

**Visitor Expectations and Perceptions of
Program and Physical Accessibility
in the National Park Service**

November, 2001

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University of Tennessee

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Visitor Expectations and Perceptions of Program and Physical Accessibility in the National Park Service

Introduction

Based on the information provided by the Statistical Office of the U.S. National Park Service (1997), during the 1920s and '30s, the volumes of visitors increased steadily, and increased dramatically after World War II. Generally, there were fluctuations in visitor numbers from year to year because of many factors such as world wars, bad weather, construction, and economic recession. Overall, the visitation series of the National Park Service (NPS) revealed mostly upward trends. The total annual visitation of NPS units was estimated to exceed 22 million in 1920s, 100 million in 1930s, 199 million in 1940s, and 590 million in 1950s. The visitation reached 1,278 million in 1960s. From the 1970s to 1980s, the visitation rose 36 percent. In 2000, there were more than 285 million recreation visits to the National Park Service's (NPS) units (e.g., national parks, national historical sites, national parkways, and national monuments). As national parks have become more popular destinations, in order to provide better services and maintain visitor safety, it is critical to understand the needs of various national park users (Chen, 2001).

According to the Census 2000 Supplementary Survey (C2SS), about 14% of the total U.S. population has a long-lasting physical, emotional, or mental disability. The largest population segment of individuals with disabilities is between the ages of 21 and 64 that is in the work force, while more than 60% of seniors age 65 and above have a disability. Recently, the Americans with Disabilities Act mandates that all business and services be accessible to persons with disabilities. As the latest statistics estimates show, there are more than 40 million Americans with disabilities which is larger than both the black and Hispanic populations and four times larger than the number of Asian Americans. If the recreation/tourism industry profession is to attain the ideal of recreation/tourism opportunity for all, then the needs of persons with disabilities must be a top priority.

Purpose

The purpose of the study was to identify the perceptions of people with disabilities relative to program and physical accessibility in the National Park Service. This study interviewed a minimum total of 50 visitors with disabilities (a minimum of 10 at each park included in the study). The research met following objectives:

1. Collect data on park physical and programmatic accessibility; perceptions on accessibility and barriers to participation by visitors with disabilities,
2. Generate suggestions and recommendations that visitors with disabilities may have that would make a visit to the national park enjoyable,

3. Compile trip-related data (e.g., sources of information used, nights away from home, and the benefits associated with a visit, etc.) from opinions of visitors with disabilities, and
4. Provide information for better understanding, planning, development, and maintenance in outdoor developed areas based on the needs of visitors with disabilities.

Method

On-site interviews were conducted with a minimum of fifty visitors with disabilities (minimum of 10 for each park), specifically requesting their input/perceptions on accessibility within the park. Based on a report “Recommendations for Outdoor Developed Areas” published by the U.S. Architectural and Transportation Barriers Compliance Board, the input of director/staff of the National Center on Accessibility and Dr. Gene Hayes at the University of Tennessee, and personal professional experiences, the project coordinator developed the survey instrument used in collecting data on park accessibility (physical and programmatic); perceptions on accessibility (and barriers to participation) by visitors with disabilities and suggestions/recommendations that they have to make a visit to the national park more enjoyable for visitors with disabilities. A copy of the questionnaire is included at the end of this report.

All participants in this study were 1) adults (age 18 and older) who use mobility devices (manual chair, power chair, cane, walker, scooter, crutches), personal assistants, service animals, communication devices (TTY), or hearing aids, 2) parents/caregiver of an individual with developmental disabilities, and 3) parents/caregivers of kids with disabilities. Data were collected in the surrounding communities of the selected five nation park units. Visitors with disabilities were stopped and asked to participate in the study by providing their names and addresses and the participants were then given a self-administered diary questionnaire and asked to fill out the survey on-site if they had finished their park visit or mail it back in a postage-paid envelope at the end of their trips. A second copy of the questionnaire with postage-paid envelope was sent to those who had not responded within two weeks after the initial intercept.

In order to have diverse survey participants with many different disabilities represented (mobility, sight, hearing), our trained interviewers also worked with some local disability resource centers to recruit subjects for the study. Working with local disability services related organizations was expected to be an efficient way to manage resources and our interviewers’ time. However, some disability services related agencies were reluctant to participate in this study due to confidentiality and various constraints within agencies. Of all participants, our interviewers recruited most of them on-site and 9 were recruited by the disability services related organizations.

Here are the five National Park Units:

- The Great Smoky Mountains National Park (the most visited NP)
- The Blue Ridge Parkway (the most visited National Park Unit)
- The Shenandoah National Park in Virginia
- The Mammoth Cave National Park in Kentucky
- The Hot Springs National Park in Arkansas

Data were gathered from 5 selected national park unit visitors during the summer to the fall of 2001. Returned surveys were coded and entered into a computer. Cross-tabulations and frequency distributions were calculated using a Statistical Analysis System (SAS) software package. Participants' comments from the open-ended responses were summarized. The results of this project provide useful information for park managers relative the access in their park.

The Great Smoky Mountains National Park

Results

A total of two hundred questionnaires were distributed to individuals with disabilities. Of these questionnaires, 26 completed and usable questionnaires were returned.

Characteristics of Visitors with Disabilities

The first objective of this study was to determine the characteristics, or demographic profiles, of the visitors with disabilities to the Great Smoky Mountains National Park. This includes types of disabilities, age, gender, and the uses of various devices and assistances (e.g., wheelchair, walker, personal assistant, scooter, TTY, and service animals, etc.).

Characteristics of Park Visitors with Disabilities

Three groups were sought for the Great Smoky Mountains National Park based on the categories of disabilities of individuals visiting the park (see Table 1): 1) people with physical disabilities, for example, individuals who use mobility devices (wheelchairs, scooters, walkers, cane, crutches); 2) people with hearing impairments, for example, individuals who use the hearing aids; and 3) people with developmental disabilities. People with disabilities visiting the Great Smoky Mountains National Park ranged between the ages of 24 and 65 with a mean age of 49 for all participants (50% were females, and 50% were males); with a mean age of 50 for the visitors with physical

disabilities; with a mean age of 51 for the visitors with hearing impairments; and with a mean age of 33 for the people with developmental disabilities (Table 2).

Table 1. Categories of Disability of Persons Visiting the Great Smoky Mountains National Park (n = 26)

Disability	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Amputations	3	11.54	3	11.54
Arthritis	1	3.85	4	15.38
Autism	1	3.85	5	19.23
Back surgery	7	26.92	12	46.15
Cancer – sarcoma	1	3.85	13	50.00
Diabetes	2	7.69	15	57.69
Fibromyalgia	1	3.85	16	61.54
Heart Disease	3	11.54	19	73.08
Joint pain	1	3.85	20	76.92
Loss of mobility in limbs	2	7.69	22	84.62
Mental retardation	1	3.85	23	88.46
Neuropathy	1	3.85	24	92.31
Paralysis (quadriplegia)	1	3.85	25	96.15
Problems with walking	1	3.85	26	100.00

Table 2. Characteristics of Visitors with Disabilities

Characteristics	All visitors with disabilities	Visitors with physical disabilities	Visitors with hearing impairments	Visitors with developmental disabilities
	n = 26	n = 24	n = 3	n = 2
Age (average)	49	50	51	33
Gender				
Male	50%	50%	33%	50%
Female	50%	50%	67%	50%

(note: in this case, visitors with hearing impairments also use the mobility devices)

Types of Assistances and Devices

The three most common assistances/devices used by the park visitors with disabilities (Table 3) were canes (48%), manual wheelchairs (24%) and power wheelchairs (24%). The park visitors with disabilities also used personal assistants (20%), walkers (16%), hearing aids (12%), crutches (8%), and scooters (4 %).

Table 3. Types of Assistances/Devices Used by the Visitors with Disabilities

Assistances/Devices	Frequency	Percent (%)
Hear Aids (n = 25)	3	12
Walker (n = 25)	4	16
Cane (n = 25)	12	48
Manual wheelchair (n = 25)	6	24
Power wheelchair (n = 25)	6	24
Personal assistant (n = 25)	5	20
Crutch (n = 25)	2	8
Scooter (n = 25)	1	4
Other device (n = 25)	3	12

Visitor Expectations/Perceptions of Program and Physical Accessibility in the Park

Knowing the perceptions of visitors with disabilities regarding the program and physical accessibility in the park will assist in the process of providing a good foundation for future development and planning decisions.

Part III. Question 1. Previous Visits.

Of the participants, 100 percent had been to the Park, and the mean number of trips to the Park by these previous visitors was 10 times.

Part III. Question 2. Visitors' Opinions of the Great Smoky Mountains National Park and its Physical Accessibility

Participants were asked to rate their perceptions and experiences of the Park's accessibility during their national park trips. The results given are based on a 7 point scale, where 1 = not a problem, 4 = neutral, and 7 = major problem.

General Accessibility Elements (1 = not a problem, 4 = neutral, and 7 = major problem)

Lack of knowledgeable and/or helpful park staff regarding accessibility in the park (2.52), and lack of accurate information on accessibility in the park (2.62) were rated by all participants (Figures 1 to 2).

Figure 1. Lack of Knowledgeable/helpful Park Staff Regarding Accessibility (n = 26)

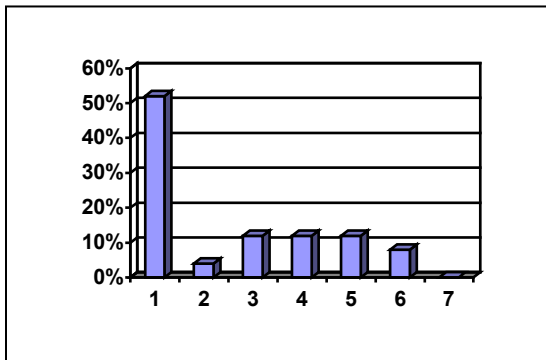
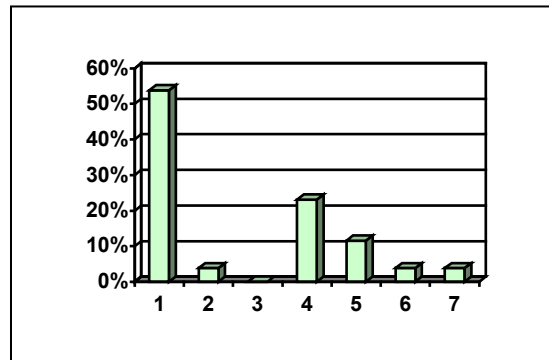


Figure 2. Lack of Accurate Information on Accessibility (n = 26)



Physical Accessibility Elements (1 = not a problem, 4 = neutral, and 7 = major problem)

The physical accessibility problems in the Park to visitors with physical disabilities (n = 24) were lack of accessible trails (3.61), and followed by lack of accessible parking spaces (3.46), lack of accessible overlooks and viewings areas (3.42), lack of accessible restrooms (2.91), lack of grab bars in restrooms (2.77), lack of appropriate urinal height in restrooms (2.65), lack of curb cuts (2.65), lack of the width of doorway in restrooms (2.55), lack of accessible drinking water (2.65), lack of accessible utilities (2.52), lack of accessible camping facilities (2.43), lack of accessible storage facilities (2.24), lack of accessible route to the trash/recycling containers (2.22), lack of accessible route to the visitor center (2.21), and narrow tread width of outdoor recreation access routes (2.16) (Figures 3 to 17).

Figure 3. Lack of Accessible Trails (n = 23)

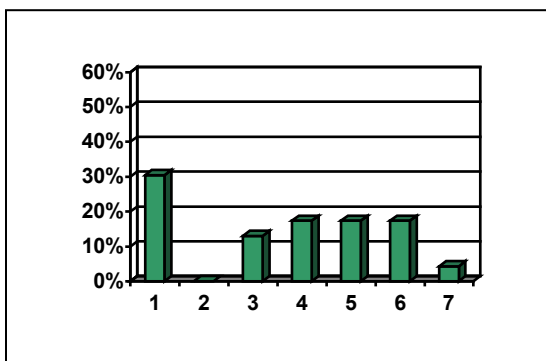


Figure 4. Lack of Accessible Parking Spaces (n = 24)

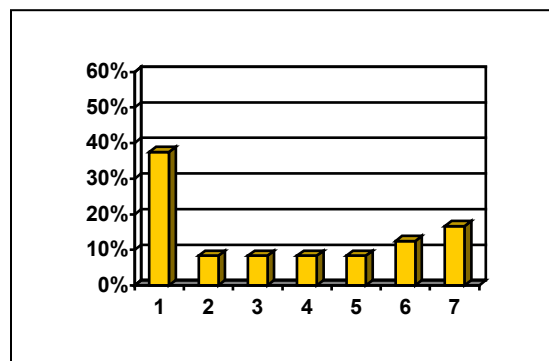


Figure 5. Lack of Accessible Overlooks and Viewings Areas (n = 24)

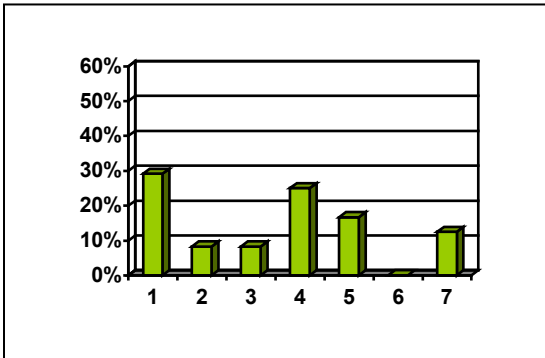


Figure 6. Lack of Accessible Restrooms (n = 23)

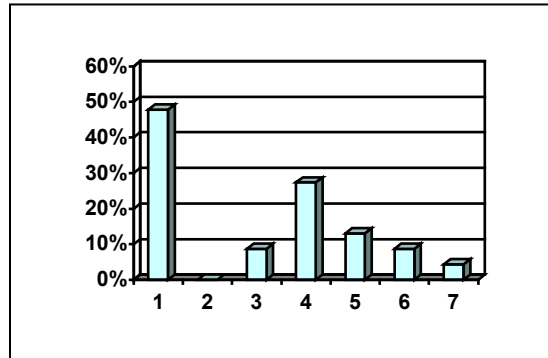


Figure 7. Lack of Grab Bars in Restrooms (n = 22)

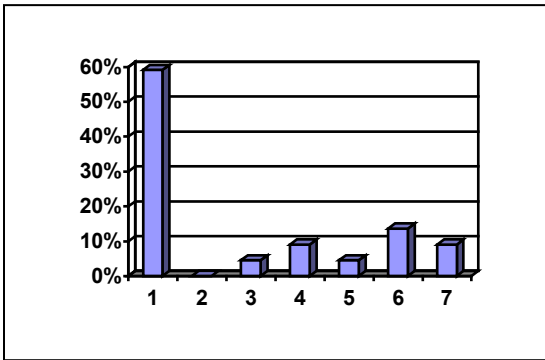


Figure 8. Lack of Appropriate Urinal Height in Restrooms (n = 20)

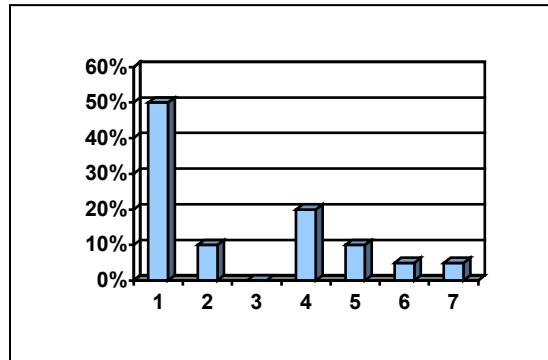


Figure 9. Lack of Curb Cuts (n = 23)

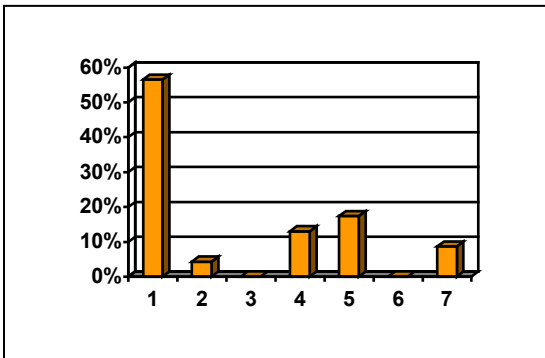


Figure 10. Lack of the Width of Doorway in Restrooms (n = 22)

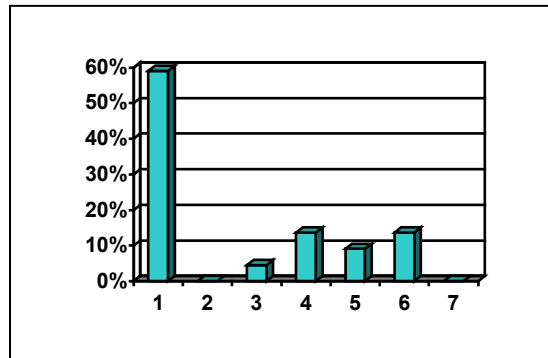


Figure 11. Lack of Accessible Drinking Water (n = 23)

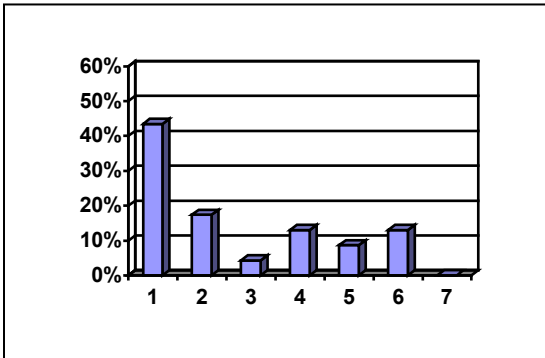


Figure 12. Lack of Accessible Utilities (n = 21)

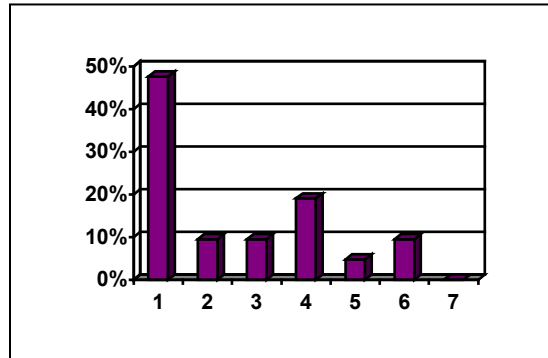


Figure 13. Lack of Accessible Camping Facilities (n = 21)

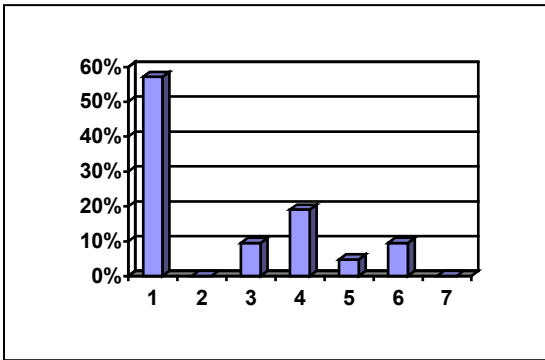


Figure 14. Lack of Accessible Storage Facilities (n = 21)

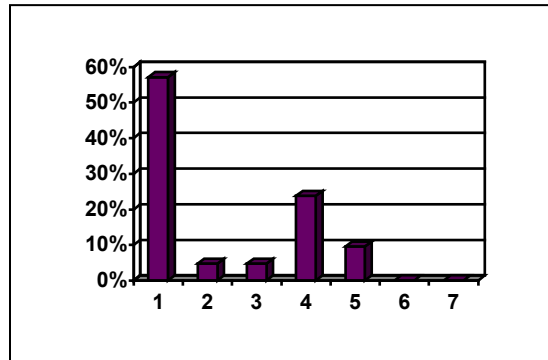


Figure 15. Lack of Accessible Route to the Trash/Recycling Containers (n = 23)

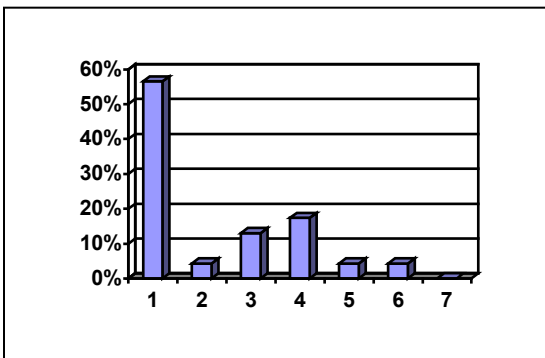


Figure 16. Lack of Accessible Route to the Visitor Center (n = 24)

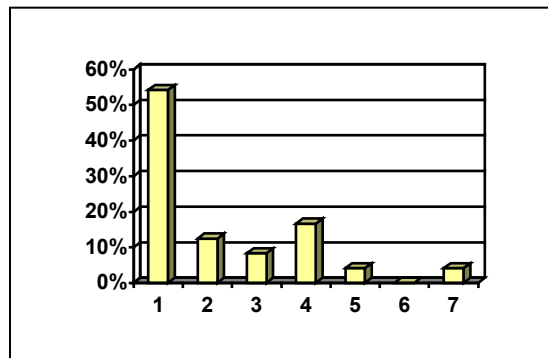
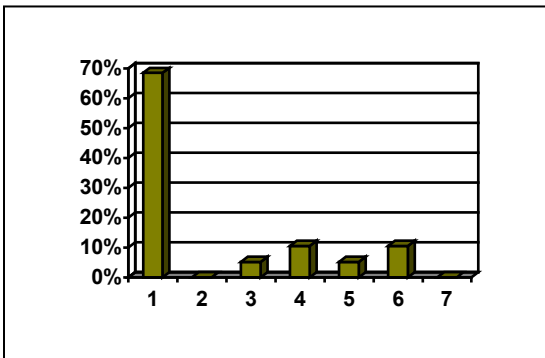


Figure 17. Narrow Tread Width of Outdoor Recreation Access Routes (n = 19)



Visitors with physical disabilities were also asked to rate particular accessible facilities (including the picnic tables, grills, and fire rings) they were using during the Park visits. The accessibility guidelines for the above three facilities are: 1) the height of the elements; 2) seating space provided; 3) knee space; 4) clear space surrounding the element; 5) the ground surface; and 6) the ground slope.

Picnic Tables (1 = not a problem, 4 = neutral, and 7 = major problem)

More than 50% of *individuals with physical disabilities* rated there was not a problem for the height of the picnic table (2.54), lack of clear space for knees (2.82), lack of appropriate ground surfaces around the table (2.58), lack of firm and stable seating space (2.21), lack of appropriate ground slope around the picnic table (2.75), lack of smooth surfaces around the table (2.78), and lack of accessible route to the table (2.63) (Figures 18 to 24).

