ages of 45 and 54 (Baby Boomers). As Baby Boomers age, they are expected to contribute significantly to the anticipated 40% growth in the RV market within the next 20 years (Fructher & Schau, 1997).

Baby Boomers don't have the corner on the RV market, however. With the trend toward shorter, closer-to-home vacations (Nickerson & Black, 2000) and the growing affordability of certain types of RVs, an increasingly younger consumer base is joining the ranks of RVs owners (RVIA, 1999). For instance, research has indicated that over half of likely RV buyers are between 30 to 49 years of age, and others most likely to purchase RVs are people who have two or more children and like to drive while on vacation (RVIA, 1999). The three types of RVs most commonly used by families with children are folding camping trailers (average 1999 retail price: \$5,300); conventional travel trailers (average 1999 retail price: \$14,300); and Class C motorhomes (average 1999 retail price: \$48,500). As more and more families discover the convenience and affordability of RV travel, growth in use and purchase of RVs for this demographic group is sure to continue, as well.

Figures 1 – 3. Early “Recreational Vehicles”



The small package on the running board is the Schilling model of combination bed and tent.



How the same running-board outfit looks when unpacked and set up. The tent is drawn aside to show the construction of the bed.



All fixed for the night.

From the archives of Lost Highways, <http://www.losthighways.org>

**FIELD AUTOKAMP TENT**

In 4 Autokamp Tent as with Car  
 Size 7' x 7' x 5'4" high-3' wall  
 Every Sportsman and Motorist should Own a  
**Field AUTOKAMP Tent**

From the archives of the RV/MH Heritage Foundation, <http://www.rv-mh-hall-of-fame.org>

**Complete Nine Piece Camp Outfit**  
 including  
**Burch Nifty Umbrella**  
**Tent and Ideal Bed \$69.<sup>75</sup>**

Comfort and convenience, the two things so often lacking on the camping trip at home, are delightfully provided by this Camp Outfit, complete for two persons. Yet the ease with which it can be set up or stored away in small space on the car appeals to the motorist who wishes to "travel light." **OUTFIT INCLUDES FOLLOWING 9 ITEMS:**

- 1 Burch Nifty Umbrella Tent
- 1 Burch Ideal Bed
- 1 Burch Nifty Umbrella Tent
- 1 Burch Ideal Bed
- 1 Burch Nifty Umbrella Tent
- 1 Burch Ideal Bed
- 1 Burch Nifty Umbrella Tent
- 1 Burch Ideal Bed
- 1 Burch Nifty Umbrella Tent
- 1 Burch Ideal Bed

**The Nifty Umbrella Tent**  
**FROM ROAD TO CAMP IN 5 MINUTES**  
 Price \$44.<sup>00</sup>

**Burch DeLuxe**  
 —a 12x12 Umbrella Tent with 2-foot side walls  
 Price \$56.<sup>00</sup>

**The F. J. Burch Mfg. Co.**  
 Hudson and Iowa Pk. PUEBLO, COLO.

**Burch Ideal Bed**  
**\$12.<sup>50</sup>**

From the archives of Lost Highways, <http://www.losthighways.org>

## NEED FOR RESEARCH

“...campsites designed for the 1950 visitor no longer accommodate the 2000 visitor. Fifteen-foot pads with minimal electrical and other hookup cannot accommodate today’s 40 foot motor-homes requiring 30 amp hookups (McLean, Hurd, Beggs & Chavez, 2000).” This statement encapsulates the current situation experienced by recreation managers in their provision of campsites for RV campers. Size and amenities associated with RV design have created changing demands on recreation provision in campgrounds. Recreation managers constantly face the challenge of meeting such recreation demand in the context of possible or prudent site development. Information and analysis pertaining to the direction and trend of RV design to determine future infrastructure demands would contribute to effective and efficient management decisions.