Figure 18. The Height of the Picnic Table (n = 24)

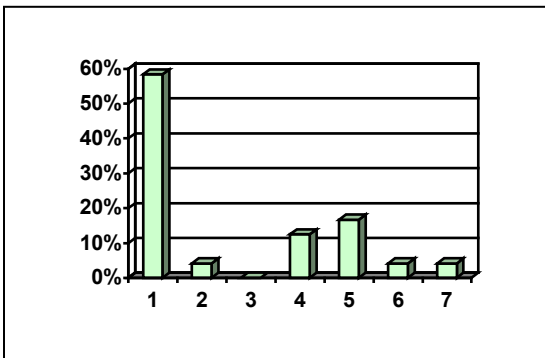


Figure 19. Lack of Clear Space for Knees (n = 22)

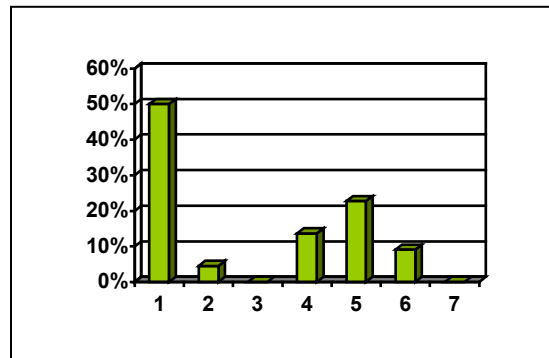


Figure 20. Lack of Appropriate Ground Surfaces Around the Table (n = 24)

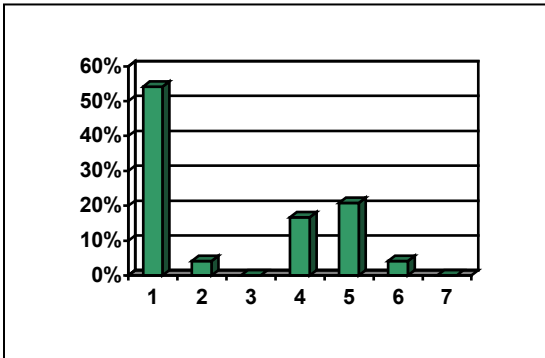


Figure 21. Lack of Firm and Stable Seating Space (n = 24)

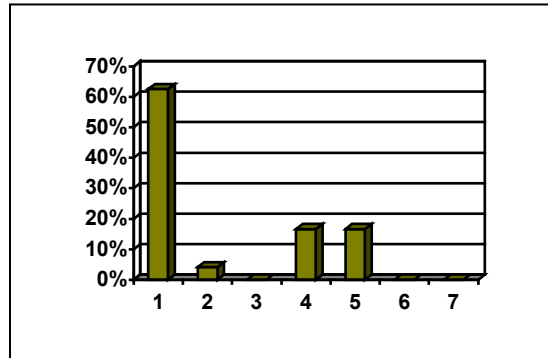


Figure 22. Lack of Appropriate Ground Slope Around the Picnic Table (n = 24)

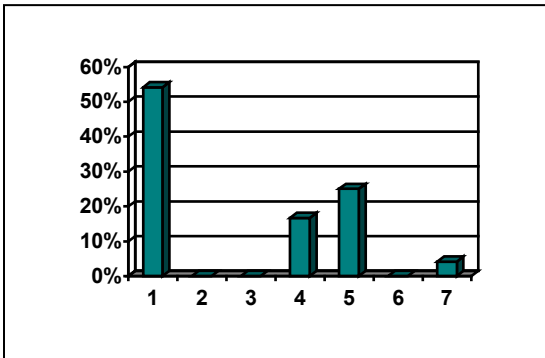


Figure 23. Lack of Smooth Surfaces Around the Table (n = 23)

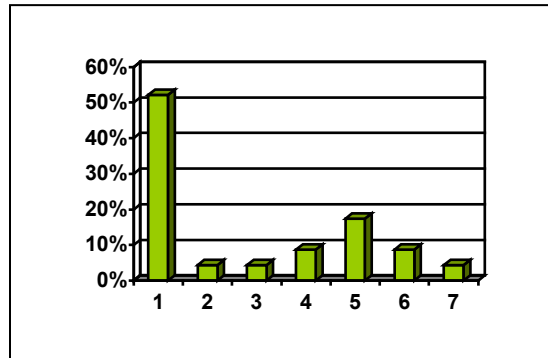
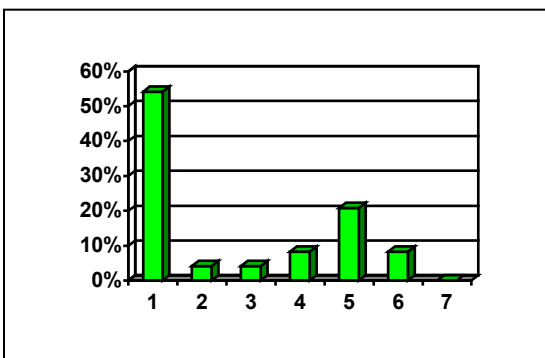


Figure 24. Lack of Accessible Route to the Table (n = 24)



Cooking Grills (1 = not a problem, 4 = neutral, and 7 = major problem)

Most individuals with physical disabilities rated there was not a problem for the height of the grill (2.38), lack of appropriate ground surfaces around the grill (2.57), lack of clear floor or ground spaces around the grill (2.3), and lack of appropriate ground slope around the grill (2.55) (Figures 25 to 28).

Figure 25. The Height of the Grill (n = 21)

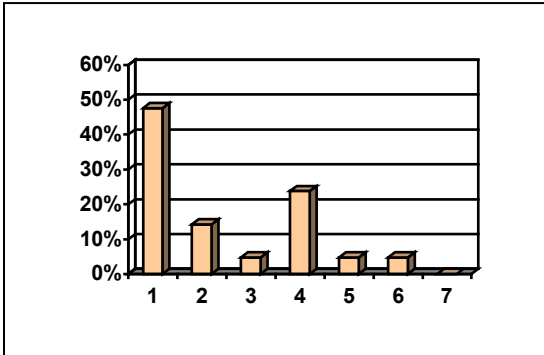


Figure 26. Lack of Appropriate Ground Surfaces Around the Grill (n = 21)

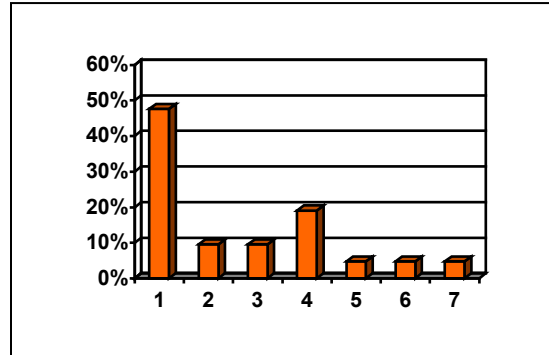


Figure 27. Lack of Clear Floor or Ground Spaces Around the Grill (n = 20)

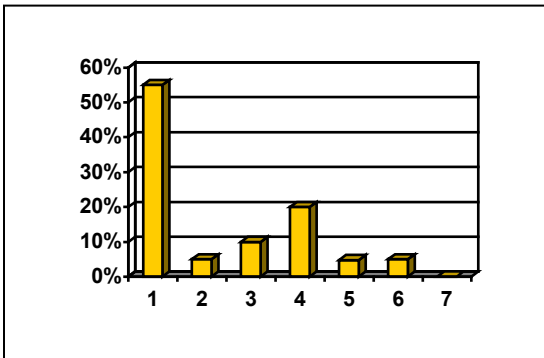
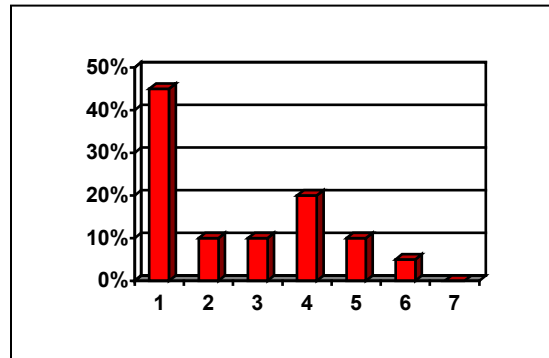


Figure 28. Lack of Appropriate Ground Slope Around the Grill (n = 21)



Fire Rings (1 = not a problem, 4 = neutral, and 7 = major problem)

Majority of *individuals with physical disabilities* rated there was not a problem for the height of the fire ring (2.19), lack of appropriate ground surfaces around the fire rings (2.1), lack of clear spaces around the fire ring (2.19), and lack of appropriate ground slope around the fire ring (2.4) (Figures 29 to 32).

Figure 29. The Height of the Fire Ring (n = 21)

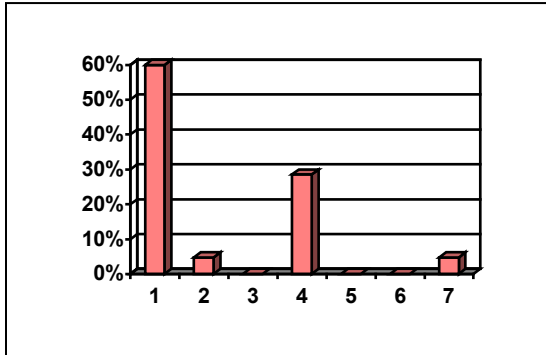


Figure 30. Lack of Appropriate Ground Surfaces Around the Fire Ring (n = 20)

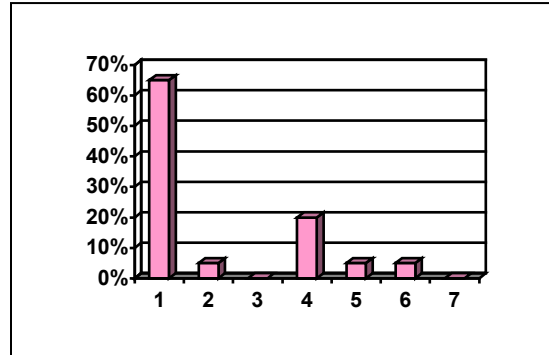


Figure 31. Lack of Clear Spaces Around the Fire Ring (n = 21)

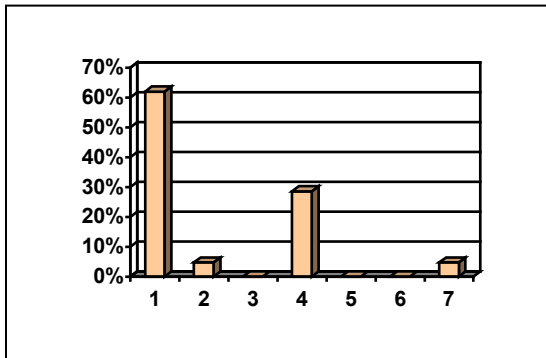
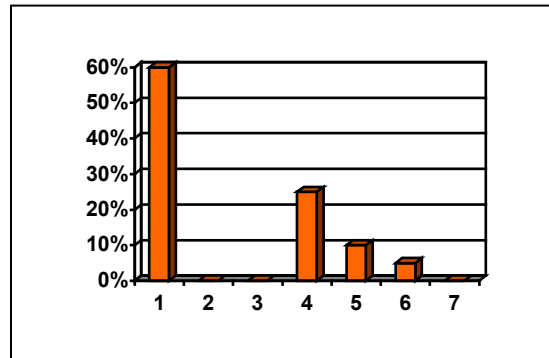


Figure 32. Lack of Appropriate Ground Slope Around the Fire Ring (n = 20)



Elements for Hearing Impairments and Communication Accessibility (1 = not a problem, 4 = neutral, and 7 = major problem)

The elements for hearing accessibility problems in the Park to visitors with hearing impairments (n = 3) were lack of telephone volume amp (5.33), and followed by lack of assitive listening systems (4.5), lack of TTY (4), and lack of appropriate communication systems (4) (Figures 33 to 36). All participants indicated that other elements for communication accessibility problems in the Park were lack of tactile maps (4.5) and lack of audio description (4.5) (Figures 37 to 38).

Figure 33. Lack of Telephone Volume Amp (n = 3)

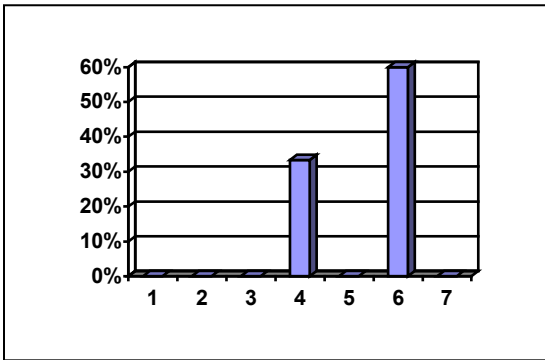


Figure 34. Lack Of Assitive Listening Systems (n = 3)

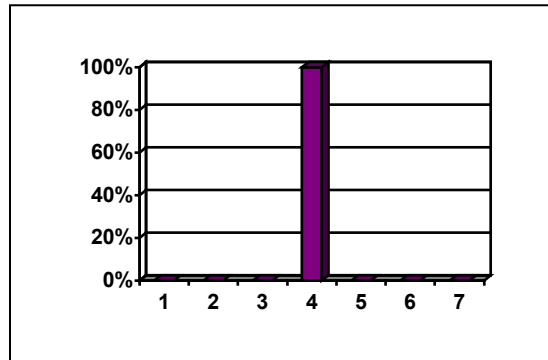


Figure 35. Lack of TTY (n = 2)

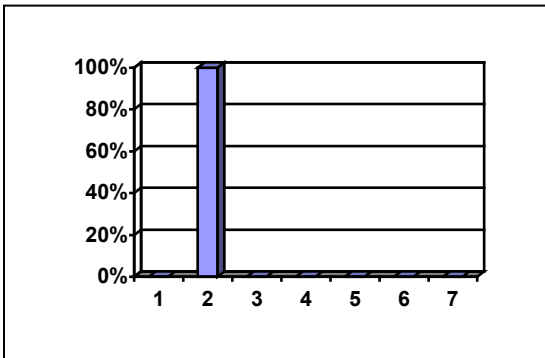


Figure 36. Lack of Appropriate Communication Systems (n = 2)

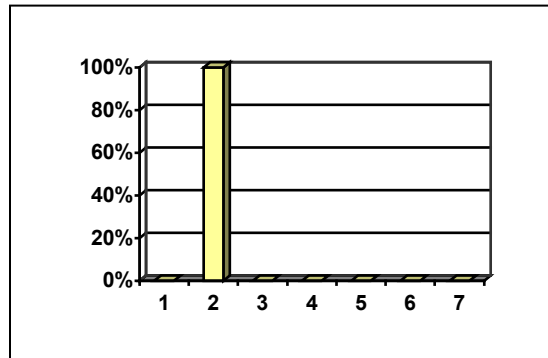


Figure 37. Lack of Tactile Maps (n = 21)

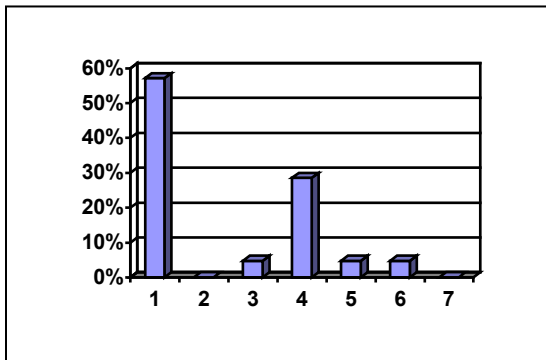
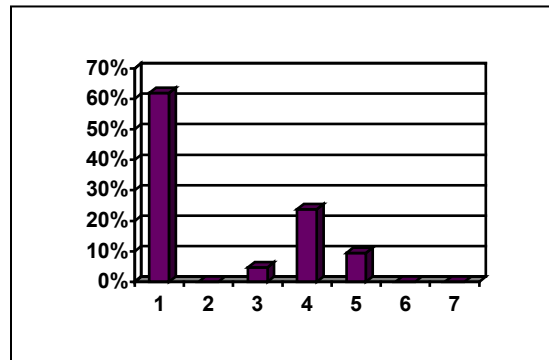


Figure 38. Lack of Audio Description (n = 21)



Question 3. Does the Park Have a TTY? (Hearing Accessibility Element)

Four percent of total participants (n = 26) indicated that the park has a TTY and 96% indicated that they did not know if the park has a TTY. All 3 visitors with hearing impairments indicated that they did not know if the park has a TTY.

Question 4. At Least One Accessible Route of Travel to Each Park Facility or Program Element? (Physical Accessibility Element)

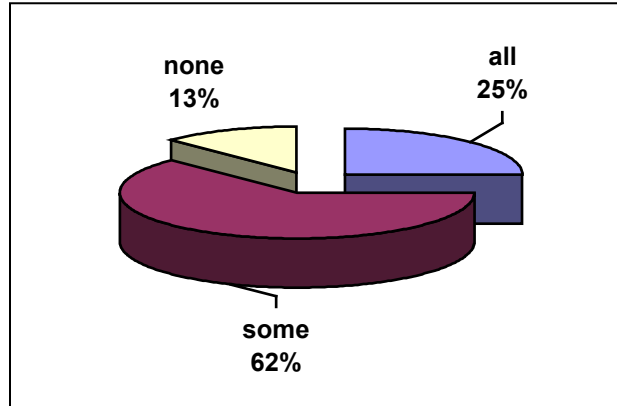
Fifty two percent of total participants indicated that there is at least one accessible route of travel to each park facility or program element and 48% indicated that they did not know the answer.

Question 5. Do Park Parking Lots Provide Accessible Spaces? (Physical Accessibility Element)

Of 26 all respondents, 61.5% indicated that “some” park parking lots provide accessible spaces; 23.1% indicated that “all” park parking lots provide accessible spaces; 11.5% indicated that “none” of park parking lots provide accessible spaces; and 3.9% of respondents indicated that they did not know the answer.

Of 24 visitors with physical disabilities, 62.5% indicated that “some” park parking lots provide accessible spaces; 25% indicated that “all” park parking lots provide accessible spaces; and 12.54% indicated that “none” of park parking lots provide accessible spaces (Figure 39).

Figure 39. Do Park Parking Lots Provide Accessible Spaces? (n = 24, by visitors with physical disabilities)



Question 6. Audio Description Availability (Visual Accessibility Elements)

Nine percent of *all participants* indicated that audio description is available for “all” exhibit areas; 26% indicated that the audio description is available for “some” exhibit areas; 4% indicated that the audio description is not available for any exhibit areas; and 61% of respondents did not know the answer (Figure 40).

Five percent of *all participants* indicated that audio description is available for “all” audio visuals; 19% indicated that the audio description is available for “some” audio visuals; 5% indicated that the audio description is not available for any audio visuals; and 71% of respondents did not know the answer (Figure 41).

Figure 40. Is Audio Description Available fro Exhibit Areas? (n = 23)

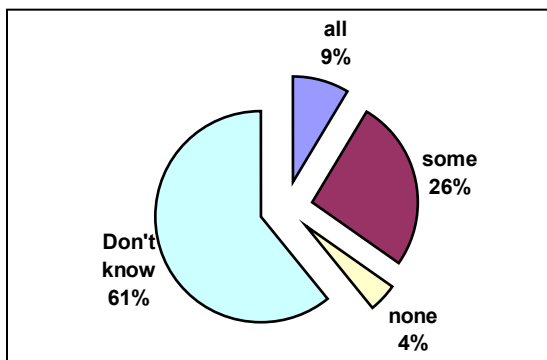
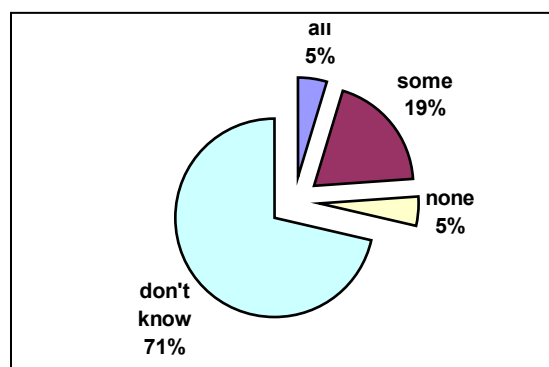


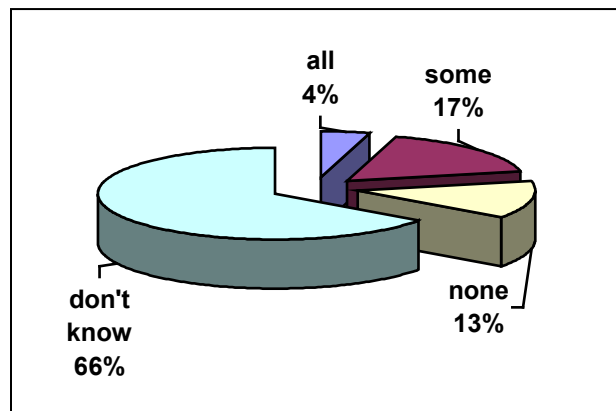
Figure 41. Is Audio Description Available fro Audio Visuals? (n = 20)



Question 7. Maps in Some Tactile Form? (Visual Accessibility Element)

Four percent of all respondents indicated that “all” provided maps are also available in some tactile form; 17% indicated that “some” provided maps are also available in some tactile form; 13% indicated that none of the provided maps is available in some tactile form; and 65% indicated that they did not know the answer (Figure 42).

Figure 42. Are Maps/Exhibits/Brochures Available in Some Tactile Form? (n = 23)



Question 8. Availability of Information on Park Accessibility. (General Accessibility Element)

Seventy three percent of total respondents indicated that information on park accessibility was readily available. Forty percent of respondents indicated that they were offered the information on park accessibility without asking for it. For those who asked for the information on park accessibility, internet (11%), park ranger station (22%), telephone call to the park (6%), visitor center (67%), and disability resource center (6%) were sources of information used on park accessibility (Table 3).

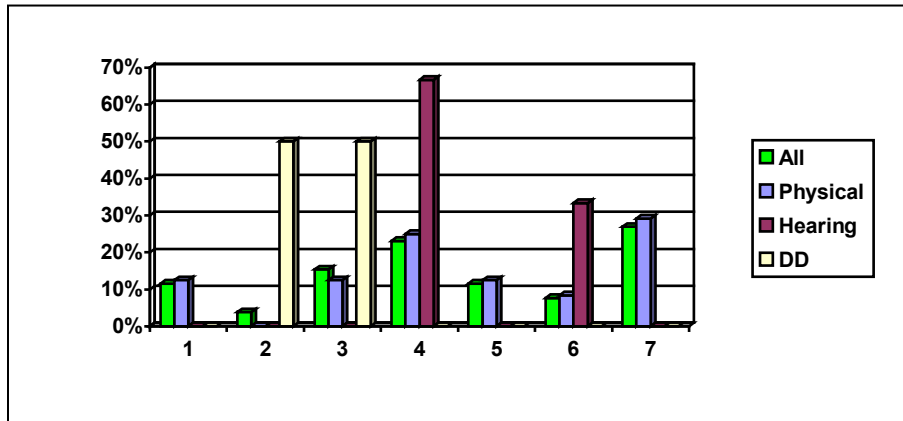
Table 3. Sources of Information on Accessibility used by the Visitors with Disabilities

Sources of information on accessibility	Frequency	Percent (%)
Internet (n = 20)	2	11
Park ranger station (n = 22)	4	22
Phone call to the park (n = 18)	1	6
Visitor center (n = 18)	12	67
Disability resource center (n = 18)	1	6

Question 9. Overall Satisfaction Regarding Accessibility in Park?

The mean overall satisfaction to the accessibility in park was 4.5 (on a 1 to 7 scale) rated by all respondents (n = 26), 4.67 rated by visitors with physical disabilities (n = 24), 4.67 rated by visitors with hearing impairments (n = 3), and 2.5 rated by parents/guardians (n = 2) of persons with developmental disabilities (Figure 43).

Figure 43. Overall Satisfaction Regarding Accessibility in Park (by types of disabilities)



[note: All = total visitors with disabilities (n = 26); Physical = visitors with physical disabilities (n = 24); Hearing = visitors with hearing impairments (n = 3); DD = visitors with developmental disabilities (n = 2, answered by parents/caregivers)]

Questions 10 & 11 were open-ended and asked the participants to identify what they liked and disliked about the Great Smoky Mountains regarding accessibility in park. The general opinions of what individuals with disabilities (all respondents) liked about the park were a) nice park staff and b) accessible overlooks.

The general themes of what individual with disabilities (all respondents) did not like about the park were a) non-accessible restrooms, b) uneven grounds, c) narrow restroom doorways with slip floors, and d) non-accessible trails.

Question 12. Revisit (Open-ended)

One hundred percent of respondents indicated that they would come back to visit the Park. The reasons of revisits listed were a) good places for family and friends to get together and b) it's a beautiful and well-planned Park.

Question 13. How the Park could be improved on accessibility? (Open-ended)

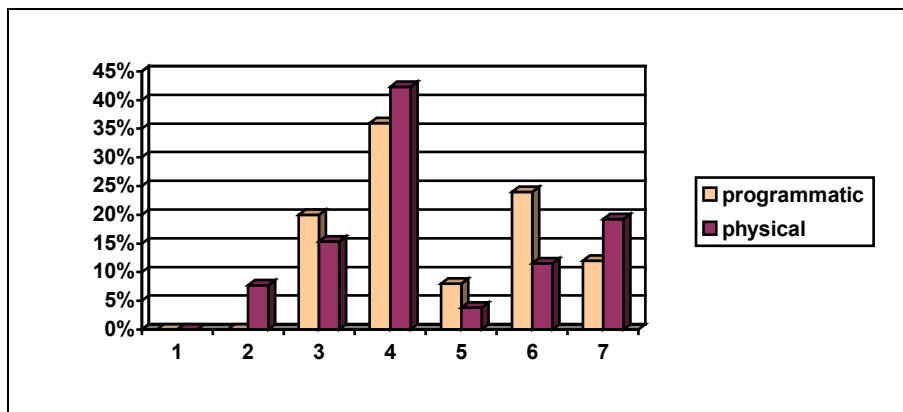
The general suggestions included a) more funding budgets needed, b) smoother and more wheelchair ramps, and b) the needs of hiring individuals with disabilities as consultants of Park management teams.

Questions 14 to 15. Overall Perceptions of Accessibility

The mean overall perceptions of programmatic accessibility in park was 4.72 (on a 1 to 7 scale, 1 = not at all accessible, 4 = neutral, and 7 = completely accessible) rated by all respondents (n = 26), 4.74 rated by visitors with physical disabilities (n = 24), 4 rated by visitors with hearing impairments (n = 3), and 4.5 rated by parents/caregivers (n = 2) of persons with developmental disabilities.

The mean overall perceptions of physical accessibility in park was 4.53 (on a 1 to 7 scale, 1 = not at all accessible, 4 = neutral, and 7 = completely accessible) rated by all respondents (n = 26), 4.67 rated by visitors with physical disabilities (n = 24), 4.33 rated by visitors with hearing impairments (n = 3), and 3 rated by parents/caregivers (n = 2) of persons with developmental disabilities (Figure 44).

Figure 44. Overall Perceptions of Accessibility (programmatic access vs. physical access)



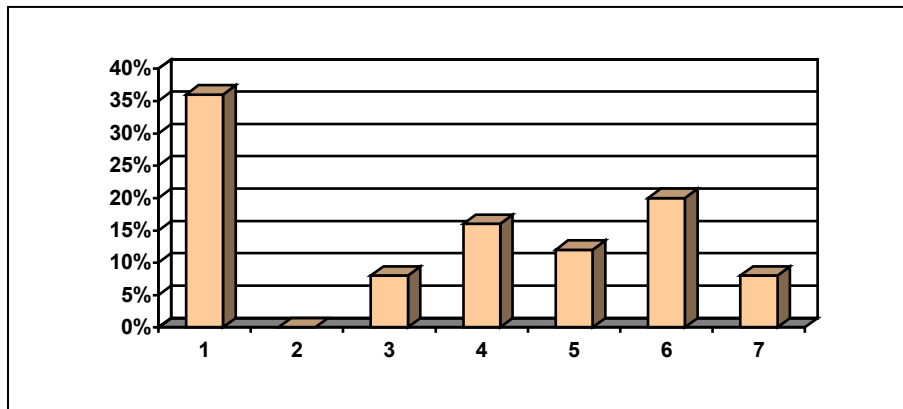
(note: programmatic = visitors' perception of the park's overall accessibility in regard to programmatic access; physical = visitors' perception of the park's overall accessibility in regard to physical access)

Question 16. Rating Personal Knowledge of Federal Accessibility Laws and Standards

The mean overall personal knowledge of federal accessibility laws and standards was 3.6 (on a 1 to 7 scale, 1 = not at all knowledge, 4 = neutral, and 7 = very knowledge) rated by all respondents (n = 26), 3.56 rated by visitors with physical disabilities (n = 24),

4.67 rated by visitors with hearing impairments (n = 3), and 4 rated by parents/guardians (n = 2) of persons with developmental disabilities (Figure 45).

Figure 45. Rating Personal Knowledge of Federal Accessibility Laws and Standards (n = 25, by all visitors with disabilities)



Question 17 Rating Programmatic Access (See Figure 46)

The mean overall programmatic access to people with physical disabilities was 4.32 (on a 1 to 7 scale, 1 = not at all accessible, 4 = neutral, and 7 = completely accessible) rated by all respondents (n = 26), 4.3 rated by visitors with physical disabilities (n = 24), 3 rated by visitors with hearing impairments (n = 3), and 4.5 rated by parents/caregivers (n = 2) of persons with developmental disabilities.

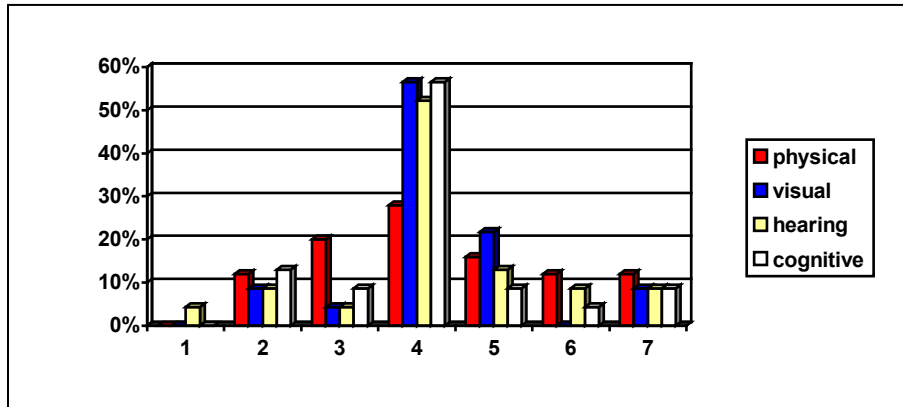
The mean overall programmatic access to people with visual impairments was 4.26 (on a 1 to 7 scale, 1 = not at all accessible, 4 = neutral, and 7 = completely accessible) rated by all respondents (n = 26), 4.29 rated by visitors with physical disabilities (n = 24), 4 rated by visitors with hearing impairments (n = 3), and 4 rated by parents/caregivers (n = 2) of persons with developmental disabilities.

The mean overall programmatic access to people with hearing impairments was 4.22 (on a 1 to 7 scale, 1 = not at all accessible, 4 = neutral, and 7 = completely accessible) rated by all respondents (n = 26), 4.24 rated by visitors with physical disabilities (n = 24), 4 rated by visitors with hearing impairments (n = 3), and 4 rated by parents/caregivers (n = 2) of persons with developmental disabilities.

The mean overall programmatic access to people with cognitive impairments was 4.09 (on a 1 to 7 scale, 1 = not at all accessible, 4 = neutral, and 7 = completely accessible) rated by all respondents (n = 26), 4.19 rated by visitors with physical

disabilities (n = 24), 3.67 rated by visitors with hearing impairments (n = 3), and 3 rated by parents/caregivers (n = 2) of persons with developmental disabilities.

Figure 46. On a Park Wide Basis, How Would You Rate Programmatic Access to People with Physical Disabilities, Visual, Hearing, or Cognitive Impairments?



[note: physical = total respondents (n = 25) rating programmatic access to people with physical disabilities; visual = total respondents (n = 23) rating programmatic access to people with visual impairments; hearing = total respondents (n = 23) rating programmatic access to people with hearing impairments; cognitive = total respondents (n = 23) rating programmatic access to people with cognitive impairments;]

Question 18. Rating Physical Access (see Figure 47)

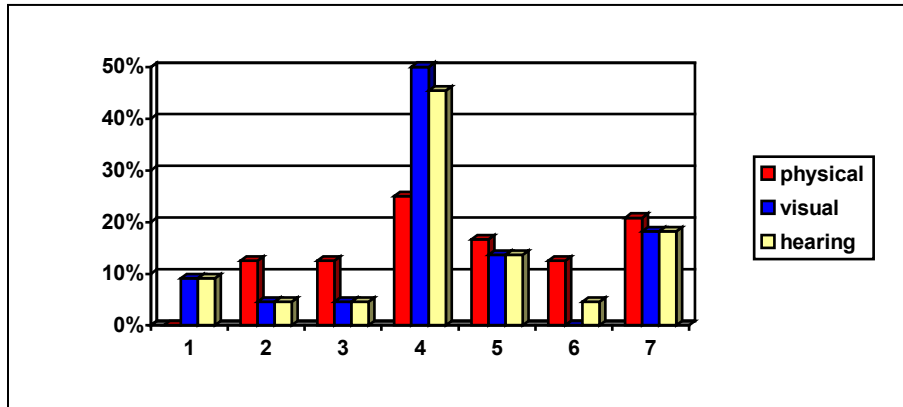
The mean overall physical access to people with physical disabilities was 4.67 (on a 1 to 7 scale, 1 = not at all accessible, 4 = neutral, and 7 = completely accessible) rated by all respondents (n = 26), 4.73 rated by visitors with physical disabilities (n = 24), 4.5 rated by visitors with hearing impairments (n = 3), and 4 rated by parents/caregivers (n = 2) of persons with developmental disabilities.

The mean overall physical access to people with visual impairments was 4.27 (on a 1 to 7 scale, 1 = not at all accessible, 4 = neutral, and 7 = completely accessible) rated by all respondents (n = 26), 4.45 rated by visitors with physical disabilities (n = 24), 4.5 rated by visitors with hearing impairments (n = 3), and 2 rated by parents/caregivers (n = 2) of persons with developmental disabilities.

The mean overall physical access to people with hearing impairments was 4.36 (on a 1 to 7 scale, 1 = not at all accessible, 4 = neutral, and 7 = completely accessible) rated by all respondents (n = 26), 4.55 rated by visitors with physical disabilities (n = 24),

4 rated by visitors with hearing impairments (n = 3), and 2 rated by parents/caregivers (n = 2) of persons with developmental disabilities.

Figure 47. On a Park Wide Basis, How Would You Rate *Physical Access* to People with Physical Disabilities, Visual, Hearing, or Cognitive Impairments?



[note: physical = total respondents (n = 24) rating physical access to people with physical disabilities; visual = total respondents (n = 22) rating physical access to people with visual impairments; hearing = total respondents (n = 22) rating physical access to people with hearing impairments]

Question 19. Primary Challenges (Open-ended)

Respondents were asked to identify three primary challenges encountered in making the park more accessible. The primary challenge identified was more accessible restrooms and trails. The second most common response was more accessible parking spaces and picnic areas. The third challenge would be to provide better access without disturbing the natural beauty.

Travel Behaviors of Visitors with Disabilities

Trip characteristics such as planning time, traveling distance, and lodging can provide a good foundation for future marketing and promotional decisions. The following section also provides demographic profiles of respondents (including visitors with disabilities, caregivers/parents of visitors with developmental disabilities).

Planning Time

Twenty nine percent of respondents made their trip decision to visit the park more than 2 weeks but less than 1 month in advance. This is followed by those indicating that the trip decision was made on the day of the trip (25%), less than one week (21%), 1 month but within 3 months (13%), 1 week but within 2 weeks (8%), and greater than 3 months (4%) in advance (Table 4).

Table 4. How Far in Advance the Trip was planned? (n = 24)

Trip Planning Time	Frequency	Percent (%)
The same day	6	25
Less than one week	5	21
1 week but < 2 weeks	2	8
2 weeks but < 1 month	7	29
1 month but < 3 months	3	13
> 3 months	1	4
<u>Total</u>	<u>24</u>	<u>100</u>

Number of nights Spent Away From Home

Twenty percent of respondents to the Park did not spend any night away from home. Of those visitors who did spend nights away from home, 45% spent 1 to 2 nights away from home, 30% spent 3 to 4 nights away from home, and 5% spent more than 5 nights away from home during their trip.

Distance Traveled

In order to determine how far visitors travel to visit the Great Smoky Mountains National Park, visitors were asked how far, in miles they traveled from their home origin to the Park. These distances were broken down into more general categories, as shown in Table 5. Thirty percent of the visitors traveled between 300 and 600 miles, followed closely by visitors traveling between 100 and 149 miles (20%), 15% traveled between 30 and 79 miles, 15% traveled between 150 and 199 miles, 10% traveled between 250 and 299 miles, and 10% traveled between 800 miles and 1,000 miles.

Table 5. Nights and Miles

Trip Characteristic	Percent (%)	Trip Characteristic	Percent (%)
Nights (n = 20)		Distance Traveled (n = 20)	
0 night	20	30 - 79 miles	15
1 night	10	100 - 149 miles	20
2 nights	35	150 - 199 miles	15
3 nights	25	250 - 299 miles	10
4 nights	5	300 – 600 miles	30
5 nights and above	5	800 – 1,000	10
<u>Total</u>	<u>100</u>	<u>Total</u>	<u>100</u>

Sources of Information Used for Planning the Trip

The three most common sources of information used while planning trips were the previous experience (61%), relatives (48%), and attraction brochures (39%). Friends were used as information sources by 35 percent of respondents. Other information sources were magazine ads/articles (26%), state tourism offices (22%), state highway maps (22%), internet (17%), and automobile clubs (17%) (Table 6).

Table 6. Sources of Information Used for Planning the Trip

Sources of information on accessibility	Frequency	Percent (%)
Automobile clubs (n = 23)	4	17
Previous experience (n = 23)	14	61
Attraction brochures (n = 23)	9	39
Commercial guidebooks (n = 23)	3	13
Relatives (n = 23)	11	48
Friends (n = 23)	8	35
Local tourist offices (n = 23)	1	4
State tourism offices (n = 23)	5	22
State highway maps (n = 23)	5	22
Magazine ads/articles (n = 23)	6	26
Newspaper ads/articles (n = 23)	3	13
Television (n = 23)	1	4
Internet (n = 23)	4	17

Types of Travel Group

More than 50% of respondents indicated that they traveled with their family during the park visit, 9% indicated that they traveled with their friends, 35% indicated that they

traveled with their family and friends, and 4% indicated that they visited the Park alone (Table 7).

Table 7. Types of Travel Group (n = 23)

Types of Travel Group	Frequency	Percent (%)
Family	12	52
Friends	2	9
Family & friends	8	35
Visited alone	1	4
<u>Total</u>	<u>23</u>	<u>100</u>

Types of Lodging

Thirty three percent of participants stayed in motels. Twenty four percent of visitors with disabilities stayed in the campground, and 19% stayed in hotels (Table 8).

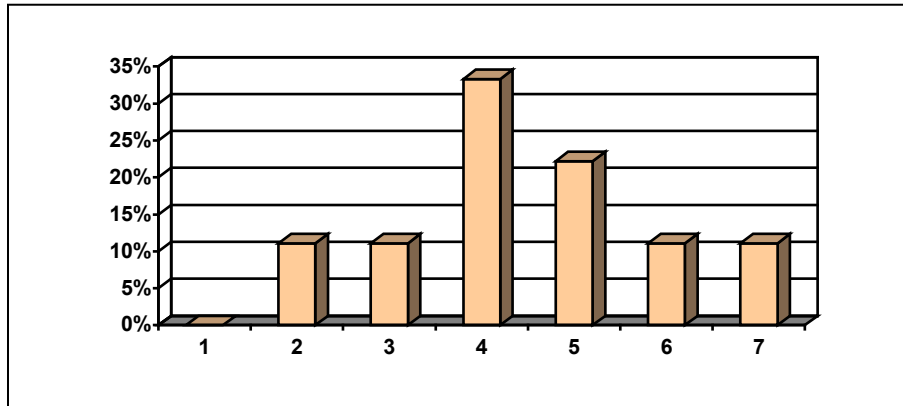
Table 8. Types of Lodging (n = 21)

Trip of Lodging	Frequency	Percent (%)
Hotel	4	19
Motel	7	33
Campground	5	23
With friends/relatives	1	5
Condominium	1	5
Resort	1	5
Cottage/cabin	1	5
Other	1	5
<u>Total</u>	<u>21</u>	<u>100</u>

Staying in the Park

Thirty five percent of participants indicated that they have stayed in the park during their trip. Respondents indicated an average rating of 4.44 (on a 1 to 7 scale, 1 = very dissatisfied, 4 = neutral, 7 = very satisfied) for the effectiveness of the park's reservations system for camping and/or other lodging.

Figure 48. Rating the Effectiveness of the Park’s Reservations System for Camping and/or Other Lodging (n = 9, by all visitors with disabilities who stayed in the park)



Activity Engagement

The activities most frequently participated in by visitors were visiting a visitor center (80%), a scenic area (76%), a historical site (60%), having a picnic (56%), visiting a museum (28%), camping (24%), attending the amphitheater program (16%), hiking (16%), fishing (12%), and boating (4%) (Table 9).

Table 9. Activity Engagement

Types of Activities	Frequency	Percent (%)
Camping (n = 25)	6	24
Visiting a historical site (n = 25)	15	60
Visiting a scenic area (n = 25)	19	76
Boating (n = 25)	1	4
Having a picnic (n = 25)	14	56
Hiking (n = 25)	4	16
Attending the amphitheater program (n = 25)	4	16
Fishing (n = 25)	3	12
Visiting a museum (n = 25)	7	28
Visiting trails (n = 25)	6	24
Visiting a visitor center (n = 25)	20	80
Other (n = 25)	1	4

State of Origin

The majority of visitors with disabilities (87.5%) traveled from within Tennessee.

Gender and Age

Of the total respondents who indicated their gender, 58% were female, while 42% were male. The average age of respondents was 50 years.

Education Level

Twenty nine percent of the respondents indicated that they have some college, followed by those indicating that they have a high school diploma (25%). Of the remaining total respondents, 21% have two years of college, 13% have some high school, and 4% have less than a high school diploma (Table 10).

Table 10. Education Level (n = 24)

Education	Frequency	Percent (%)
Grade school	1	4
Some high school	3	13
High school diploma	6	25
Some college	7	29
Two years college	5	21
Some graduate school	1	4
Master degree	1	4
<u>Total</u>	<u>24</u>	<u>100</u>

Occupations

The most common occupations of respondents were retired (30.4%), services support (26%), and homemaker (22%), while the most common occupations of respondents' spouses were services support (30%), retired (24%), operator/laborer (18%), and managerial/professional (18%).

Income

Twenty four percent of respondents indicated a household income of \$20,000 to \$29,999, 19% indicated a household income of \$70,000 to \$79,999, 14% indicated a household income of \$40,000 to \$49,999, 14% indicated a household income of \$50,000 to \$59,999, and 4% indicated a household income of under \$10,000 (Table 11).

Table 11. Income (n = 21)

Income	Frequency	Percent (%)
Under \$10,000	1	5
\$10,000 - \$19,999	2	10
\$20,000 - \$29,999	5	24
\$30,000 - \$39,999	2	19
\$40,000 - \$49,999	3	14
\$50,000 - \$59,999	3	14
\$60,000 - \$69,999	1	5
\$70,000 - \$79,999	4	19
<u>Total</u>	<u>21</u>	<u>100</u>

Motivations/Benefits

The benefits most important to visitors with disabilities were to observe the beauty of nature (6.8 on a 1 to 7 scale), to get some fresh air (6.8), relax (6.7), to increase fun/joy/enthusiasm (6.3). The least important benefits were to improve attitudes toward school (4.7) and to increase appropriate behaviors (5.2). Other mentioned important benefits were to spend time with friends and family.

The Blue Ridge Parkway

Results

A total of two hundred questionnaires were distributed to individuals with disabilities. Of these questionnaires, 15 completed and usable questionnaires were returned.

Characteristics of Visitors with Disabilities

The first objective of this study was to determine the characteristics, or demographic profiles, of the visitors with disabilities to the Blue Ridge Parkway. This includes types of disabilities, age, gender, and the uses of various devices and assistances (e.g., wheelchair, walker, personal assistant, scooter, TTY, and service animals, etc.).

Characteristics of Park Visitors with Disabilities

Three groups were sought for the Blue Ridge Parkway based on the categories of disability of individuals visiting the parkway (see Table 1): 1) people with physical disabilities, for example, individuals who use mobility devices (wheelchairs, scooters, walkers, cane, crutches); 2) people with hearing impairments, for example, individuals who use the hearing aids; and 3) people with developmental disabilities. People with disabilities visiting the Blue Ridge Parkway ranged between the ages of 29 and 78 with a mean age of 46 for all participants (47% were females, and 53% were males); with a mean age of 60 for the visitors with physical disabilities; with a mean age of 63 for the visitors with hearing impairments; and with a mean age of 44 for the people with developmental disabilities (Table 2).

Table 1. Categories of Disability of Persons Visiting the Blue Ridge Parkway (n = 15)

Disability	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Amputations	1	6.67	1	6.67
Arthritis	3	20	4	26.67
Joint pain	1	6.67	5	33.33
Learning/developmental disorders	5	33.33	10	66.67
Multiple sclerosis (MS)	3	20	13	86.67
Parkinson's	1	6.67	14	93.33
Problem with walking	1	6.67	15	100

Table 2. Characteristics of Visitors with Disabilities

Characteristics	All visitors with disabilities	Visitors with physical disabilities	Visitors with hearing impairments	Visitors with developmental disabilities
	n = 15	n = 11	n = 3	n = 4
Age (average)	46	60	63	44
Gender				
Male	53%	36%	67%	100%
Female	47%	64%	33%	0%

(note: in this case, visitors with hearing impairments also use the mobility devices)

Types of Assistances and Devices

The three most common assistances/devices used by the park visitors with disabilities (Table 3) were manual wheelchairs (47%), canes (33%), personal assistants (33%), and walkers (33%). The park visitors with disabilities also used hearing aids (20%), power wheelchairs (20%), crutches (7%), and scooters (7 %).