## STUDY PURPOSE

Currently, the Missouri State Park System has 40 parks and historic sites that offer camping at over 3,500 campsites. Just over half (51.8%) of those campsites have electric hookup, most of which provide 30-amp service while about 5% offer 50-amp service (Goorjian, Missouri Division of State Parks [DSP], personal communication, 2001). Thirty-nine of the 40 parks and sites provide water in their campgrounds (although not at every campsite), 36 provide dump stations, and five have water and sewer hookup at a number of individual campsites (Department of Natural Resources [DNR], 2000). The average RV campsite pad is approximately 12’0” wide by 48’0” long, with surface material generally

consisting of concrete, asphalt, or gravel (Goorjian, DSP, personal communication, 2001).

The growth in RV use and purchase has important management implications for Missouri’s state park and historic site campgrounds, particularly as almost two-thirds of Missouri state park visitors surveyed during 1999 and 2000 indicated camping in a RV rather than a tent (Fredrickson & Vessell, 2000; Fredrickson & Vessell, 2001). These RV campers were significantly older (51 years of age) when compared to tent campers (36 years of age). This use pattern, combined with the high percentage (45%) of Baby Boomers who visit Missouri’s state parks and historic sites, suggest that managers can expect to see an increase in the number of RV campers in their state park and historic site campgrounds. In light of this expected increase, the purpose of this report is to assess current and future RV industry trends and provide practical and applicable data to Missouri State Park campground managers. This data will assist them in their management decisions regarding campground upgrade and development.

## DEFINITIONS

- ◆ **RV** – a vehicle that combines transportation and temporary living quarters for recreation, camping and travel (RVIA, 1999). Conveniences of a RV range from the basics (running water, cooking and bathroom facilities, and a power source) to added comforts such as air conditioning, entertainment systems and slideout rooms. RVs are grouped into two categories: towable RVs and Motorized RVs.



- ◆ **Towable RV** – a RV designed to be towed by a motorized vehicle (car, van or pickup truck) and of such size and weight as not to require a special highway movement permit. Towable RVs do not require permanent on-site hookups and can be unhitched from the tow vehicle, allowing for convenient local travel to and from the campsite (RVIA, 1999). Four types of RVs fall within this category:

- *Folding Camping Trailer* – a lightweight collapsible unit that folds for aerodynamic towing even by small compact cars. This RV usually provides a kitchen, dining area, sleeping space for two to eight people and, in some cases, bathroom facilities.

**Figure 4. Folding Camping Trailer**



- *Truck Camper* – a unit that is loaded and affixed onto the bed or chassis of a pickup truck. Most units have a kitchen and dining area, bathroom facilities, and sleeping space for up to six people.

**Figure 5. Truck Camper**



- *Travel Trailer* – a RV designed for towing by car, truck or van.

Most models provide kitchens, dining areas, living areas, bathroom facilities, and sleeping space for up to eight people. A typical travel trailer can also provide electric and water systems.

**Figure 6. Travel Trailer**



- *Fifth Wheel* – a RV requiring a special tow hitch on a pickup truck. Fifth wheel trailers typically provide kitchens and dining areas, living areas, bathrooms facilities, and sleeping space for up to eight people. Most provide electric and water systems, as well.

**Figure 7. Fifth Wheel**



- ◆ **Motorized RV** – a RV built on or as an integral part of a self-propelled motor or vehicle chassis, combining transportation and living quarters in one unit. There are three types of motorized RVs.

- *Class A Motorhome* – the living unit has been entirely constructed on a bare, specially designed motor vehicle chassis with the kitchen, dining area, sleeping space and bathroom

facilities accessible from the driver's area. Living systems typically include electricity, heating, air conditioning, water and propane gas. Class A motorhomes can sleep up to six people.

**Figure 8. Class A Motorhome**



- **Class B Motorhome** – a panel-type truck to which the RV manufacturer adds sleeping, kitchen, and/or bathroom facilities. Most have electric and water hookups and can sleep up to four people.

**Figure 9. Class B Motorhome**



- **Class C Motorhome** – built on an automotive manufactured van frame with an attached cab section, the RV manufacturer completes the body section containing the living area behind and above the cab. This design allows for the usual RV kitchen, dining and living areas, and bathroom facilities. Class C motorhomes can provide sleeping space for up to ten people.