Table 3. Types of Assistances/Devices Used by the Visitors with Disabilities

Assistances/Devices	Frequency	Percent (%)
Hear Aids (n = 15)	3	20
Walker (n = 15)	5	33
Cane (n = 15)	5	33
Manual wheelchair (n = 15)	7	47
Power wheelchair (n = 15)	3	20
Personal assistant (n = 15)	5	33
Crutch (n = 15)	1	7
Scooter (n = 15)	1	7
Communication devices (n = 15)	1	7
Other device (n = 15)	1	7

Visitor Expectations/Perceptions of Program and Physical Accessibility Along the Parkway

Knowing the perceptions of visitors with disabilities regarding the program and physical accessibility in the park will assist in the process of providing a good foundation for future development and planning decisions.

Part III. Question 1. Previous Visits.

Of the visitors, 93 percent had been to the Parkway, and the mean number of trips to the Parkway by these previous visitors was 1 time.

Part III. Question 2. Visitors' Opinions of the Blue Ridge Parkway and its Physical Accessibilities

Participants were asked to rate their perceptions and experiences of the Park's accessibility during their national park trips. The results given are based on a 7 point scale, where 1 = not a problem, 4 = neutral, and 7 = major problem.

General Accessibility Elements (1 = not a problem, 4 = neutral, and 7 = major problem)

Lack of knowledgeable and/or helpful park staff regarding accessibility in the park (3), and lack of accurate information on accessibility in the park (2.85) were rated by all visitors with disabilities and parents/caregivers of visitors with developmental disabilities (Figures 1 to 2).

Figure 1. Lack of Knowledgeable/helpful Park Staff Regarding Accessibility (n = 13)

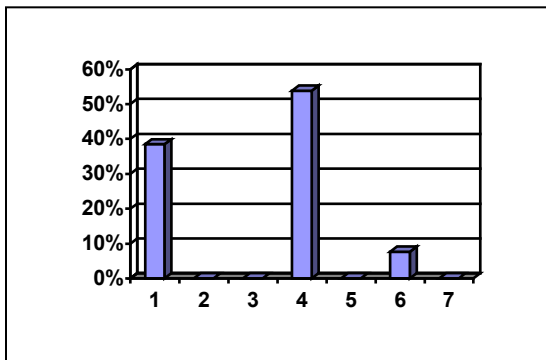
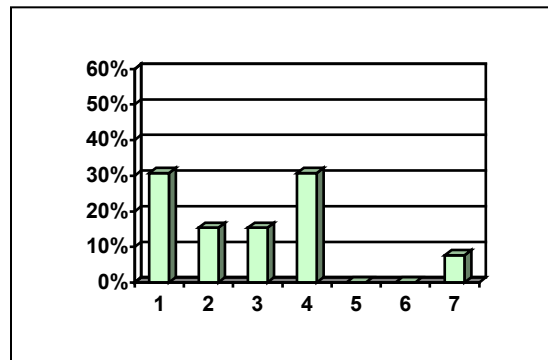


Figure 2. Lack of Accurate Information on Accessibility (n = 13)



Physical Accessibility Elements (1 = not a problem, 4 = neutral, and 7 = major problem)

The physical accessibility problems in the Park to visitors with physical disabilities (n = 11) were lack of grab bars in restrooms (4.92), and followed by lack of the width of doorway in restrooms (4.67), lack of appropriate urinal height in restrooms (4.64), lack of accessible restrooms (4.5), lack of accessible trails (4.38), lack of accessible drinking water (4.31), lack of accessible utilities (4), lack of accessible storage facilities (3.92), lack of accessible camping facilities (3.77), lack of accessible parking spaces (3.69), narrow tread width of outdoor recreation access routes (3.46), lack of curb cuts (3.38), lack of accessible route to the trash/recycling containers (3.08), lack of

accessible overlooks and viewings areas (2.46), and lack of accessible route to the visitor center (2.08) (Figures 3 to 17).

Figure 3. Lack of Accessible Trails (n = 9)

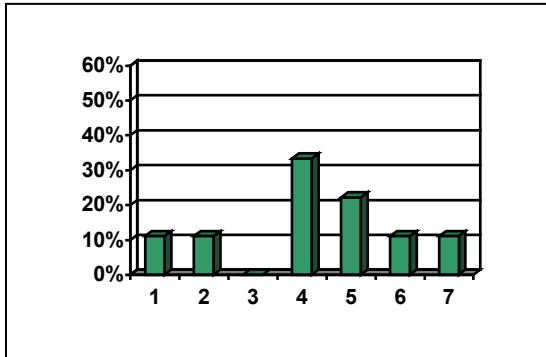


Figure 4. Lack of Accessible Parking Spaces (n = 9)

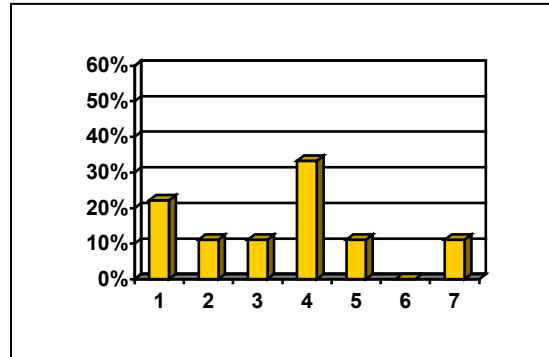


Figure 5. Lack of Accessible Overlooks and Viewings Areas (n = 9)

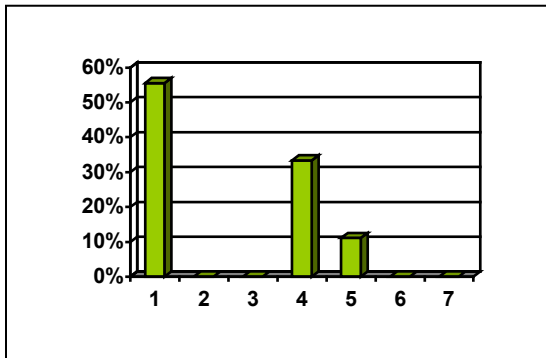


Figure 6. Lack of Accessible Restrooms (n = 10)

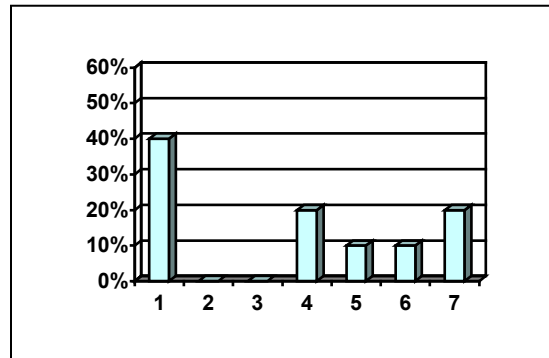


Figure 7. Lack of Grab Bars in Restrooms (n = 8)

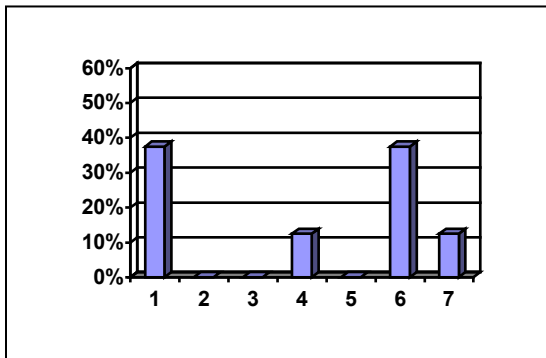


Figure 8. Lack of Appropriate Urinal Height in Restrooms (n = 7)

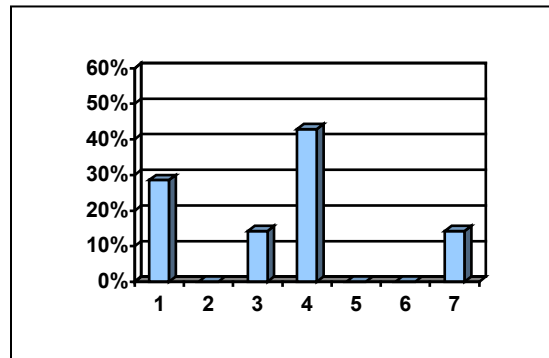


Figure 9. Lack of Curb Cuts (n = 9)

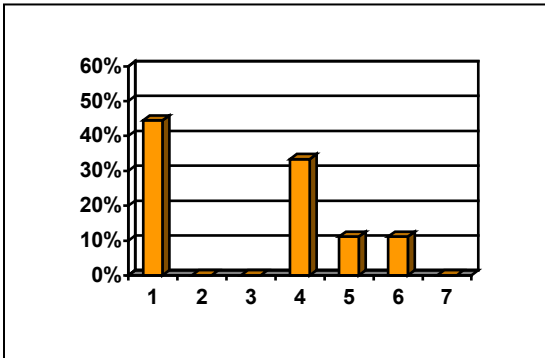


Figure 10. Lack of the Width of Doorway in Restrooms (n = 8)

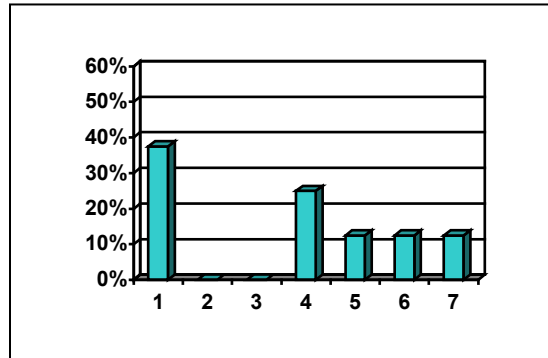


Figure 11. Lack of Accessible Drinking Water (n = 9)

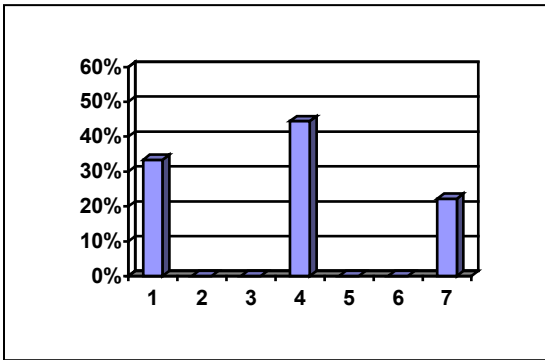


Figure 12. Lack of Accessible Utilities (n = 9)

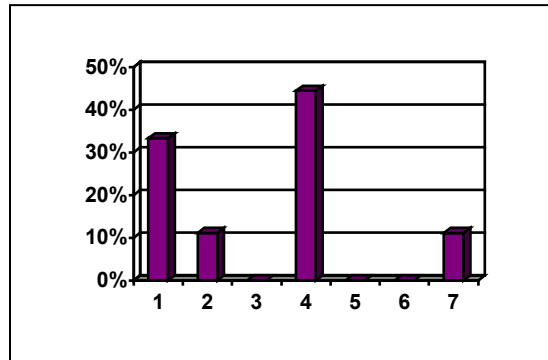


Figure 13. Lack of Accessible Camping Facilities (n = 9)

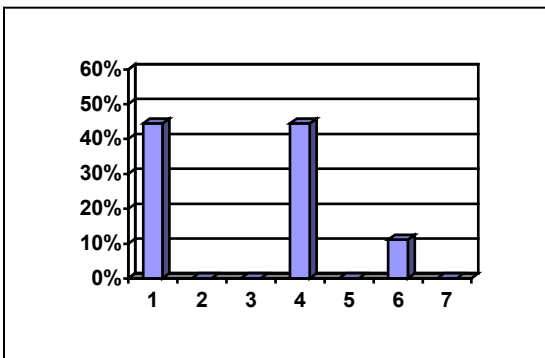


Figure 14. Lack of Accessible Storage Facilities (n = 9)

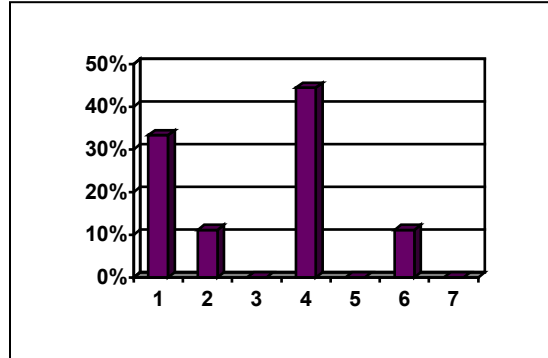


Figure 15. Lack of Accessible Route to the Trash/Recycling Containers (n = 9)

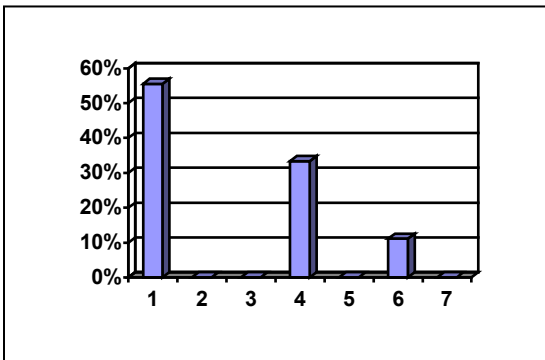


Figure 16. Lack of Accessible Route to the Visitor Center (n = 9)

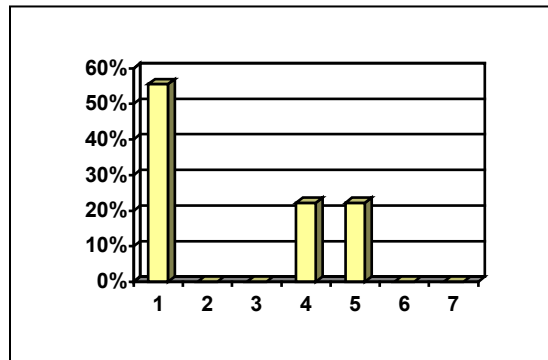
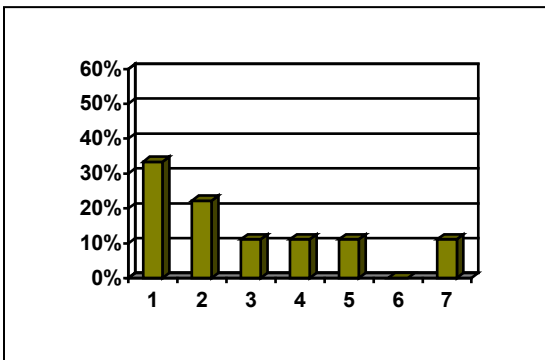


Figure 17. Narrow Tread Width of Outdoor Recreation Access Routes (n = 9)



Visitors with physical disabilities were also asked to rate particular accessible facilities (including the picnic tables, grills, and fire rings) they were using during the Parkway visits. The accessibility guidelines for the above three facilities are: 1) the height of the elements; 2) seating space provided; 3) knee space; 4) clear space surrounding the element; 5) the ground surface; and 6) the ground slope.

Picnic Tables (1 = not a problem, 4 = neutral, and 7 = major problem)

Some (22% to 45%) of *individuals with physical disabilities* rated there was not a problem for the height of the picnic table (2.56), lack of clear space for knees (3), lack of appropriate ground surfaces around the table (3.89), lack of firm and stable seating space (4.11), lack of appropriate ground slope around the picnic table (4), lack of smooth surfaces around the table (4.11), and lack of accessible route to the table (3.78) (Figures 18 to 24).

Figure 18. The Height of the Picnic Table (n = 9)

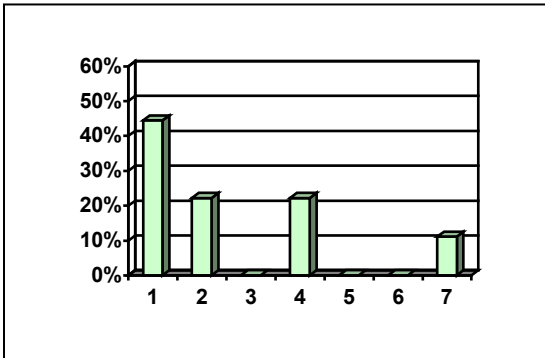


Figure 19. Lack of Clear Space for Knees (n = 9)

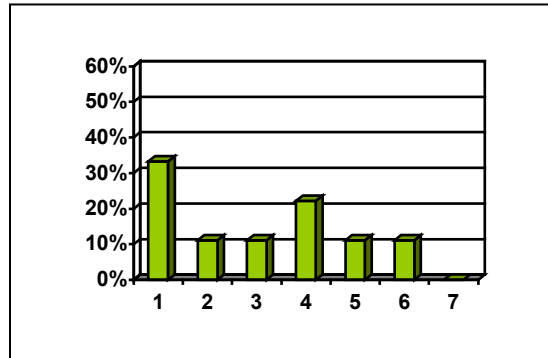


Figure 20. Lack of Appropriate Ground Surfaces Around the Table (n = 9)

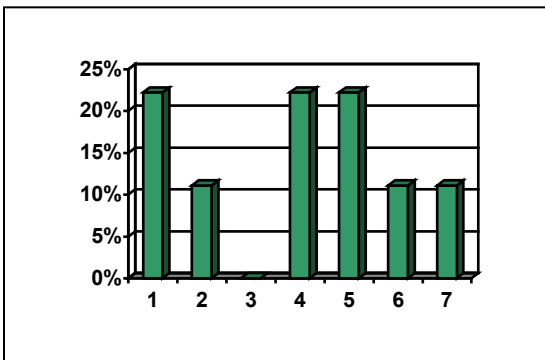


Figure 21. Lack of Firm and Stable Seating Space (n = 9)

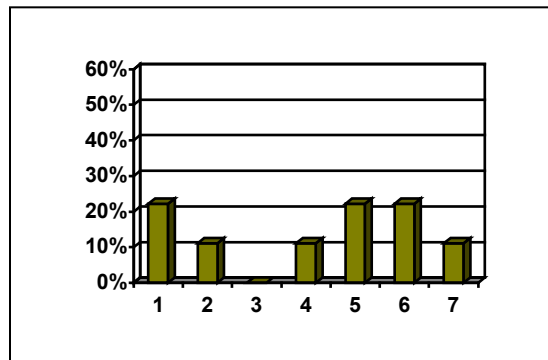


Figure 22. Lack of Appropriate Ground Slope Around the Picnic Table (n = 9)

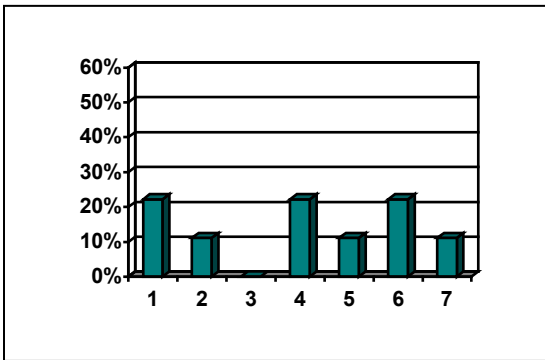


Figure 23. Lack of Smooth Surfaces Around the Table (n = 9)

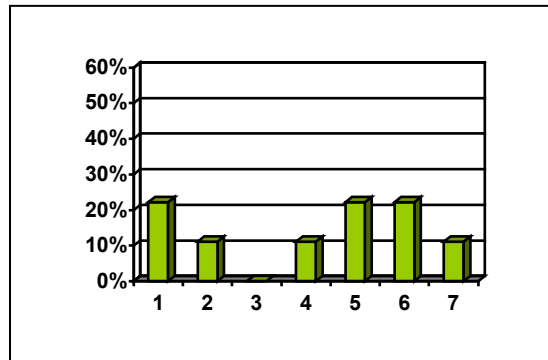
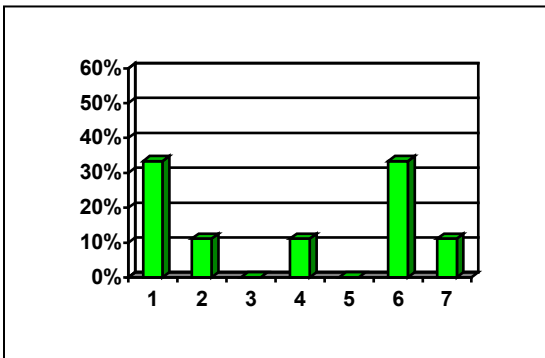


Figure 24. Lack of Accessible Route to the Table (n = 9)



Cooking Grills (1 = not a problem, 4 = neutral, and 7 = major problem)

Some (30% to 45%) of *individuals with physical disabilities* rated there was not a problem for the height of the grill (2.7), lack of appropriate ground surfaces around the grill (2.89), lack of clear floor or ground spaces around the grill (3), and lack of appropriate ground slope around the grill (2.56) (Figures 25 to 28).

Figure 25. The Height of the Grill (n = 9)

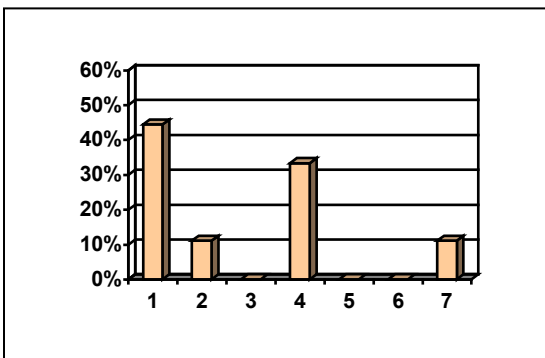


Figure 26. Lack of Appropriate Ground Surfaces Around the Grill (n = 9)

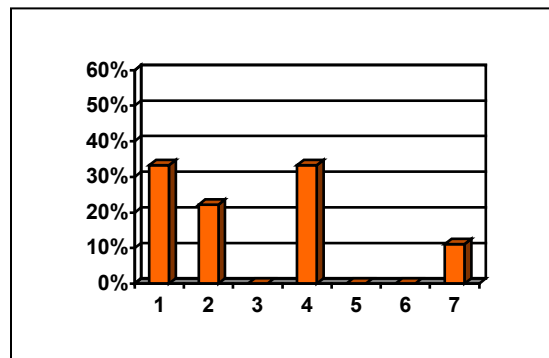


Figure 27. Lack of Clear Floor or Ground Spaces Around the Grill (n = 9)

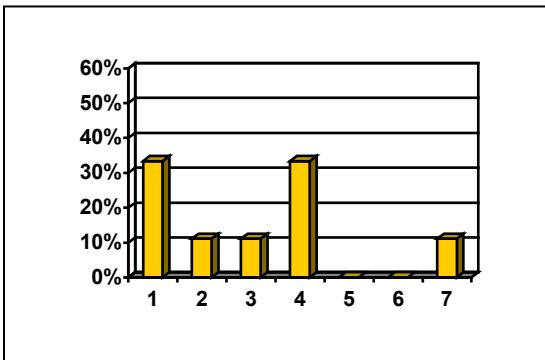
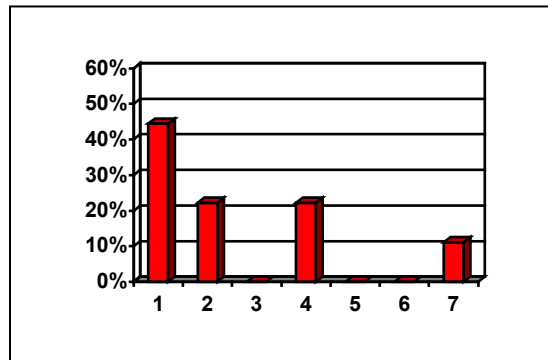


Figure 28. Lack of Appropriate Ground Slope Around the Grill (n = 9)



Fire Rings (1 = not a problem, 4 = neutral, and 7 = major problem)

Majority (40% to 55%) of *individuals with physical disabilities* rated there was not a problem for the height of the fire ring (2.11), lack of appropriate ground surfaces around the fire rings (2.78), lack of clear spaces around the fire ring (2.78), and lack of appropriate ground slope around the fire ring (2.78) (Figures 29 to 32).

Figure 29. The Height of the Fire Ring (n = 9)

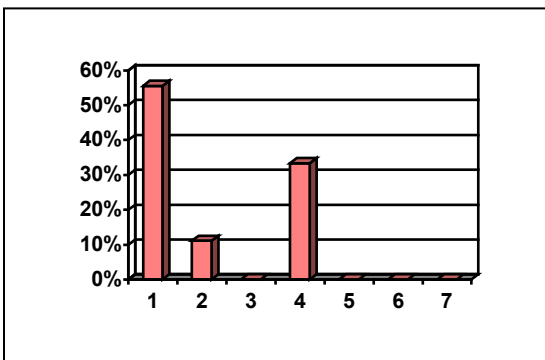


Figure 30. Lack of Appropriate Ground Surfaces Around the Fire Ring (n = 9)

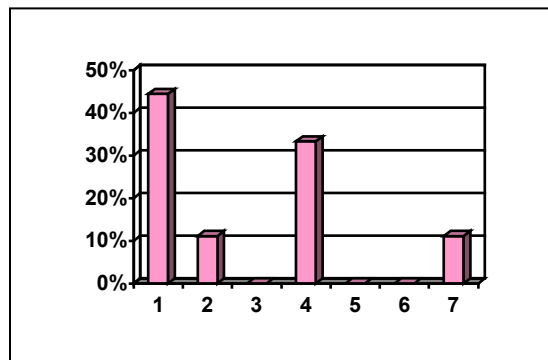


Figure 31. Lack of Clear Spaces Around the Fire Ring (n = 9)

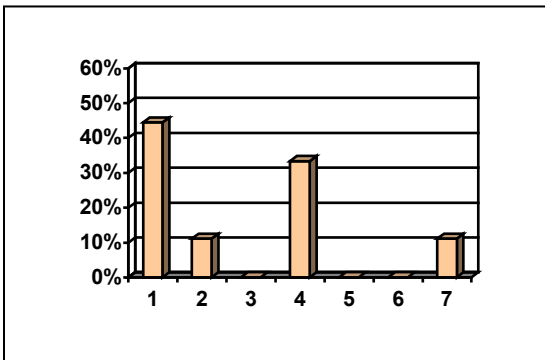
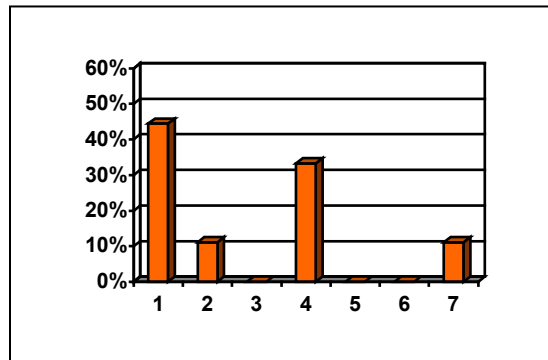


Figure 32. Lack of Appropriate Ground Slope Around the Fire Ring (n = 9)



Elements for Hearing Impairments and Communication Accessibility (1 = not a problem, 4 = neutral, and 7 = major problem)

The elements for hearing accessibility problems in the Park to *visitors with hearing impairments* (n = 2) were “not a problem at all” regarding lack of telephone volume amp (1), lack of assitive listening systems (1), lack of TTY (1), and lack of appropriate communication systems (1) (Figures 33 to 36). All participants indicated that other elements for communication accessibility problems along the Parkway were lack of tactile maps (4.528) and lack of audio description (4.28) (Figures 37 to 38).

Figure 33. Lack of Telephone Volume Amp (n = 2)

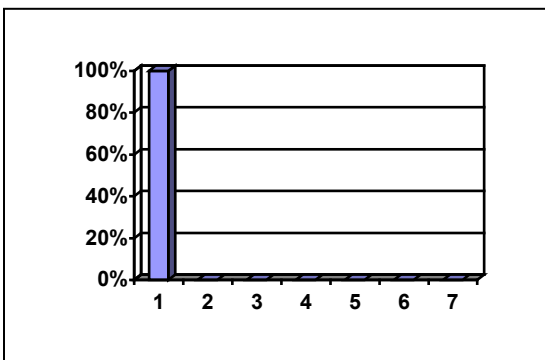


Figure 34. Lack Of Assitive Listening Systems (n = 2)

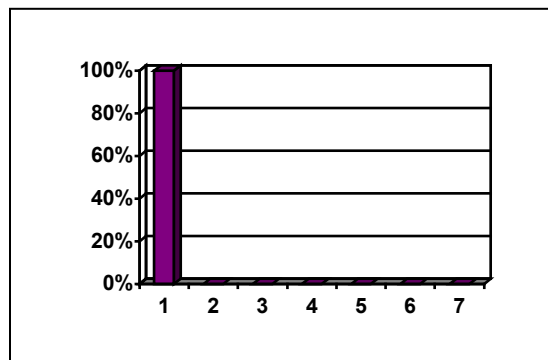


Figure 35. Lack of TTY (n = 2)

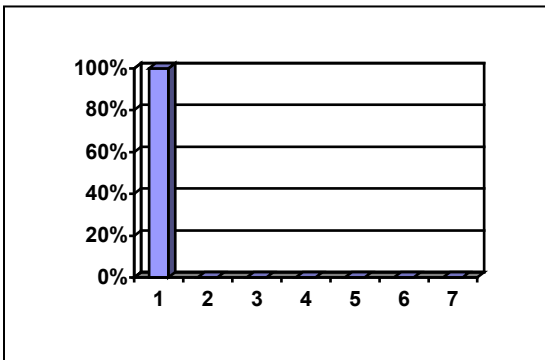


Figure 36. Lack of Appropriate Communication Systems (n = 2)

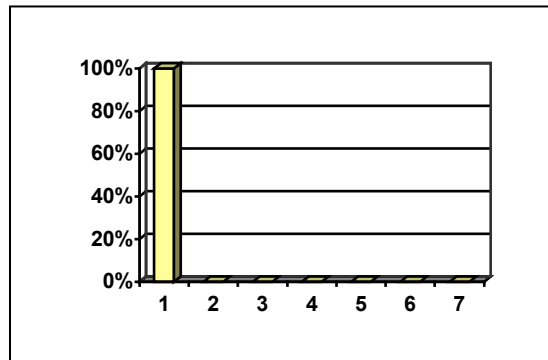


Figure 37. Lack of Tactile Maps (n = 11)

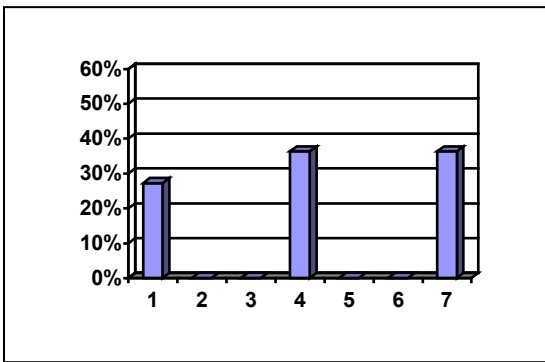
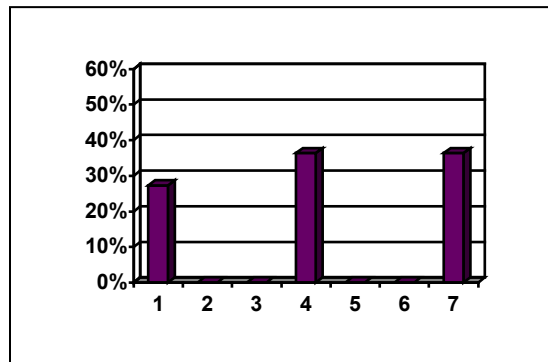


Figure 38. Lack of Audio Description (n = 11)



Question 3. Does the Park Have a TTY? (Hearing Accessibility Element)

Seven percent of participants (n = 14) indicated that the park has a TTY and 93% indicated that they did not know if the park has a TTY. Two visitors with hearing impairments indicated that they did not know if the park has a TTY.

Question 4. At Least One Accessible Route of Travel to Each Park Facility or Program Element? (Physical Accessibility Element)

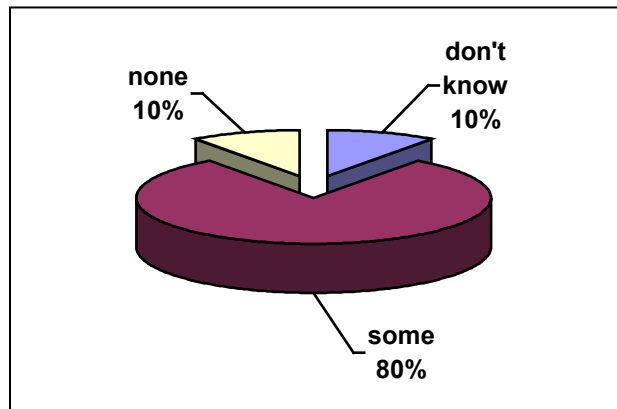
Seven percent of participants indicated that there is at least one accessible route of travel to each park facility or program element and 93% indicated that they did not know the answer.

Question 5. Do Park Parking Lots Provide Accessible Spaces? (Physical Accessibility Element)

Of 14 *all respondents*, 71% indicated that “some” park parking lots provide accessible spaces; none indicated that “all” park parking lots provide accessible spaces; 7% indicated that “none” of park parking lots provide accessible spaces; and 21% of respondents indicated that they did not know the answer.

Of 10 *visitors with physical disabilities*, 80% indicated that “some” park parking lots provide accessible spaces, none indicated that “all” park parking lots provide accessible spaces, 10% indicated that “none” of park parking lots provide accessible spaces, and 10% of respondents indicated that they did not know the answer (Figure 39).

Figure 39. Do Park Parking Lots Provide Accessible Spaces? (n = 10, by visitors with physical disabilities)



Question 6. Audio Description Availability (Visual Accessibility Elements)

Seven percent of *all participants* indicated that audio description is available for “all” exhibit areas; 29% indicated that the audio description is available for “some” exhibit areas; none indicated that the audio description is not available for any exhibit areas; and 64% of respondents did not know the answer (Figure 40).

Eight percent of *all participants* indicated that audio description is available for “all” audio visuals; 15% indicated that the audio description is available for “some” audio visuals; none indicated that the audio description is not available for any audio visuals; and 77% of respondents did not know the answer (Figure 41).

Figure 40. Is Audio Description Available fro Exhibit Areas? (n = 14)

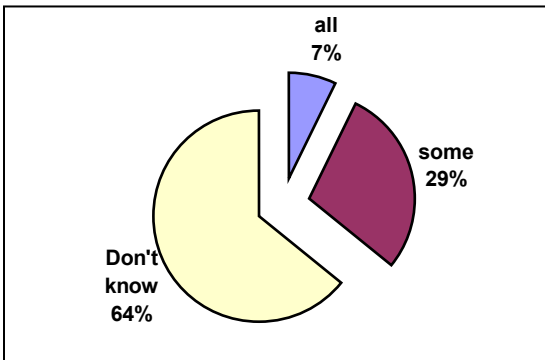
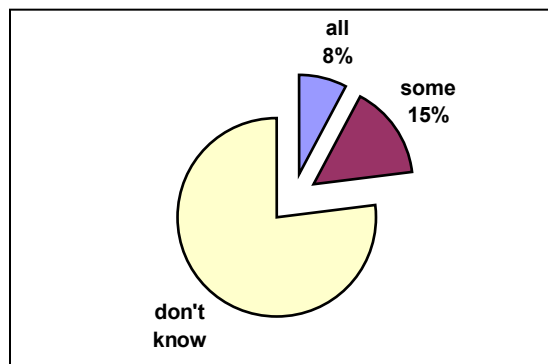


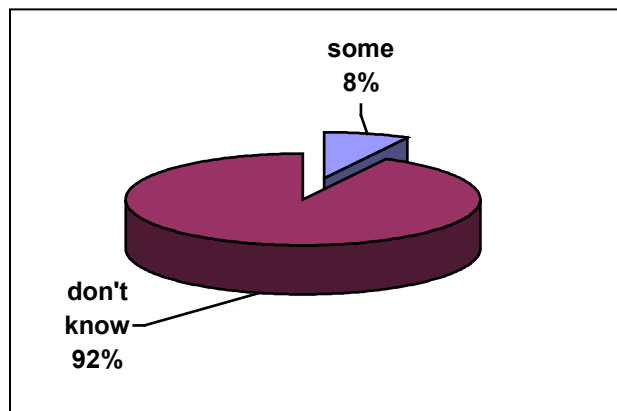
Figure 41. Is Audio Description Available fro Audio Visuals? (n = 13)



Question 7. Maps in Some Tactile Form? (Visual Accessibility Element)

None of all respondents indicated that “all” provided maps are also available in some tactile form; 8% indicated that “some” provided maps are also available in some tactile form; none indicated that none of the provided maps is available in some tactile form; and 92% indicated that they did not know the answer (Figure 42).

Figure 42. Are Maps/Exhibits/Brochures Available in Some Tactile Form? (n = 13)



Question 8. Availability of Information on Park Accessibility. (General Accessibility Element)

Seventy percent of total respondents indicated that information on park accessibility was readily available. Fifty percent of respondents indicated that they were

offered the information on park accessibility without asking for it. For those who asked for the information on park accessibility, internet (20%) and visitor center (50%) were sources of information used on park accessibility (Table 3).

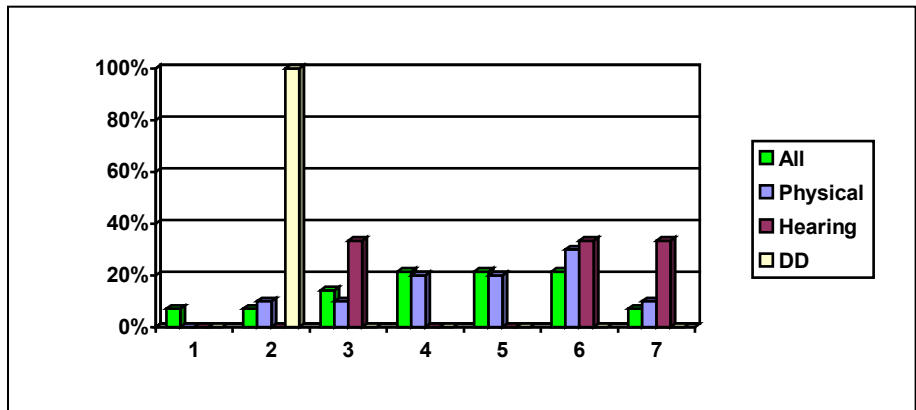
Table 3. Sources of Information on Accessibility used by the Visitors with Disabilities

Sources of information on accessibility	Frequency	Percent (%)
Internet (n = 10)	2	20
Visitor center (n = 10)	6	50

Question 9. Overall Satisfaction Regarding Accessibility in Park?

The mean overall satisfaction to the accessibility in park was 4.36 (on a 1 to 7 scale) rated by all respondents (n = 14), 4.8 rated by visitors with physical disabilities (n = 24), 5.3 rated by visitors with hearing impairments (n = 3), and 2.5 rated by parents/caregivers (n = 2) of persons with developmental disabilities (Figure 43).

Figure 43. Overall Satisfaction Regarding Accessibility in Park (by types of disabilities)



[note: All = total visitors with disabilities (n = 14); Physical = visitors with physical disabilities (n = 10); Hearing = visitors with hearing impairments (n = 3); DD = visitors with developmental disabilities (n = 2, answered by parents/caregivers)]

Questions 10 & 11 were open-ended and asked the participants to identify what they liked and disliked about the Blue Ridge Parkway regarding accessibility along the parkway. The general opinions of what participants liked about the parkway were a) nice park staff, b) useful information, and c) accessible overlooks.

The general themes of what participants did not like about the park were a) non-accessible restrooms, b) uneven grounds, and c) non-accessible trails.

Question 12. Revisit (Open-ended)

One hundred percent of respondents indicated that they would come back to visit the Park. The reasons of revisits listed were a) good places for family and friends to get together and b) beautiful scenery.

Question 13. How the Park could be improved on accessibility? (Open-ended)

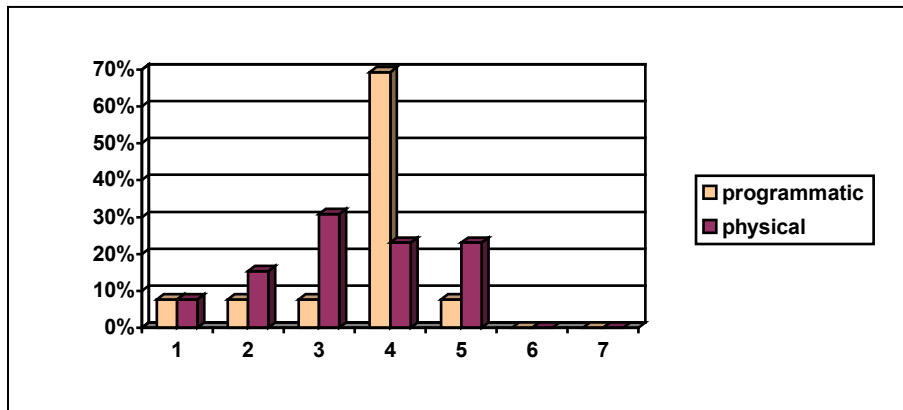
The general suggestions included a) more funding budgets needed, b) more accessible parking spaces, c) more accessible bathrooms, d) more accessible trails, and e) the slopes/surfaces of picnic and camping areas improvement with little to no incline in such a mountain area, and e) the needs of hiring individuals with disabilities as consultants of Park management teams.

Questions 14 to 15. Overall Perceptions of Accessibility

The mean overall perceptions of programmatic accessibility along parkway was 3.62 (on a 1 to 7 scale, 1 = not at all accessible, 4 = neutral, and 7 = completely accessible) rated by all respondents (n = 13), 4 rated by visitors with physical disabilities (n = 9), 4 rated by visitors with hearing impairments (n = 2), and 3.2 rated by parents/caregivers (n = 4) of persons with developmental disabilities.

The mean overall perceptions of physical accessibility in park was 3.38 (on a 1 to 7 scale, 1 = not at all accessible, 4 = neutral, and 7 = completely accessible) rated by all respondents (n = 13), 3.5 rated by visitors with physical disabilities (n = 9), 3 rated by visitors with hearing impairments (n = 2), and 3.4 rated by parents/ caregivers (n = 4) of persons with developmental disabilities (Figure 44).

Figure 44. Overall Perceptions of Accessibility (programmatic access vs. physical access), n = 13

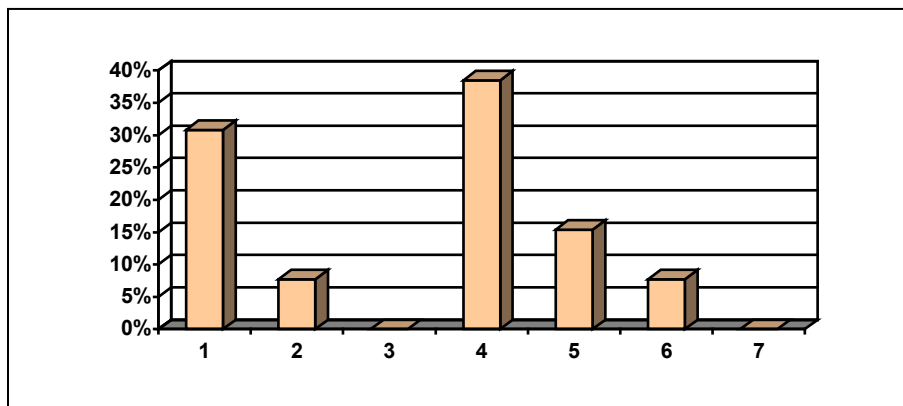


(note: programmatic = visitors' perception of the park's overall accessibility in regard to programmatic access; physical = visitors' perception of the park's overall accessibility in regard to physical access)

Question 16. Rating Personal Knowledge of Federal Accessibility Laws and Standards

The mean overall personal knowledge of federal accessibility laws and standards was 3.23 (on a 1 to 7 scale, 1 = not at all knowledge, 4 = neutral, and 7 = very knowledge) rated by all respondents (n = 13), 3.5 rated by visitors with physical disabilities (n = 9), 2.5 rated by visitors with hearing impairments (n = 2), and 2.4 rated by parents/caregivers (n = 4) of persons with developmental disabilities (Figure 45).

Figure 45. Rating Personal Knowledge of Federal Accessibility Laws and Standards (n = 13, by all visitors with disabilities)



Question 17 Rating Programmatic Access (See Figure 46)

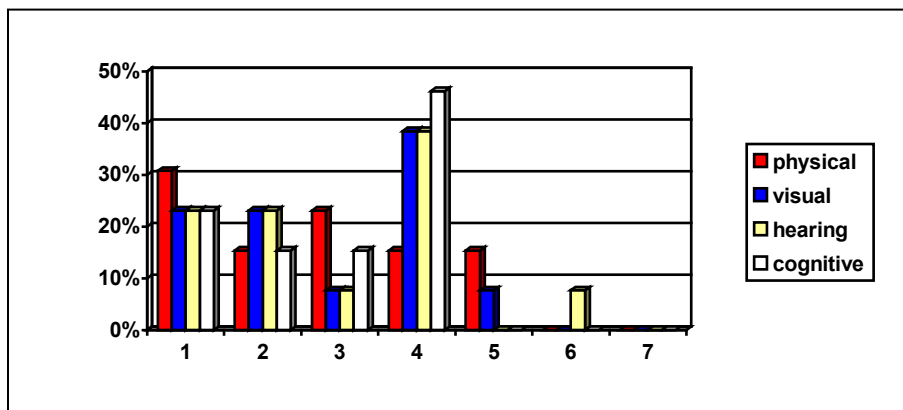
The mean overall programmatic access to people with physical disabilities was 2.69 (on a 1 to 7 scale, 1 = not at all accessible, 4 = neutral, and 7 = completely accessible) rated by all respondents (n = 13), 3.3 rated by visitors with physical disabilities (n = 9), 3 rated by visitors with hearing impairments (n = 2), and 1.4 rated by parents/caregivers (n = 4) of persons with developmental disabilities.

The mean overall programmatic access to people with visual impairments was 2.85 (on a 1 to 7 scale, 1 = not at all accessible, 4 = neutral, and 7 = completely accessible) rated by all respondents (n = 13), 3.44 rated by visitors with physical disabilities (n = 9), 4.5 rated by visitors with hearing impairments (n = 2), and 1.6 rated by parents/caregivers (n = 4) of persons with developmental disabilities.

The mean overall programmatic access to people with hearing impairments was 2.92 (on a 1 to 7 scale, 1 = not at all accessible, 4 = neutral, and 7 = completely accessible) rated by all respondents (n = 13), 3.67 rated by visitors with physical disabilities (n = 9), 3.5 rated by visitors with hearing impairments (n = 2), and 1.4 rated by parents/caregivers (n = 4) of persons with developmental disabilities.