**Figure 10. Class C Motorhome**



- ◆ **Hookups** – the ability of connecting to a campground's facilities. The major types of hookups are electrical, water and sewer. Hookups may also include telephone and cable TV in some campgrounds.
- ◆ **Full Hookups** – the ability to connect to all three of a campground's facilities: electric, water and sewer.
- ◆ **Fresh Water** – water that is stored for later use in sinks and shower.
- ◆ **Gray Water** – waste water from sinks and shower.
- ◆ **Black Water** – waste water from the toilet.
- ◆ **Dump Station** – a facility for dumping or emptying black and gray water holding tanks.
- ◆ **Shore Power** – electricity (in amperes) provided to the RV by an external source other than the RV batteries. The unit of measurement for shore power is expressed as amperage.
- ◆ **Slide-out** – a room or area in a RV that slides out to make additional space for living.
- ◆ **Gross Vehicle Weight Rating (GVWR)** – the manufacturer's maximum load weight, in pounds, allowed for the vehicle. This rating

includes the weight of the vehicle plus fuel, water, propane, supplies and passengers. For the purposes of this report, all weights for folding camping trailers, travel trailers, fifth wheels, Class A motorhomes, Class B motorhomes and Class C motorhomes are expressed in GVWR.

- ◆ **Base Dry Weight (BDW)** – the weight of the RV without adding the fuel, water, propane, supplies and passengers. For the purposes of this report, weights for truck campers are expressed in BDW.

## Figures 11 – 16. Development of the Recreational Vehicle Through the 1930s



From the archives of Lost Highways, <http://www.losthighways.org>



From the archives of Vintage Vacations, <http://www.vintage-vacations.com>



From the archives of the RV/MH Heritage Foundation, <http://www.rv-mh-hall-of-fame.org>



From the archives of Lost Highways, <http://www.losthighways.org>



From the archives of the RV/MH Heritage Foundation, <http://www.rv-mh-hall-of-fame.org>



**Figures 17 – 21. Development of the Recreational Vehicle  
Through the 1960s**



From the archives of Vintage Vacations,  
<http://www.vintage-vacations.com>



From the archives of Vintage Vacations,  
<http://www.vintage-vacations.com>



From the archives of Lost Highways, <http://www.losthighways.org>



From the archives of Lost Highways, <http://www.losthighways.org>



Oldtimer Caravan Club,  
<http://www.clubs.nl/community/default.asp?club=Oldtime+Caravan+Club>



**Figures 22 – 27. Development of the Recreational Vehicle Through Present Day**



From the archives of the RV/MH Heritage Foundation, <http://www.rv-mh-hall-of-fame.org>



From the archives of the RV/MH Heritage Foundation, <http://www.rv-mh-hall-of-fame.org>



Coachmen Industries, <http://www.coachmenrv.com>



Thor Industries, <http://www.thorindustries.com>



Thor Industries, <http://www.thorindustries.com>



Monaco Coach Corporation, <http://www.monaco-online.com>

## Methodology

### SAMPLING PROCEDURES

Because this report examines RV design trends, it was determined that a telephone survey of RV manufacturers would be the most effective and efficient method for collecting the desired data.

### QUESTIONNAIRE

A nine-question questionnaire was developed (Appendix A) to gather information regarding the following variables:

1. Types of RVs manufactured and most popular type of RV manufactured.
2. Current size specifications and size limits.
3. Current hookup requirements.
4. Industry trends that will affect space and hookup requirements.

### SELECTION OF SUBJECTS

It was determined that a survey of RV manufacturers that manufactured at least three of the seven types of RVs would provide the most comprehensive data. Over 170 U.S. and Canadian RV manufacturers and their subsidiaries were identified through an examination of three internet directories: RVCanada.com (2001), rvNetLinx (2001), and RVUSA.com (2001). Of these, 38 companies manufacture at least three of the seven types of RVs.

Eliminating those manufacturers who custom-build RVs, a list of 22 manufacturers was compiled from which to survey.