The mean overall programmatic access to people with cognitive impairments was 2.85 (on a 1 to 7 scale, 1 = not at all accessible, 4 = neutral, and 7 = completely accessible) rated by all respondents (n = 13), 3.44 rated by visitors with physical disabilities (n = 9), 3 rated by visitors with hearing impairments (n = 2), and 1.6 rated by parents/caregivers (n = 4) of persons with developmental disabilities.

Figure 46. On a Park Wide Basis, How Would You Rate Programmatic Access to People with Physical Disabilities, Visual, Hearing, or Cognitive Impairments?



[note: physical = total respondents (n = 13) rating programmatic access to people with physical disabilities; visual = total respondents (n = 13) rating programmatic access to people with visual impairments; hearing = total respondents (n = 13) rating programmatic access to people with hearing impairments; cognitive = total respondents (n = 13) rating programmatic access to people with cognitive impairments;]

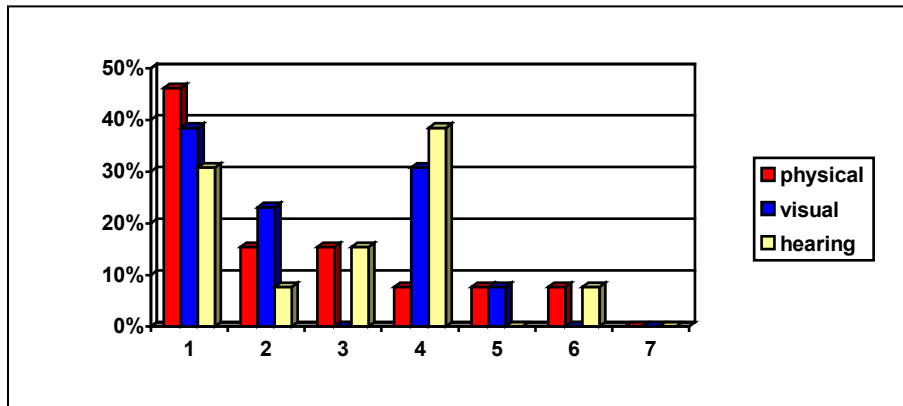
Question 18. Rating Physical Access (see Figure 47)

The mean overall physical access to people with physical disabilities was 2.38 (on a 1 to 7 scale, 1 = not at all accessible, 4 = neutral, and 7 = completely accessible) rated by all respondents (n = 13), 3 rated by visitors with physical disabilities (n = 9), 1.5 rated by visitors with hearing impairments (n = 2), and 1.2 rated by parents/caregivers (n = 4) of persons with developmental disabilities.

The mean overall physical access to people with visual impairments was 2.46 (on a 1 to 7 scale, 1 = not at all accessible, 4 = neutral, and 7 = completely accessible) rated by all respondents (n = 13), 3.11 rated by visitors with physical disabilities (n = 9), 3 rated by visitors with hearing impairments (n = 2), and 1.2 rated by parents/caregivers (n = 4) of persons with developmental disabilities.

The mean overall physical access to people with hearing impairments was 2.92 (on a 1 to 7 scale, 1 = not at all accessible, 4 = neutral, and 7 = completely accessible) rated by all respondents (n = 13), 3.56 rated by visitors with physical disabilities (n = 9), 3.5 rated by visitors with hearing impairments (n = 2), and 1.6 rated by parents/caregivers (n = 4) of persons with developmental disabilities.

Figure 47. On a Park Wide Basis, How Would You Rate Physical Access to People with Physical Disabilities, Visual, Hearing, or Cognitive Impairments?



[note: physical = total respondents (n = 13) rating physical access to people with physical disabilities; visual = total respondents (n = 13) rating physical access to people with visual impairments; hearing = total respondents (n = 13) rating physical access to people with hearing impairments]

Question 19. Primary Challenges (Open-ended)

Respondents were asked to identify three primary challenges encountered in making the park more accessible. The primary challenge identified was more funding and accessible parking spaces. The second most common response was more accessible restrooms and facilities.

Travel Behaviors of Visitors with Disabilities

Trip characteristics such as planning time, traveling distance, and lodging can provide a good foundation for future marketing and promotional decisions. The following section also provides demographic profiles of respondents (including visitors with disabilities and caregivers/parents of visitors with developmental disabilities).

Planning Time

Fifty seven percent of respondents made their trip decision to visit the parkway more than 1 week but less than 2 weeks in advance. This is followed by those indicating that the trip decision was made on the day of the trip (22%) and less than one week (14%) in advance (Table 4).

Table 4. How Far in Advance the Trip was planned? (n = 14)

Trip Planning Time	Frequency	Percent (%)
The same day	3	22
Less than one week	2	14
1 week but < 2 weeks	8	57
2 weeks but < 1 month	--	--
1 month but < 3 months	1	7
> 3 months	--	--
<u>Total</u>	<u>14</u>	<u>100</u>

Number of nights Spent Away From Home

Seventy three percent of respondents to the Park did not spend any night away from home. Of those visitors who did spend nights away from home, 9% spent 1 to 2 nights away from home and 18% spent 3 to 4 nights away from home during their trip.

Distance Traveled

In order to determine how far visitors travel to visit the Blue Ridge Parkway, visitors were asked how far, in miles they traveled from their home origin to the

Parkway. These distances were broken down into more general categories, as shown in Table 5. Sixty two percent of the visitors traveled between 15 and 60 miles, 15% traveled between 100 and 300 miles, and 15% traveled between 400 and 600 miles.

Table 5. Nights and Miles

Trip Characteristic	Percent (%)	Trip Characteristic	Percent (%)
Nights (n = 11)		Distance Traveled (n = 13)	
0 night	73	15 – 60 miles	62
1 night	0	100 – 300 miles	15
2 nights	9	400 – 600 miles	15
3 nights	9	601 – 800 miles	8
4 nights	9	> 800 miles	0
5 nights and above	0		
<u>Total</u>	<u>100</u>	<u>Total</u>	<u>100</u>

Sources of Information Used for Planning the Trip

The three most common sources of information used while planning trips were the previous experience (57%), relatives (21%), and friends (21%). The internet was used as information sources by 14 percent of respondents (Table 6).

Table 6. Sources of Information Used for Planning the Trip

Sources of information on accessibility	Frequency	Percent (%)
Automobile clubs (n = 14)	1	7
Travel agent (n = 14)	1	7
Previous experience (n = 14)	8	57
Attraction brochures (n = 14)	1	7
Relatives (n = 14)	3	21
Friends (n = 14)	3	21
Local tourist offices (n = 14)	1	7
State tourism offices (n = 14)	1	7
State highway maps (n = 14)	1	7
Internet (n = 14)	2	14

Types of Travel Group

Sixty percent of respondents indicated that they traveled with their family during the parkway visit, 7% indicated that they traveled with their family and friends, and 33% indicated that they visited the Parkway with a school group (Table 7).

Table 7. Types of Travel Group (n = 15)

Types of Travel Group	Frequency	Percent (%)
Family	9	60
Family & friends	1	7
School	5	33
<u>Total</u>	<u>15</u>	<u>100</u>

Types of Lodging

Sixty percent of visitors with disabilities stayed in the campground, and 20% stayed in condominium (Table 8).

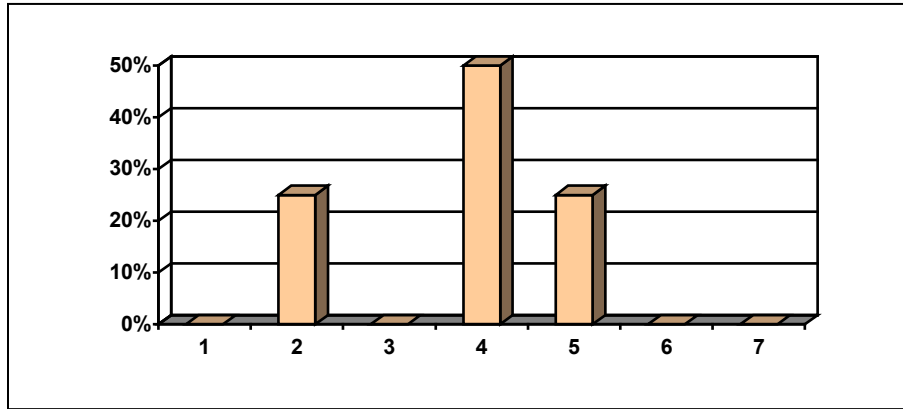
Table 8. Types of Lodging (n = 5)

Trip of Lodging	Frequency	Percent (%)
Campground	3	60
With friends/relatives	1	20
Condominium	1	20
<u>Total</u>	<u>5</u>	<u>100</u>

Staying in the Park

Twenty percent of participants indicated that they have stayed in the park during their trip. Respondents indicated an average rating of 3.75 (on a 1 to 7 scale, 1 = very dissatisfied, 4 = neutral, 7 = very satisfied) for the effectiveness of the park's reservations system for camping and/or other lodging.

Figure 48. Rating the Effectiveness of the Park’s Reservations System for Camping and/or Other Lodging (n = 5, by all visitors with disabilities who stayed in the park)



Activity Engagement

The activities most frequently participated in by visitors were having a picnic (87%), visiting a scenic area (87%), visiting a historical site (73%), visiting a visitor center (47%), hiking (20%), fishing (20%), and visiting a museum (13%) (Table 9).

Table 9. Activity Engagement

Types of Activities	Frequency	Percent (%)
Camping (n = 15)	1	7
Visiting a historical site (n = 15)	11	73
Visiting a scenic area (n = 15)	13	87
Boating (n = 15)	1	7
Having a picnic (n = 15)	13	87
Hiking (n = 15)	3	20
Attending the amphitheater program (n = 15)	1	7
Fishing (n = 15)	3	20
Visiting a museum (n = 15)	2	13
Visiting trails (n = 15)	3	20
Visiting a visitor center (n = 15)	7	47

State of Origin

The majority of visitors with disabilities (93%) traveled from within North Carolina.

Gender and Age

Of the total respondents who indicated their gender, 50% were female, while 50% were male. The average age of respondents was 52 years.

Education Level

Fourteen percent of the respondents indicated that they have some college, 14% have two years of college, 14% have some graduate school, 14% have a high school diploma, 7% have two years of college, and 29% have less than a high school diploma (Table 10).

Table 10. Education Level (n = 14)

Education	Frequency	Percent (%)
Grade school	4	29
Some high school	0	0
High school diploma	2	14
Some college	2	14
Two years college	1	7
Four years college	2	14
Some graduate school	2	14
Master degree	1	7
<u>Total</u>	<u>14</u>	<u>100</u>

Occupations

The most common occupations of respondents were retired (36%) and managerial/professional (36%), while the most common occupations of respondents' spouses were retired (56%) and managerial/professional (33%).

Income

Thirty one percent of respondents indicated a household income of under \$10,000, 15% indicated a household income of \$70,000 to \$79,999, 15% indicated a household income of \$60,000 to \$69,999 and 15% indicated a household income of \$50,000 to \$59,999 (Table 11).

Table 11. Income (n = 13)

Income	Frequency	Percent (%)
Under \$10,000	4	31
\$10,000 - \$19,999	1	8
\$20,000 - \$29,999	1	8
\$30,000 - \$39,999	1	8
\$40,000 - \$49,999	0	0
\$50,000 - \$59,999	2	15
\$60,000 - \$69,999	2	15
\$70,000 - \$79,999	2	15
<u>Total</u>	<u>13</u>	<u>100</u>

Motivations/Benefits

The benefits most important to visitors with disabilities were to relax (6.54), to observe the beauty of nature (6.25 on a 1 to 7 scale), to increase fun/joy/enthusiasm (6.25), and to get some fresh air (6.23). The least important benefits were to improve attitudes toward school (4.33) and to increase appropriate behaviors (5.16).

The Hot Spring National Park

Results

A total of two hundred questionnaires were distributed to individuals with disabilities. Of these questionnaires, 18 completed and usable questionnaires were returned.

Characteristics of Visitors with Disabilities

The first objective of this study was to determine the characteristics, or demographic profiles, of the visitors with disabilities to the Hot Spring National Park. This includes types of disabilities, age, gender, and the uses of various devices and assistances (e.g., wheelchair, walker, personal assistant, scooter, TTY, and service animals, etc.).

Characteristics of Park Visitors with Disabilities

Four groups were sought for the Hot Spring National Park based on the categories of disability of individuals visiting the park (see Table 1): 1) people with physical disabilities, for example, individuals who use mobility devices (wheelchairs, scooters, walkers, cane, crutches); 2) people with hearing impairments, for example, individuals who use the hearing aids; 3) people with visual impairments, and 4) people with developmental disabilities. People with disabilities visiting the Hot Spring National Park ranged between the ages of 17 and 65 with a mean age of 41 for all visitors with disabilities (65% were females, and 35% were males); with a mean age of 45 for the visitors with physical disabilities; with a mean age of 30 for the visitors with hearing impairments; with a mean age of 32 for the visitors with visual impairments; and with a mean age of 36 for the people with developmental disabilities (Table 2).

Table 1. Categories of Disability of Persons Visiting the Hot Spring National Park (n = 18)

Disability	Frequency	Percent
Albinism	1	6
Arthritis	1	6
Autism	1	6
Cerebral Palsy (CP)	2	11
Chronic Obstructive Pulmonary Diseases	1	6
Deafness	2	11
General Mobility Problem	3	17
Mental Retardation	2	11
Osteoporosis	2	11
Paralysis (4 limbs)	1	6
Spina Bifida	2	11
<u>Total</u>	<u>18</u>	<u>100</u>

Table 2. Characteristics of Visitors with Disabilities

Characteristics	All visitors with disabilities	Visitors with physical disabilities	Visitors with hearing impairments	Visitors with developmental disabilities	Visitors with visual impairments
	n = 18	n = 12	n = 3	n = 3	n = 1
Age (average)	41	45	30	36	32
Gender					
Male	35%	18%	33%	67%	100%
Female	65%	82%	67%	33%	0%

(note: in this case, some visitors with hearing impairments also use the mobility devices)

Types of Assistances and Devices

The three most common assistances/devices used by the park visitors with disabilities (Table 3) were manual wheelchairs (33%), personal assistants (28%), and walkers (22%). The park visitors with disabilities also used canes (17%), power wheelchairs (17%), service animals (17%), scooters (11%), and hearing aids (6%).

Table 3. Types of Assistances/Devices Used by the Visitors with Disabilities

Assistances/Devices	Frequency	Percent (%)
Hear Aids (n = 18)	1	6
Walker (n = 18)	4	22
Cane (n = 18)	3	17
Manual wheelchair (n = 18)	6	33
Power wheelchair (n = 18)	3	17
Personal assistant (n = 18)	5	28
Crutch (n = 18)	0	0
Scooter (n = 18)	2	11
Animal (n = 18)	3	17
Other device (n = 18)	1	6

Visitor Expectations/Perceptions of Program and Physical Accessibility in the Park

Knowing the perceptions of visitors with disabilities regarding the program and physical accessibility in the park will assist in the process of providing a good foundation for future development and planning decisions.

Part III. Question 1. Previous Visits.

Of the visitors, 89 percent had been to the Park, and the mean number of trips to the Park by these previous visitors was 3 times.

Part III. Question 2. Visitors' Opinions of the Hot Spring National Park and its Physical Accessibility

Participants were asked to rate their perceptions and experiences of the Park's accessibility during their national park trips. The results given are based on a 7 point scale, where 1 = not a problem, 4 = neutral, and 7 = major problem.

General Accessibility Elements (1 = not a problem, 4 = neutral, and 7 = major problem)

Lack of knowledgeable and/or helpful park staff regarding accessibility in the park (3.22), and lack of accurate information on accessibility in the park (3.33) were rated by all participants (Figures 1 to 2).

Figure 1. Lack of Knowledgeable/helpful Park Staff Regarding Accessibility (n = 18)

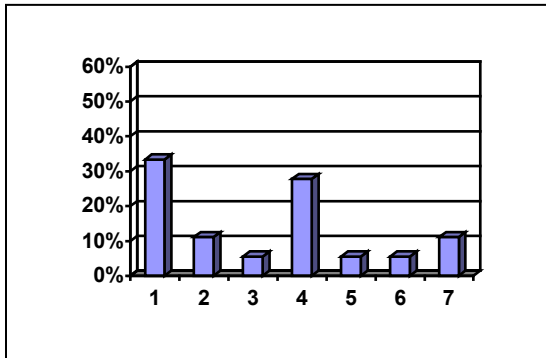
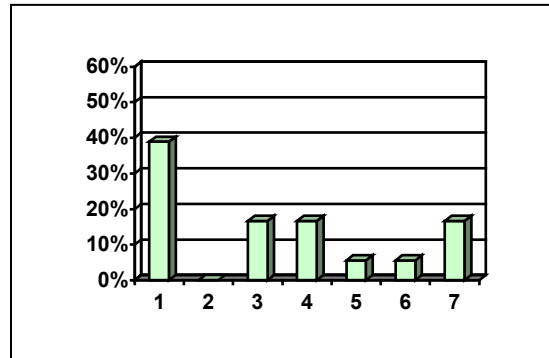


Figure 2. Lack of Accurate Information on Accessibility (n = 18)



Physical Accessibility Elements (1 = not a problem, 4 = neutral, and 7 = major problem)

The physical accessibility problems in the Park to visitors with physical disabilities (n = 12) were lack of grab bars in restrooms (4.75), and followed by lack of the width of doorway in restrooms (4.08), lack of accessible trails (3.73), lack of accessible parking spaces (3.64), lack of accessible overlooks and viewings areas (3.55), narrow tread width of outdoor recreation access routes (3.55), lack of accessible restrooms (3.45), lack of appropriate urinal height in restrooms (3.45), lack of curb cuts (3.45), lack of accessible storage facilities (3.42), lack of accessible route to the trash/recycling containers (3.17), lack of accessible camping facilities (3.16), lack of accessible drinking water (3.08), lack of accessible route to the visitor center (2.8), and lack of accessible utilities (2.75) (Figures 3 to 17).

Figure 3. Lack of Accessible Trails (n = 11)

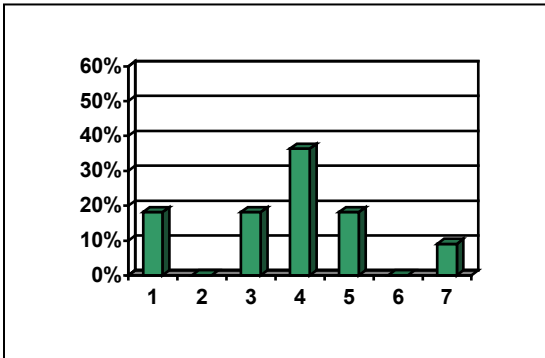


Figure 4. Lack of Accessible Parking Spaces (n = 11)

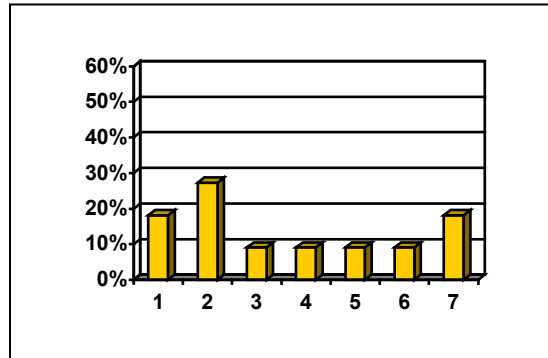


Figure 5. Lack of Accessible Overlooks and Viewings Areas (n = 11)

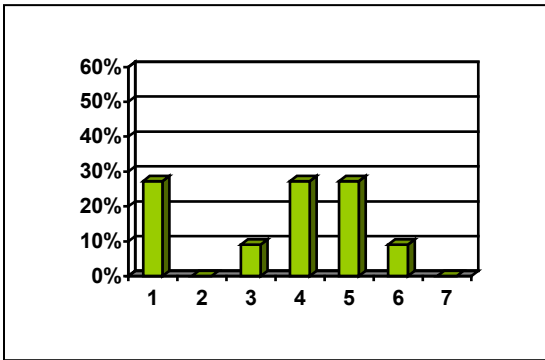


Figure 6. Lack of Accessible Restrooms (n = 11)

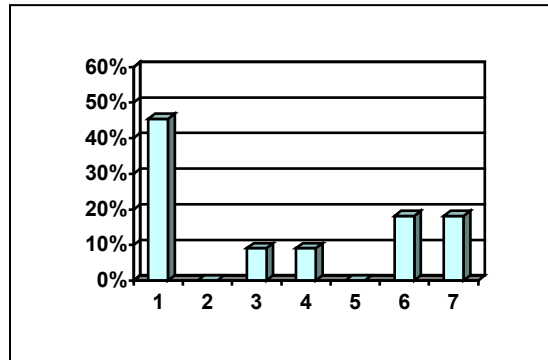


Figure 7. Lack of Grab Bars in Restrooms (n = 12)

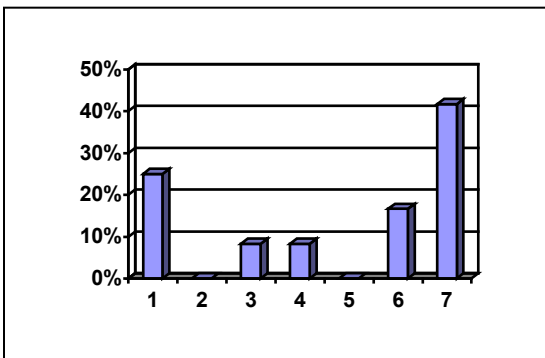


Figure 8. Lack of Appropriate Urinal Height in Restrooms (n = 11)

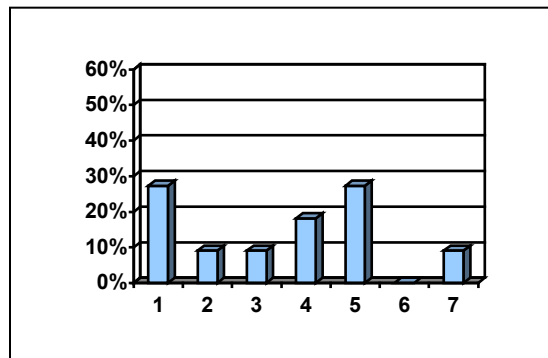


Figure 9. Lack of Curb Cuts (n = 11)

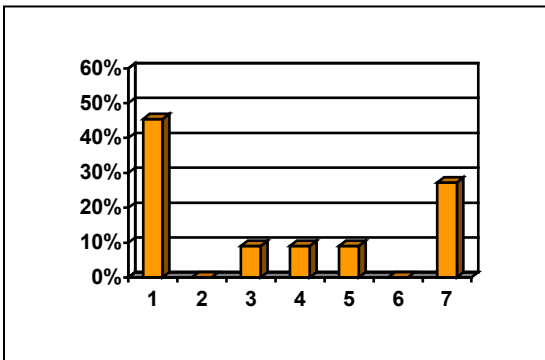


Figure 10. Lack of the Width of Doorway in Restrooms (n = 12)