### DATA COLLECTION

Initial telephone contact was made to identify appropriate personnel with whom to survey. Dates and times were scheduled for follow-up interviews, which were then conducted using the nine-question telephone instrument. A review of each company's website was also performed in order to gather information regarding current design specifications for the RV models manufactured during 2000 and 2001.

### DATA ANALYSIS

The data obtained for this study was analyzed with the Statistical Packages for the Social Sciences (SPSS) (SPSS, 1996). Frequency distributions were analyzed regarding the following data: type of RV manufactured; standard hookup requirements, including amperage, water and sewer; number of slideouts; and design specifications, including height, weight, length and width. Analysis using cross-tabulation was also conducted to compare the hookup requirements, number of slideouts, and design specifications of the different types of RVs.

## Results & Discussion

This section describes the results of the study, as well as discusses the implications of the responses from the RV manufacturers regarding future trends.

### RESPONSE RATE

Of the 22 RV manufacturers selected for study, 13 (59.1%) chose to participate in the survey while only four refused. After repeated attempts, the authors were unable to contact the remaining five manufacturers.

### TYPES OF RVs MANUFACTURED

Travel trailers accounted for one-third (35.3%) of the RVs manufactured by the companies participating in the study, while fifth wheels accounted for over one-fourth (27.2%). Table 1 lists the frequency and percent of models manufactured in each of the seven RV categories, as well as the most popular types of RVs sold by the manufacturers. According to the RV manufacturers surveyed, travel trailers ranked highest (43.8%) in popularity by consumers

purchasing RVs. Fifth wheels ranked second (31.3%) as the most popular type of RV sold.

### CURRENT SIZE SPECIFICATIONS & SIZE LIMITS

Most states have towing laws limiting the size of RVs. For Missouri, height is restricted to 14'0" and width is restricted to 8'6". Although no length restrictions have been specified for trailers, motorhomes cannot be longer than 45'0" and two-vehicle combined towing length must not exceed 65'0" (T.L. Enterprises, Inc., 2001). Table 2 compares the average height, length, width and weight of the RVs surveyed, as well as the minimum and maximum ranges for each measurement.

#### *Height*

The average external height (campsite height) of all the types of RVs combined was approximately 10'7", but ranged from a minimum of 6'6" (truck camper) to a maximum of 13'10" (fifth wheel).

*Table 1. Frequency & Percent of RVs Manufactured*

Type	Percent Manufactured		Popularity Ranking	
	Frequency	Percent	Ranking	Percent*
Truck Camper	90	3.6%	4 <sup>th</sup>	6.3%
Folding Camping Trailer	118	4.8%	4 <sup>th</sup>	6.3%
Travel Trailer	871	35.3%	1 <sup>st</sup>	43.8%
5 <sup>th</sup> Wheel	672	27.2%	2 <sup>nd</sup>	31.3%
Class A Motorhome	532	21.6%	3 <sup>rd</sup>	12.5%
Class B Motorhome	3	0.1%		0.0%
Class C Motorhome	181	7.3%		0.0%
Total	2467	100.0%		100.0%

\*Percent refers to the number of times each type of RV was listed as most popular type by the manufacturers.



Table 2. RV Size Specifications

Type	Height*			Length			Width			Weight <sup>+</sup>		
	Mean	Minimum	Maximum	Mean	Minimum	Maximum	Mean	Minimum	Maximum	Mean	Minimum	Maximum
Truck Camper	7'10"	6'6"	8'6"	16'0"	8'0"	19'9"	7'10"	7'0"	8'4"	2324 lbs.	1004 lbs.	3340 lbs.
Folding Trailer	7'6"	7'3"	8'7"	21'8"	13'5"	26'0"	7'3"	6'6"	8'9"	2534 lbs.	1168 lbs.	3450 lbs.
Travel Trailer	10'0"	6'9"	12'9"	28'7"	10'8"	39'8"	7'11"	5'10"	8'6"	7685 lbs.	2141 lbs.	13700 lbs.
Fifth Wheel	11'8"	7'5"	13'10"	30'8"	19'0"	41'3"	8'0"	5'10"	8'6"	11170 lbs.	4537 lbs.	20000 lbs.
Class A Motorhome	11'10"	9'10"	13'2"	36'8"	22'10"	45'4"	8'5"	7'11"	8'6"	27715 lbs.	12300 lbs.	49500 lbs.
Class B Motorhome	9'11"	9'11"	9'11"	21'10"	21'10"	21'10"	7'10"	7'10"	7'10"	11500 lbs.	11500 lbs.	11500 lbs.
Class C Motorhome	11'1"	9'6"	12'6"	28'1"	19'8"	36'9"	8'4"	7'10"	8'5"	12822 lbs.	10700 lbs.	26000 lbs.