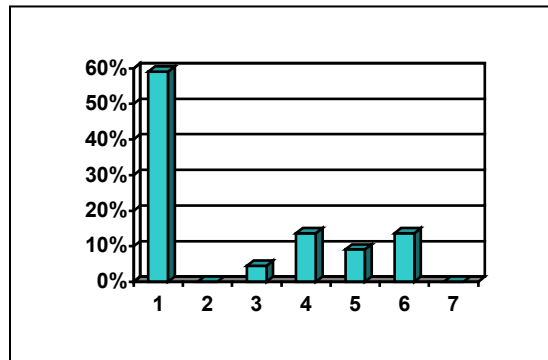


Figure 11. Lack of Accessible Drinking Water (n = 12)

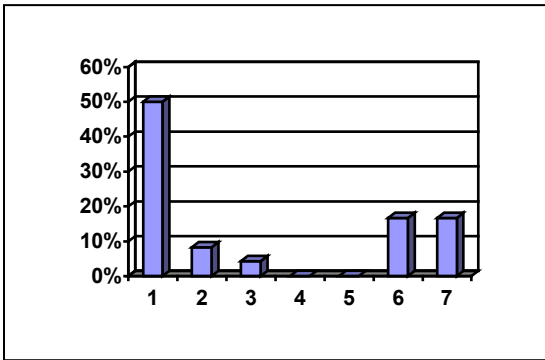


Figure 12. Lack of Accessible Utilities (n = 12)

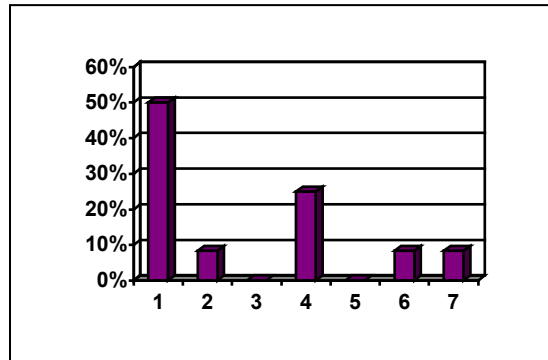


Figure 13. Lack of Accessible Camping Facilities (n = 12)

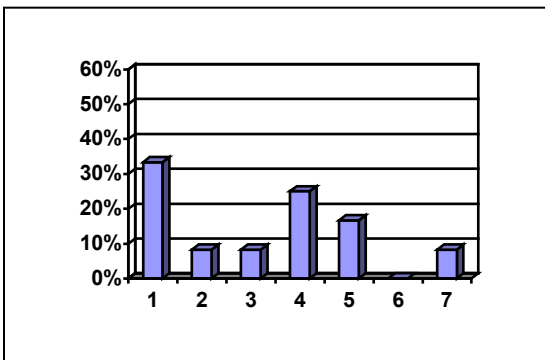


Figure 14. Lack of Accessible Storage Facilities (n = 12)

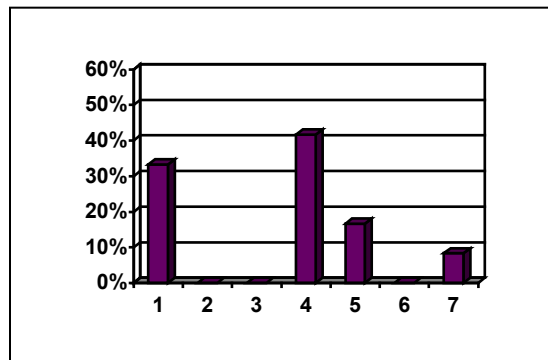


Figure 15. Lack of Accessible Route to the Trash/Recycling Containers (n = 12)

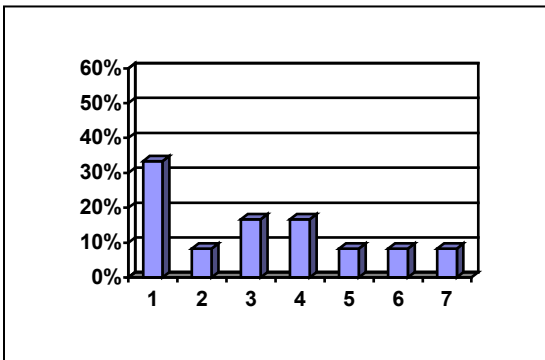


Figure 16. Lack of Accessible Route to the Visitor Center (n = 10)

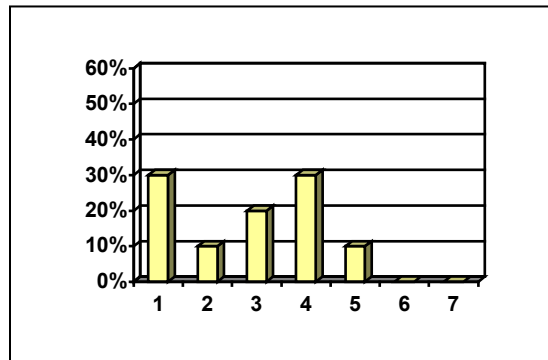
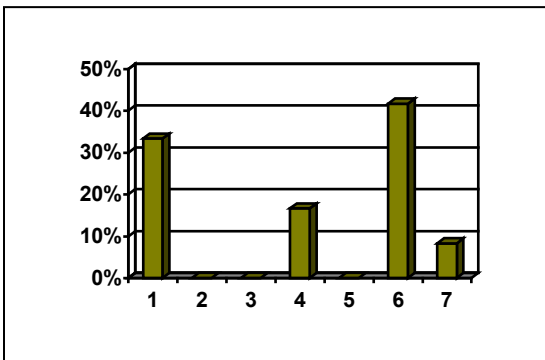


Figure 17. Narrow Tread Width of Outdoor Recreation Access Routes (n = 12)



Visitors with physical disabilities were also asked to rate particular accessible facilities (including the picnic tables, grills, and fire rings) they were using during the Park visits. The accessibility guidelines for the above three facilities are: 1) the height of the elements; 2) seating space provided; 3) knee space; 4) clear space surrounding the element; 5) the ground surface; and 6) the ground slope.

Picnic Tables (1 = not a problem, 4 = neutral, and 7 = major problem)

Some (20% to 50%) of *individuals with physical disabilities* rated there was not a problem for the height of the picnic table (3.73), lack of clear space for knees (3.9), lack of appropriate ground surfaces around the table (3.6), lack of firm and stable seating space (3.9), lack of appropriate ground slope around the picnic table (4.1), lack of smooth surfaces around the table (3.5), and lack of accessible route to the table (3.8) (Figures 18 to 24).

Figure 18. The Height of the Picnic Table (n = 11)

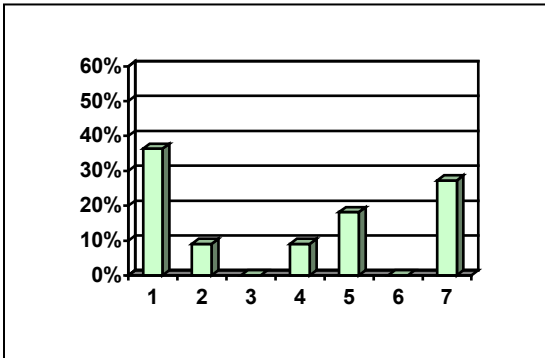


Figure 19. Lack of Clear Space for Knees (n = 11)

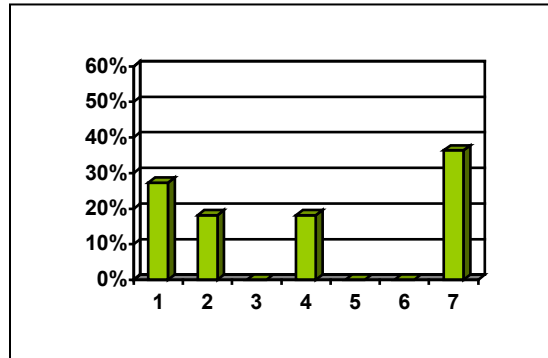


Figure 20. Lack of Appropriate Ground Surfaces Around the Table (n = 10)

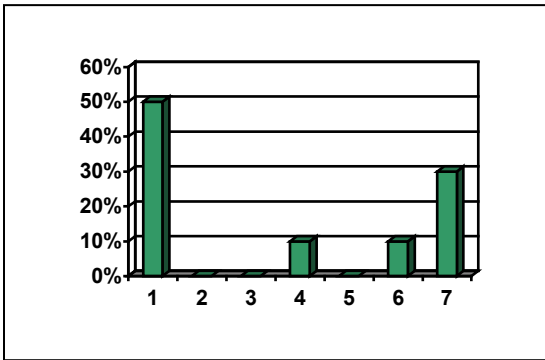


Figure 21. Lack of Firm and Stable Seating Space (n = 11)

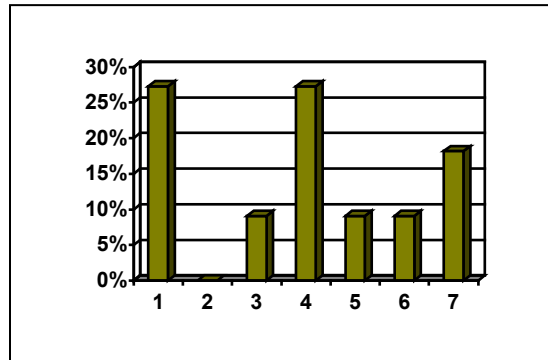


Figure 22. Lack of Appropriate Ground Slope Around the Picnic Table (n = 10)

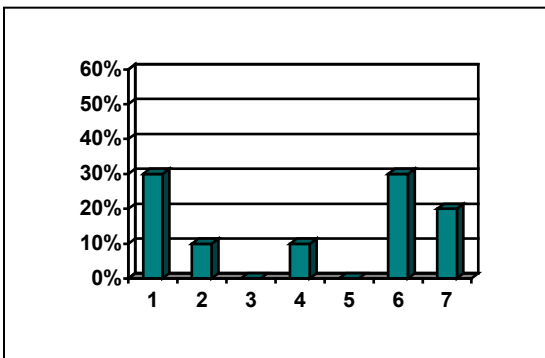


Figure 23. Lack of Smooth Surfaces Around the Table (n = 10)

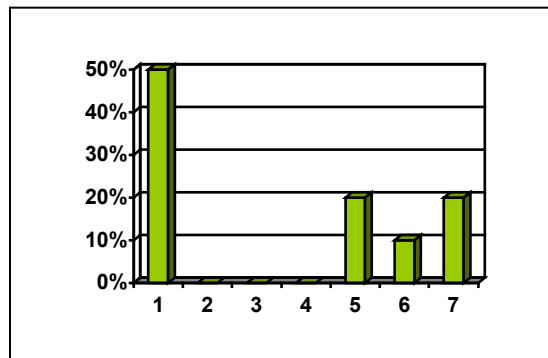
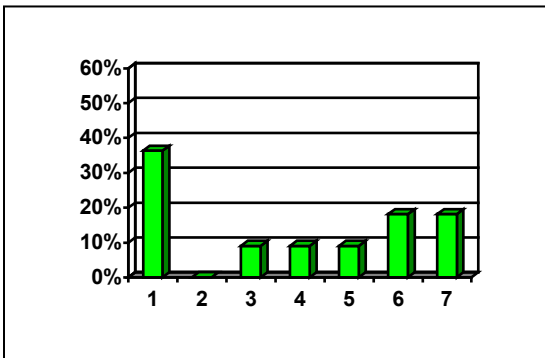


Figure 24. Lack of Accessible Route to the Table (n = 11)



Cooking Grills (1 = not a problem, 4 = neutral, and 7 = major problem)

Some (20% to 30%) of *individuals with physical disabilities* rated there was not a problem for the height of the grill (3.78), lack of appropriate ground surfaces around the grill (4.4), lack of clear floor or ground spaces around the grill (3.6), and lack of appropriate ground slope around the grill (4.4) (Figures 25 to 28).

Figure 25. The Height of the Grill (n = 9)

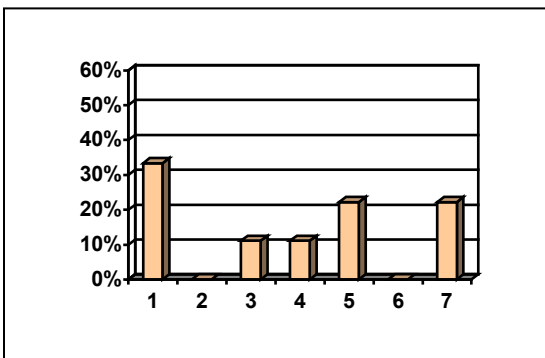


Figure 26. Lack of Appropriate Ground Surfaces Around the Grill (n = 9)

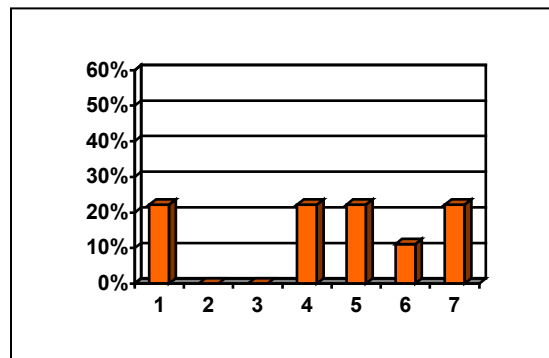


Figure 27. Lack of Clear Floor or Ground Spaces Around the Grill (n = 9)

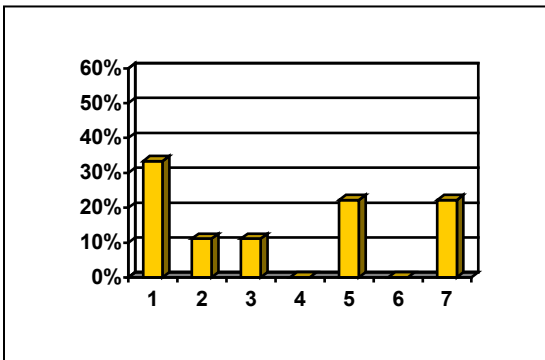
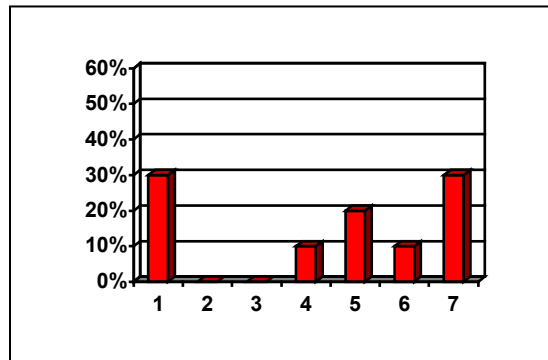


Figure 28. Lack of Appropriate Ground Slope Around the Grill (n = 10)



Fire Rings (1 = not a problem, 4 = neutral, and 7 = major problem)

Some (30% to 50%) of *individuals with physical disabilities* rated there was not a problem for the height of the fire ring (2.4), lack of appropriate ground surfaces around the fire rings (3.1), lack of clear spaces around the fire ring (3.2), and lack of appropriate ground slope around the fire ring (3) (Figures 29 to 32).

Figure 29. The Height of the Fire Ring (n = 10)

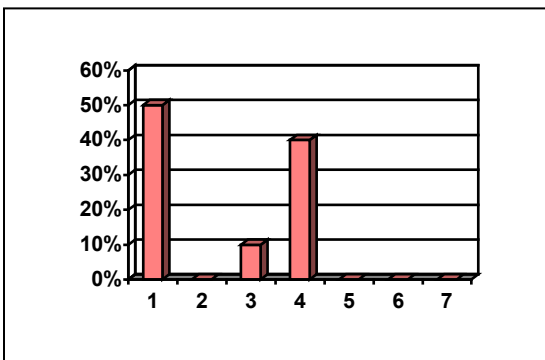


Figure 30. Lack of Appropriate Ground Surfaces Around the Fire Ring (n = 9)

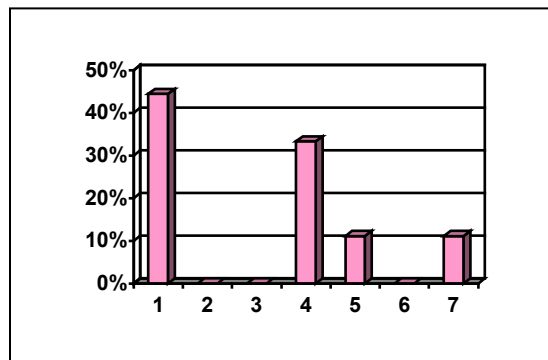


Figure 31. Lack of Clear Spaces Around the Fire Ring (n = 9)

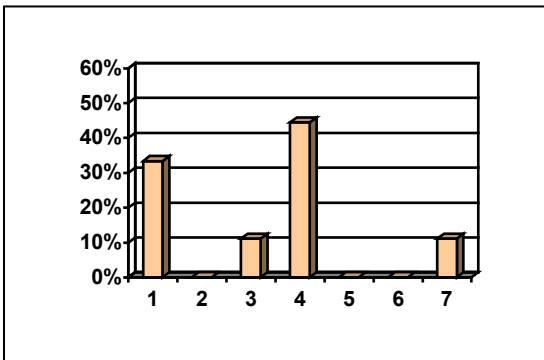
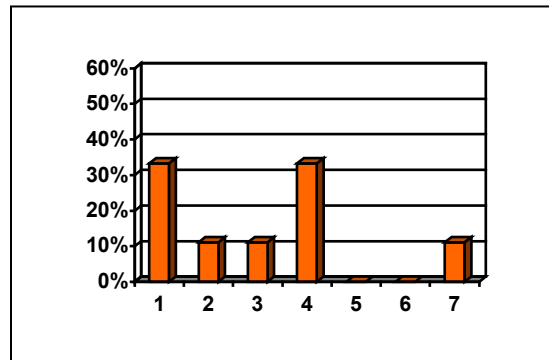


Figure 32. Lack of Appropriate Ground Slope Around the Fire Ring (n = 9)



Elements for Hearing Impairments, Communication Impairments, and Visual Impairments (1 = not a problem, 4 = neutral, and 7 = major problem)

The elements for hearing accessibility problems in the Park to *visitors with hearing impairments* (n = 3) were rated as “not a problem at all” for the followings: lack of telephone volume amp (1), lack of assitive listening systems (1), lack of TTY (1), and lack of appropriate communication systems (1) (Figures 33 to 36). All visitors with disabilities indicated that other elements for communication accessibility problems in the Park were lack of tactile maps (2.73) and lack of audio description (3.27). However, the *visitor with visual impairments* indicated that there was not a problem at all regarding lack of audio description and lack of tactile maps (Figures 37 to 38). Indeed, the *visitor with visual impairments* also indicated that there was “not a problem at all” regarding the elements for visual impairments (e.g., lack of appropriate print media, lack of large print, lack of Braille, and lack of computer desk).

Figure 33. Lack of Telephone Volume Amp (n = 3)

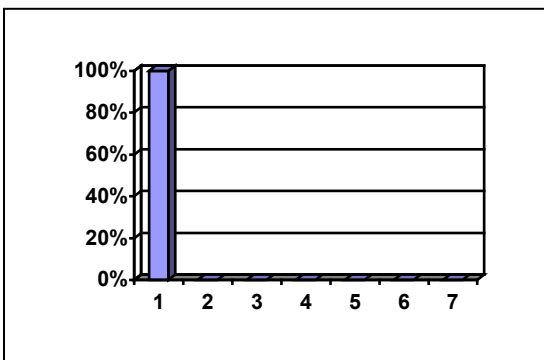


Figure 34. Lack Of Assitive Listening Systems (n = 2)

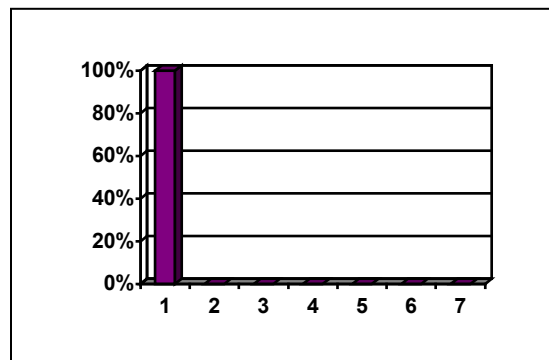


Figure 35. Lack of TTY (n = 2)

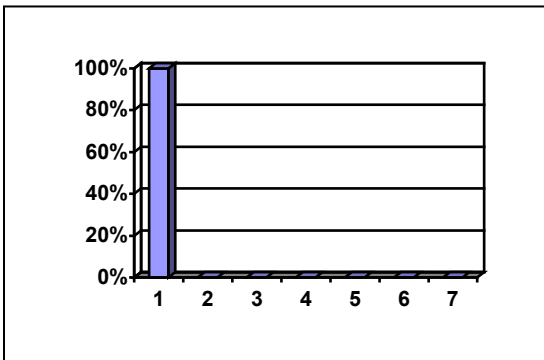


Figure 36. Lack of Appropriate Communication Systems (n = 2)

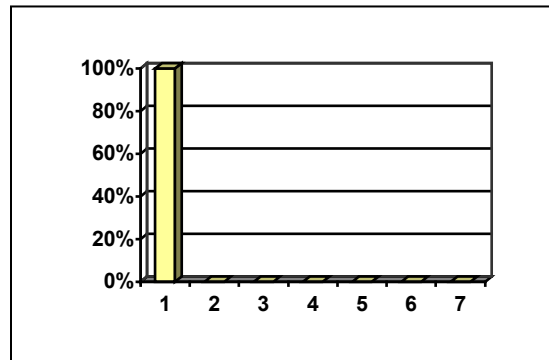


Figure 37. Lack of Tactile Maps (n = 1)

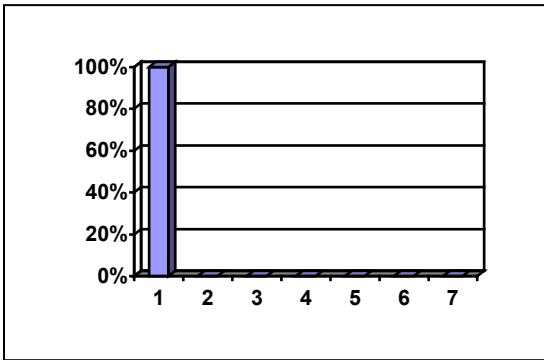
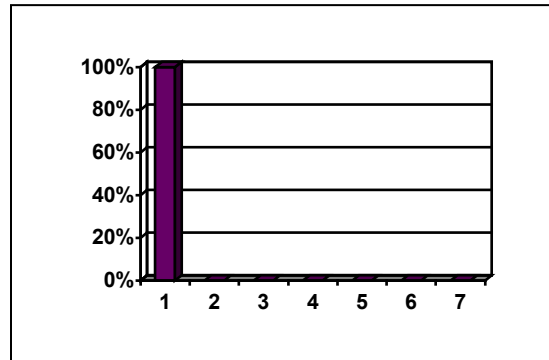


Figure 38. Lack of Audio Description (n = 1)



Question 3. Does the Park Have a TTY? (Hearing Accessibility Element)

Six percent of total participants (n = 18) indicated that the park has a TTY and 67% indicated that they did not know if the park has a TTY. Of 3 visitors with hearing impairments, one indicated that the park does not have a TTY, and two did not know if the park has a TTY.