\* Height includes A/C unit, adding an additional 10" to 14" to external height.

<sup>+</sup> Weight for folding campers, travel trailers, fifth wheels, and motorhomes is measured in GVWR.

Weight for truck campers is measured in BDW.

**Length**

The average external length (campsite length), including tow hitches and end extensions, of all the RVs combined was approximately 30'0", but again had a fairly wide range from 8'0" (truck camper) to 45'4" (Class A Motorhome).

**Width**

The average external width (campsite width), not including slide-outs, of all the RVs combined was approximately 8'0" wide, but ranged from 5'10" ("lite" travel trailer and fifth wheel) to 8'9" (folding camping trailer). Campsite width is increased, however, by the presence of slide-outs. Slide-outs were present on over two-thirds (68.3%) of the models surveyed, and ranged in

depth from 1'0" to 3'8". So, for example, the campsite width of an 8'0"-wide RV with a 3'8"-wide slide-out becomes 11'8". Slide-outs on both sides of a RV further extend the campsite width. Twenty-two percent (21.9%) of the RVs with slide-outs had slide-outs on both sides, adding anywhere from 2'2" to over 7'0" extra width to the campsite width. Figure 28 shows a floorplan of a fifth wheel with three slide-outs, illustrating the considerable width slide-outs add to campsite width. Table 3 lists the frequency and percent of slide-outs by RV type and Table 4 lists the frequency and percent of RVs with slide-outs on both sides.

Figure 28. Floorplan of Fifth Wheel RV with Three Slide-outs

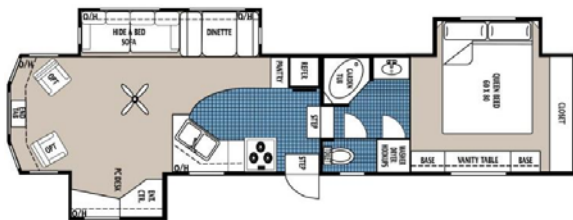


Table 3. Frequency & Percent of Slide-outs, by RV Type

Type	Number of Slide-outs							
	0		1		2		3	
	#	%	#	%	#	%	#	%
Truck camper	71	78.9	19	21.1	0	0.0	0	0.0
Folding camp.	86	72.9	32	27.1	0	0.0	0	0.0
Travel trailer	381	44.8	416	48.9	51	6.0	3	0.4
Fifth wheel	61	9.2	327	49.2	139	20.9	137	20.6
Class A	63	11.8	104	19.5	329	61.8	36	6.8
Class B	3	100.0	0	0.0	0	0.0	0	0.0
Class C	109	60.2	57	31.5	15	8.3	0	0.0

**Table 4. Frequency & Percent of RVs with Slide-outs on Both Sides, by RV Type**

<i>Type</i>	<i>Number of Sides</i>			
	<i>1</i>		<i>2</i>	
	<i>Frequency</i>	<i>Percent</i>	<i>Frequency</i>	<i>Percent</i>
Truck camper	17	100.0%	0	0.0%
Folding camping trailer	32	100.0%	0	0.0%
Travel trailer	462	98.9%	5	1.1%
Fifth wheel	420	69.5%	184	30.5%
Class A Motorhome	308	65.7%	161	34.3%
Class B Motorhome	0	0.0%	0	0.0%
Class C Motorhome	58	81.7%	13	18.3%

### *Weight*

The average weight of all the RVs combined was approximately 13,000 lbs., but had a considerable weight range based on type of RV. The lightest RV weighed a little over 1,000 lbs. (truck camper). The heaviest, a Class A Motorhome, weighed almost 50,000 lbs. Slide-outs, in addition to increasing the width of a RV, also increase the weight of a RV. For instance, a fifth wheel with one slide-out can weigh up to 1,000 lbs. more than a comparable fifth wheel with no slide-out.

### **CURRENT HOOKUP REQUIREMENTS**

#### *Water & Sewer Requirements*

The vast majority (99.6%) of RVs surveyed had fresh water storage capability, enabling fresh water hookup at the campsite. Less than one percent (0.4%) did not have fresh water storage capability. A large percentage (94.6%) of the RVs surveyed also had gray and black water storage capability, requiring either accessibility to a dump station to dispose of waste water or to a campsite sewage hookup. Table 5 lists, by type, the RVs with water and sewer hookup capabilities.

**Table 5. Water & Sewer Hookup Capabilities, by RV Type**

<i>Type</i>	<i>Water</i>				<i>Sewer</i>			
	<i>No</i>		<i>Yes</i>		<i>No</i>		<i>Yes</i>	
	<i>#</i>	<i>%</i>	<i>#</i>	<i>%</i>	<i>#</i>	<i>%</i>	<i>#</i>	<i>%</i>
Truck camper	1	1.1%	89	98.9%	16	17.8%	74	82.2%
Folding camping trailer	10	8.5%	108	91.5%	118	100.0%	0	0.0%
Travel trailer	0	0.0%	871	100.0%	0	0.0%	871	100.0%
Fifth wheel	0	0.0%	672	100.0%	0	0.0%	672	100.0%
Class A Motorhome	0	0.0%	532	100.0%	0	0.0%	532	100.0%
Class B Motorhome	0	0.0%	3	100.0%	0	0.0%	3	100.0%
Class C Motorhome	0	0.0%	181	100.0%	0	0.0%	181	100.0%

**Shore Power Requirements**

Over three-fifths (71.7%) of the RVs surveyed required, as a standard, a 30-amp electrical hookup. Less than 5% (4.1%) of the RVs surveyed only required 15 amps for a standard hookup. Almost one-fourth (24.2%) of the RVs required 50-amp service to adequately operate all electrical systems (although most provided 30-amp converters), particularly those larger models with washer and dryer hookups and/or two air conditioning units. **Note: the current shore power requirements described here are meant to provide a brief “snapshot” of current requirements. This snapshot can be misleading, considering the rapidly growing trends mentioned in the next section.** Table 6 compares electrical hookup requirements between the seven RV types.

**Table 6. Electrical Service Requirements, by RV Type**

Type	Amperage		
	15	30	50
Truck camper	31.1%	68.9%	0.0%
Folding camp.	88.2%	11.8%	0.0%
Travel trailer	0.0%	98.8%	1.2%
Fifth wheel	0.0%	78.1%	21.9%
Class A MH	0.0%	21.6%	78.4%
Class B MH	0.0%	100.0%	0.0%
Class C MH	0.0%	97.8%	2.2%

**Demand for Increased Living Space**

Almost all of the manufacturers commented on consumers’ demand for increased living space, both indoors and out of doors. According to the manufacturers, this demand for an increase in living space translates into longer units and, most especially, units with more and bigger slide-outs or, as expressed by one manufacturer, “Slide-outs, slide-outs, slide-outs!” Another manufacturer in particular has just released their 2002 Class A Motorhome with four slide-outs (Figure 29), an industry first.

In addition to an increase in demand for internal living space, consumers are also looking for more out-of-doors living space. Several of the manufacturers mentioned awnings located on three

**INDUSTRY TRENDS THAT WILL AFFECT SPACE & HOOKUP REQUIREMENTS**

The RV manufacturers were asked to describe industry trends, particularly additional options and amenities, that would affect the size and hookup requirements of their RVs. This section discusses their responses.

**Figure 29. Floorplan of a Quadruple-Slide Class A Motorhome**



sides, outdoor showers and other options such as external cook-tops, grills, and small refrigerators.

### ***Demand for Increased Electrical Power***

Along with the demand for increased living space comes a need for an increase in the amperage provided by shore power. Many of the longer units have two air conditioning units, requiring 50-amp service to run both. Several of the slide-outs, particularly the “super-slides”, also require 50-amp service for operation. In addition, various other options that come standard on some of the larger fifth wheels and Class A and C motorhomes also require 50-amp service, such as washers and dryers, microwave ovens and large entertainment centers. As stated by one manufacturer, “People want more toys, and that means more power.”

### ***Increase in Demand for Other Amenities***

Several of the manufacturers surveyed said their RVs are manufactured with satellite capability, cable and telephone hookups, and other options such as large entertainment centers, washers and dryers, dishwashers, etc., in response to consumers’ demand for “...more equipment, more luxury, just plain more of everything”. The following article (RVIA, 1999) seems to reiterate this sentiment, as well as provide a list of amenities and options popular with consumers:

“A new generation of RVs with innovative features from expandable rooms to Web TV is attracting a new generation of buyers. Combining traditional amenities like fully equipped

kitchens and baths, central heat and air conditioning, and queen-sized beds with state-of-the-art entertainment and communications technology, today’s RVs make travel more comfortable and convenient than ever. Consumers agree, propelling RV sales to their highest since 1978, especially among Baby Boomers who want to take their toys on the road.

Among the most popular electronic amenities now commonly found aboard RVs: surround-sound stereos, CD players with individual headphones, TVs, VCRs and video game systems. Other high-tech options include hydraulic levelers, back-up cameras and bedrooms that convert into mobile offices complete with a dedicated spot for computer and internet jacks.

RVs pack more technology every day, including:

- Moving walls that automatically expand the interior living space for added comfort...
- Small direct broadcast satellite antennas that have replaced the mammoth dishes of the ‘80s...
- Electronic mapping, or Global Positioning Systems (GPS), to help RVers chart their course and identify their location at the moment.
- Web TV, so RV travelers can easily access the worldwide web during their travels.

- Space-saving dishwashers that slide in like a drawer, designed to economically clean kitchen utensils with minimal visibility, noise and water use.”

The demand by consumers for increased living space and additional options and the subsequent demand for increased electrical service have significant management implications for campground managers, particularly as RV manufacturers continually develop innovative ways to satisfy consumers’ desire for comfort and convenience (RVIA, 1999). The following article discusses some of these innovations:

“Imagine a 25-foot RV that expands to 40 feet by pushing a button. Imagine RVs equipped with wind turbines and solar panels to generate electricity. Or how about a rooftop deck or “penthouse patio” featuring a wet bar, barbecue and built-in spa? As the RV industry enters the new millennium, consumers can expect more technological innovations that provide a variety of services and amenities to further enhance their RV travel experiences. Here are some other new millennium designs now being explored by RV manufacturers:

- Slide-out patios completely surrounding RVs for added space and weather protection...
- Futuristic shapes, fun colors and sloped windshields to add style and versatility.
- Eye-controlled outside mirrors that can be adjusted simply by looking at them.

- More tailgating features, like exterior panels that lift to reveal a TV that’s easily viewed from the outside...
- Retractable sun roofs to enjoy good weather.
- Spiral staircases leading to a rooftop deck.
- Homing devices to help family members follow your travels right down to where you are parked for the night.
- Multi-purpose rooms designed for flexible use of space.
- Beds stored under the main floor that can pop up at bedtime. And for additional room, furniture could be “knocked down,” with tables and chairs collapsing to the walls of the RV.
- Voice-controlled lighting.
- Built-in kennels for dog-lovers.
- Smart technology that provides self-diagnostic tests (checking oil, etc.) on the vehicle.
- Expansion of home theater systems that already include giant screen TVs or TV monitors that fold away into the ceiling.

While the RV of tomorrow will sport these and many more high-tech advances, there’s no need to wait. With state-of-the-art amenities and comforts abounding, today’s RVs are already “homes on wheels” that turn road trip vacations into unforgettable experiences.”

Clearly, several of these “millennium innovations” will affect the space and hookup requirements of RV campgrounds, as well as create logistical

dilemmas when considering campground design or upgrade. In light of these future innovations, as well as the previously discussed current design specifications and industry trends, the following management implications are presented.

### MANAGEMENT IMPLICATIONS

In addition to current size specifications, hookup requirements, and industry trends affecting space and hookup requirements, RV manufacturers were asked what other considerations campground managers should be aware of when developing or redesigning their campgrounds. Size was a particular concern for RV manufacturers, who felt that current campsite pad dimensions could not accommodate the multiple slide-outs, awnings and the other accoutrements associated with external living space. Closely associated to size, many manufacturers also felt there was a need for more pull-through sites to house the longer and larger units and to assist RV owners, who would otherwise have to “back-in” their RVs. “A lot of our customers are older, and that’s one of their biggest complaints, that the big units are too hard to back in. They need pull-through sites.” A need for greater turning radius (particularly at dump stations), wider roads, and more space between campsites was also indicated, in response to the increase in size of RVs.

In addition to size, height and overhead clearance were discussed as well. One manufacturer in particular warned that, with increasingly larger chassis being developed for Class C motorhomes and truck campers, campground managers should expect to see an increase in height as much as 5” in some RV units. Another manufacturer mentioned the

affect of trees on satellite reception, and suggested an increase in overhead clearance to improve reception. **Note: this attitude could be used to guarantee mission conflict in the future.**

Upgrading campsite hookups was also discussed. Providing water and sewer hookups at each campsite was suggested by many of the manufacturers, although most realized that such an upgrade was not always economically feasible. Several also proposed an upgrade in electric service to 50-amp service so that customers could “run their air conditioner, microwave, and hair dryer at the same time.”

### Conclusion

RV manufacturing has evolved dramatically in the past 90 years, far from the days of the “tent and bed” Model T. New technology has produced a vehicle that offers every comfort of home while at the same time stretching the limits of acceptability regarding size and service requirements. Clearly surpassing the ability of many public campgrounds to accommodate such vehicles, today’s RVs are forcing campground managers to consider expensive redesign or new campground construction.

It must be stated that the Missouri State Park System is currently undergoing an effort to upgrade at least 50% of their campsites to provide 50-amp service (Goorjian, DSP, personal communication, 2001). But the question remains, how well will the Missouri State Park campground system be able to meet the increasing demand that bigger and more amenity-laden RVs make on its infrastructure? In other words, how

far can mission compatibility be stretched? It is to be hoped that, by using the information provided in this report,

Missouri State Park campground managers will be able to better address this question.

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**Appendix A. Recreational Vehicle Industry Trends Survey**

**RV TREND SURVEY – (Insert Manufacturer’s Name)**

**Date:**

**Time:**

- 1. Contact information:**
  
- 2. Confirm type of RVs manufactured:**
  
- 3. What is the most popular type of RV manufactured by your company (Class A, B, C Motorhome; travel trailer, fifth wheel; truck camper, folding camper)?**
  
- 4. Fill in blank specs.**
  
- 5. Do you foresee any changes in your standard hookup requirements in the near future? If so, what are they and what changes in design are influencing these changes?**
  
- 6. What are the size and weight limits for each type of RV you manufacture?**
  
- 7. Do you foresee any future changes in the general size and weight of each type of RV you manufacture? If so, what are they and what design changes are influencing these changes?**
  
- 8. What options and amenities are now available, or do you anticipate being available in the future, that will affect the size and hookup requirements of each type of RV you manufacture?**
  
- 9. What, in your opinion, are the current industry trends that will affect the space and hookup requirements of the RVs you manufacture?**
  
- 10. Is there anything else you think campground managers should consider when developing or redesigning their campgrounds?**