Question 4. At Least One Accessible Route of Travel to Each Park Facility or Program Element? (Physical Accessibility Element)

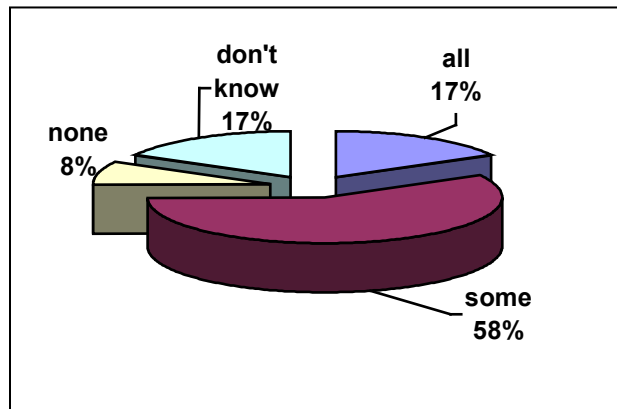
Fifty six percent of total participants indicated that there is at least one accessible route of travel to each park facility or program element and 38% indicated that they did not know the answer.

Question 5. Do Park Parking Lots Provide Accessible Spaces? (Physical Accessibility Element)

Of 18 *all respondents*, 61% indicated that “some” park parking lots provide accessible spaces; 17% indicated that “all” park parking lots provide accessible spaces; 6% indicated that “none” of park parking lots provide accessible spaces; and 17% of respondents indicated that they did not know the answer.

Of 12 *visitors with physical disabilities*, 58% indicated that “some” park parking lots provide accessible spaces; 17% indicated that “all” park parking lots provide accessible spaces; 8% indicated that “none” of park parking lots provide accessible spaces, and 17% of respondents indicated that they did not know the answer (Figure 39).

Figure 39. Do Park Parking Lots Provide Accessible Spaces? (n = 12, by visitors with physical disabilities)



Question 6. Audio Description Availability (Visual Accessibility Elements)

Eighteen percent of *all participants* indicated that audio description is available for “all” exhibit areas; 18% indicated that the audio description is available for “some” exhibit areas; 6% indicated that the audio description is not available for any exhibit areas; and 59% of respondents did not know the answer (Figure 40). One visitor with visual impairments indicated that audio description is available for “some” exhibit areas.

Seventeen percent of *all participants* indicated that audio description is available for “all” audio visuals; 8% indicated that the audio description is available for “some” audio visuals; 8% indicated that the audio description is not available for any audio visuals; and 67% of respondents did not know the answer (Figure 41). One visitor with visual impairments indicated that audio description is available for “some” audio visuals.

Figure 40. Is Audio Description Available fro Exhibit Areas? (n = 17)

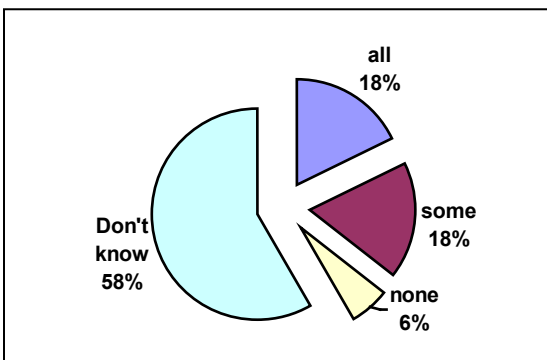
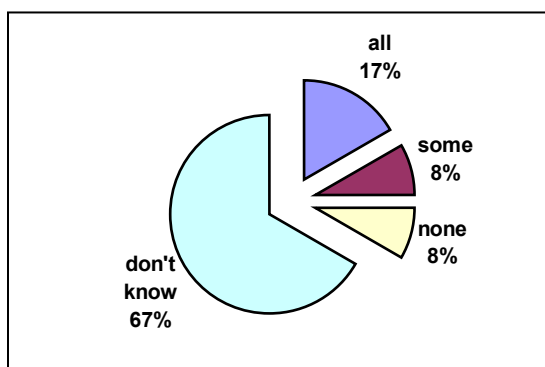


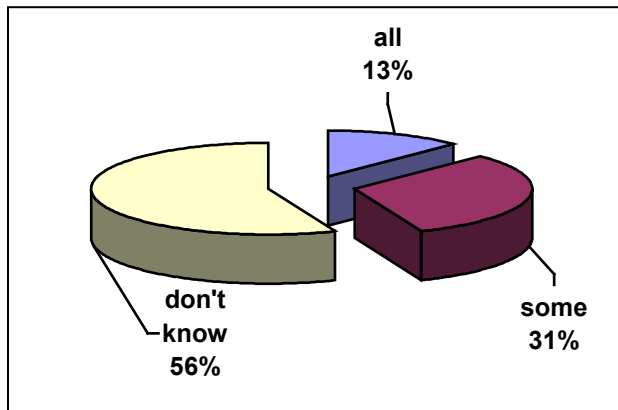
Figure 41. Is Audio Description Available fro Audio Visuals? (n = 12)



Question 7. Maps in Some Tactile Form? (Visual Accessibility Element)

Thirteen percent of all respondents indicated that “all” provided maps are also available in some tactile form; 31% indicated that “some” provided maps are also available in some tactile form; and 56% indicated that they did not know the answer (Figure 42).

Figure 42. Are Maps/Exhibits/Brochures Available in Some Tactile Form? (n = 16)



Question 8. Availability of Information on Park Accessibility. (General Accessibility Element)

Sixty five percent of total respondents indicated that information on park accessibility was readily available. Fifty five percent of respondents indicated that they

were offered the information on park accessibility without asking for it. For those who asked for the information on park accessibility, visitor center (67%), internet (25%), telephone call to the park (25%), park ranger station (8%), National Center on Accessibility (8%), and disability resource center (8%) were sources of information used on park accessibility (Table 3).

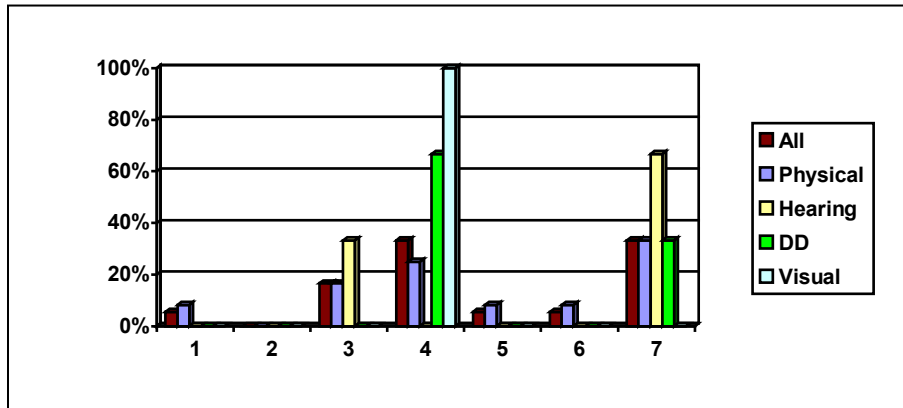
Table 3. Sources of Information on Accessibility used by the Visitors with Disabilities

Sources of information on accessibility	Frequency	Percent (%)
Internet (n = 12)	3	25
Park ranger station (n = 12)	1	8
Phone call to the park (n = 12)	3	25
Visitor center (n = 12)	8	67
Disability resource center (n = 12)	1	8
National Center on Accessibility (n = 12)	1	8

Question 9. Overall Satisfaction Regarding Accessibility in Park?

The mean overall satisfaction to the accessibility in park was 4.83 (on a 1 to 7 scale) rated by all respondents (n = 18), 4.83 rated by visitors with physical disabilities (n = 12), 5.67 rated by visitors with hearing impairments (n = 3), 4 rated by person with visual impairments (n = 1), and 5 rated by parents/caregivers (n = 3) of persons with developmental disabilities (Figure 43).

Figure 43. Overall Satisfaction Regarding Accessibility in Park (by types of disabilities)



[note: All = total visitors with disabilities (n = 18); Physical = visitors with physical disabilities (n = 12); Hearing = visitors with hearing impairments (n = 3); Visual = visitors with visual impairments (n = 1); DD = visitors with developmental disabilities (n = 3, answered by parents/caregivers)]

Questions 10 & 11 were open-ended and asked the participants to identify what they liked and disliked about the Hot Spring regarding accessibility in park. The general opinions of what individuals with disabilities (all respondents) liked about the park were a) large ramps into bathhouses and around the sidewalks and b) most sidewalks having curbs.

The general themes of what individual with disabilities (all respondents) did not like about the park were a) lack of curb cuts/ramps around/in buildings, b) no swimming access for people with mobility impairments, and c) lack of accessible trails and overlooks.

Question 12. Revisit (Open-ended)

One hundred percent of respondents indicated that they would come back to visit the Park. The reasons of revisits listed were a) good places for family and friends to get together and b) beauty of nature.

Question 13. How the Park could be improved on accessibility? (Open-ended)

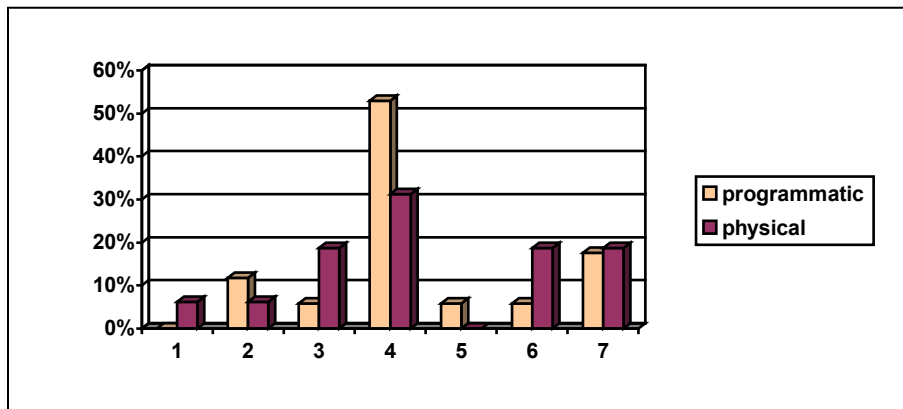
The general suggestions included a) more funding budgets needed, and b) understanding the needs of individuals with disabilities (e.g., interviews).

Questions 14 to 15. Overall Perceptions of Accessibility

The mean overall perceptions of programmatic accessibility in park was 4.41 (on a 1 to 7 scale, 1 = not at all accessible, 4 = neutral, and 7 = completely accessible) rated by all respondents (n = 17), 4.75 rated by visitors with physical disabilities (n = 12), 4.3 rated by visitors with hearing impairments (n = 3), 4 rated by people with visual impairments (n = 1), and 4 rated by parents/guardians (n = 2) of persons with developmental disabilities.

The mean overall perceptions of physical accessibility in park was 4.43 (on a 1 to 7 scale, 1 = not at all accessible, 4 = neutral, and 7 = completely accessible) rated by all respondents (n = 16), 4.72 rated by visitors with physical disabilities (n = 11), 3 rated by visitors with hearing impairments (n = 3), 3 rated by people with visual impairments (n = 1), and 5.5 rated by parents/guardians (n = 2) of persons with developmental disabilities (Figure 44).

Figure 44. Overall Perceptions of Accessibility (programmatic access vs. physical access), n = 17

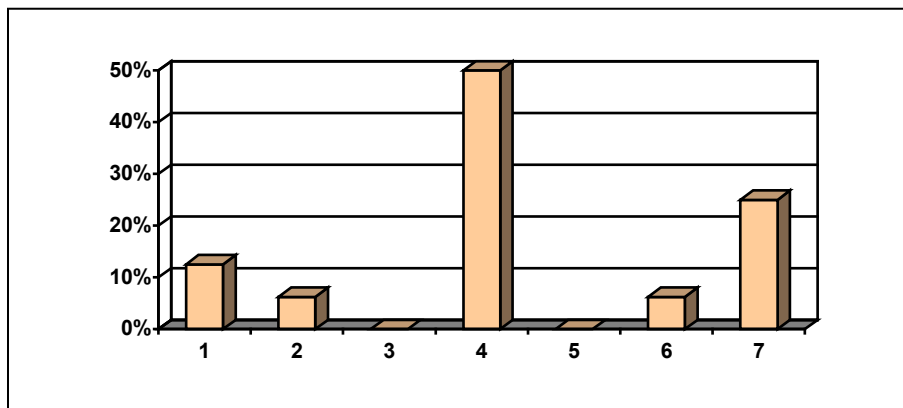


(note: programmatic = visitors' perception of the park's overall accessibility in regard to programmatic access; physical = visitors' perception of the park's overall accessibility in regard to physical access)

Question 16. Rating Personal Knowledge of Federal Accessibility Laws and Standards

The mean overall personal knowledge of federal accessibility laws and standards was 4.38 (on a 1 to 7 scale, 1 = not at all knowledge, 4 = neutral, and 7 = very knowledge) rated by all respondents (n = 16), 5.1 rated by visitors with physical disabilities (n = 11), 4 rated by visitors with hearing impairments (n = 3), 4 rated by people with visual impairments (n = 1), and 2.5 rated by parents/guardians (n = 2) of persons with developmental disabilities (Figure 45).

Figure 45. Rating Personal Knowledge of Federal Accessibility Laws and Standards (n = 16, by all visitors with disabilities)



Question 17 Rating Programmatic Access (See Figure 46)

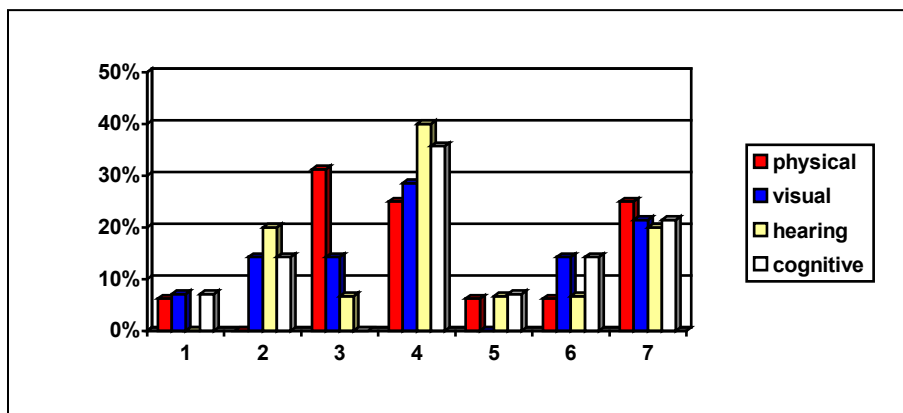
The mean overall programmatic access to people with physical disabilities was 4.44 (on a 1 to 7 scale, 1 = not at all accessible, 4 = neutral, and 7 = completely accessible) rated by all respondents (n = 16), 4.7 rated by visitors with physical disabilities (n = 11), 2.5 rated by visitors with hearing impairments (n = 2), 3 rated by visitors with visual impairments (n = 1), and 5.5 rated by parents/guardians (n = 2) of persons with developmental disabilities.

The mean overall programmatic access to people with visual impairments was 4.29 (on a 1 to 7 scale, 1 = not at all accessible, 4 = neutral, and 7 = completely accessible) rated by all respondents (n = 14), 4.6 rated by visitors with physical disabilities (n = 9), 2.5 rated by visitors with hearing impairments (n = 2), 3 rated by visitors with visual impairments (n = 1), and 5.5 rated by parents/guardians (n = 2) of persons with developmental disabilities.

The mean overall programmatic access to people with hearing impairments was 4.33 (on a 1 to 7 scale, 1 = not at all accessible, 4 = neutral, and 7 = completely accessible) rated by all respondents (n = 15), 4.4 rated by visitors with physical disabilities (n = 10), 3.3 rated by visitors with hearing impairments (n = 3), 4 rated by visitors with visual impairments (n = 1), and 5.5 rated by parents/guardians (n = 2) of persons with developmental disabilities.

The mean overall programmatic access to people with cognitive impairments was 4.5 (on a 1 to 7 scale, 1 = not at all accessible, 4 = neutral, and 7 = completely accessible) rated by all respondents (n = 14), 4.6 rated by visitors with physical disabilities (n = 9), 2.5 rated by visitors with hearing impairments (n = 2), 6 rated by visitors with visual impairments (n = 1), and 5.5 rated by parents/guardians (n = 2) of persons with developmental disabilities.

Figure 46. On a Park Wide Basis, How Would You Rate Programmatic Access to People with Physical Disabilities, Visual, Hearing, or Cognitive Impairments?



[note: physical = total respondents (n = 16) rating programmatic access to people with physical disabilities; visual = total respondents (n = 14) rating programmatic access to people with visual impairments; hearing = total respondents (n = 15) rating programmatic access to people with hearing impairments; cognitive = total respondents (n = 14) rating programmatic access to people with cognitive impairments;]

Question 18. Rating Physical Access (see Figure 47)

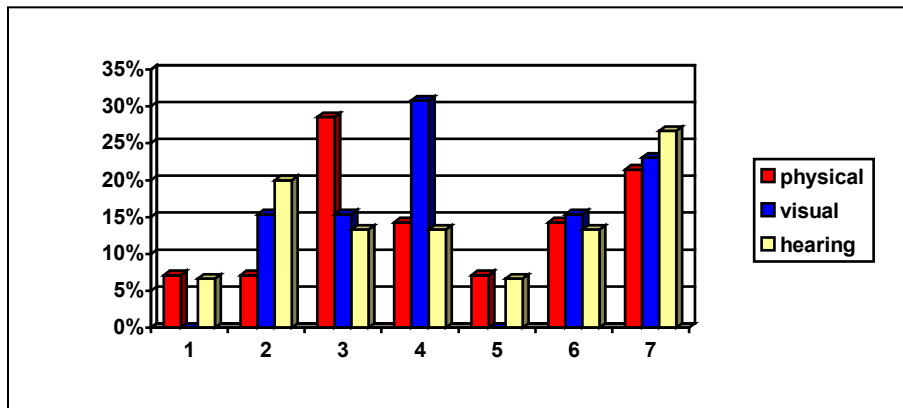
The mean overall physical access to people with physical disabilities was 4.36 (on a 1 to 7 scale, 1 = not at all accessible, 4 = neutral, and 7 = completely accessible) rated by all respondents (n = 14), 4.7 rated by visitors with physical disabilities (n = 10), 1 rated by visitors with hearing impairments (n = 1), 2 rated by visitors with visual impairments (n = 1), and 5.5 rated by parents/caregivers (n = 2) of persons with developmental disabilities.

The mean overall physical access to people with visual impairments was 4.54 (on a 1 to 7 scale, 1 = not at all accessible, 4 = neutral, and 7 = completely accessible) rated by all respondents (n = 13), 4.4 rated by visitors with physical disabilities (n = 10), 4 rated by visitors with hearing impairments (n = 1), 4 rated by visitors with visual

impairments (n = 1), and 5.5 rated by parents/caregivers (n = 2) of persons with developmental disabilities.

The mean overall physical access to people with hearing impairments was 4.4 (on a 1 to 7 scale, 1 = not at all accessible, 4 = neutral, and 7 = completely accessible) rated by all respondents (n = 15), 4.6 rated by visitors with physical disabilities (n = 10), 1.5 rated by visitors with hearing impairments (n = 2), 6 rated by visitors with visual impairments (n = 1), and 5.5 rated by parents/caregivers (n = 2) of persons with developmental disabilities.

Figure 47. On a Park Wide Basis, How Would You Rate Physical Access to People with Physical Disabilities, Visual, Hearing, or Cognitive Impairments?



[note: physical = total respondents (n = 14) rating physical access to people with physical disabilities; visual = total respondents (n = 13) rating physical access to people with visual impairments; hearing = total respondents (n = 15) rating physical access to people with hearing impairments]

Question 19. Primary Challenges (Open-ended)

Respondents were asked to identify three primary challenges encountered in making the park more accessible. The primary challenge identified was more accessible parking spaces and more accessibility in buildings. The second most common response was the need of accessibility to water duck rides and providing more accessible picnic areas and trails.

Travel Behaviors of Visitors with Disabilities

Trip characteristics such as planning time, traveling distance, and lodging can provide a good foundation for future marketing and promotional decisions. The following section also provides demographic profiles of respondents (including visitors with disabilities, caregivers/parents of visitors with developmental disabilities).

Planning Time

Thirty six percent of respondents made their trip decision to visit the park more than 2 weeks but less than 1 month in advance. This is followed by those indicating that the trip decision was made less than one week (21.5%), 1 week by within 2 weeks (21.5%), 1 month but within 3 months (14%), and greater than 3 months (7%) in advance (Table 4).

Table 4. How Far in Advance the Trip was planned? (n = 14)

Trip Planning Time	Frequency	Percent (%)
The same day	0	0
Less than one week	3	21.5
1 week but < 2 weeks	3	21.5
2 weeks but < 1 month	5	36
1 month but < 3 months	2	14
> 3 months	1	7
<u>Total</u>	<u>14</u>	<u>100</u>

Number of nights Spent Away From Home

Twenty two percent of respondents to the Park did not spend any night away from home. Of those visitors who did spend nights away from home, 44% spent 1 to 2 nights away from home, 11% spent 3 to 4 nights away from home, and 22% spent more than 5 nights away from home during their trip.

Distance Traveled

In order to determine how far visitors travel to visit the Hot Spring National Park, visitors were asked how far, in miles they traveled from their home origin to the Park. These distances were broken down into more general categories, as shown in Table 5. Majority (56%) of visitors with disabilities traveled between 5 and 50 miles. Twenty two percent of the visitors traveled between 300 and 600 miles, followed by visitors traveling between 250 and 299 miles (11%), and 11% traveled more than 1,000 miles.

Table 5. Nights and Miles

Trip Characteristic	Percent (%)	Trip Characteristic	Percent (%)
Nights (n = 9)		Distance Traveled (n = 9)	
0 night	22	5 – 50 miles	56
1 night	11	--	--
2 nights	33	--	--
3 nights	11	250 - 299 miles	11
4 nights	0	300 – 600 miles	22
5 nights and above	22	> 1,000	11
<u>Total</u>	<u>100</u>	<u>Total</u>	<u>100</u>

Sources of Information Used for Planning the Trip

The three most common sources of information used while planning trips were the relatives (50%), friends (33%), and state highway maps (28%). Attraction brochures and local tourist office were used as information sources by 22 percent of respondents. Other information sources were magazine ads/articles (17%), state tourism offices (17%), newspaper ads/articles (17%), previous experiences (17%), and internet (11%) (Table 6).

Table 6. Sources of Information Used for Planning the Trip

Sources of information on accessibility	Frequency	Percent (%)
Automobile clubs (n = 18)	1	6
Travel agent (n = 18)	2	11
Previous experience (n = 18)	3	17
Attraction brochures (n = 18)	4	22
Commercial guidebooks (n = 18)	2	11
Relatives (n = 18)	9	50
Friends (n = 18)	6	33
Local tourist offices (n = 18)	4	22
State tourism offices (n = 18)	3	17
State highway maps (n = 18)	5	28
Magazine ads/articles (n = 18)	3	17
Newspaper ads/articles (n = 18)	3	17
Radio (n = 18)	2	11
Television (n = 18)	2	11
Internet (n = 18)	2	11

Types of Travel Group

More than 50% of respondents indicated that they traveled with their family during the park visit, 7% indicated that they traveled with their friends, and 36% indicated that they traveled with their family and friends (Table 7).

Table 7. Types of Travel Group (n = 14)

Types of Travel Group	Frequency	Percent (%)
Family	8	57
Friends	1	7
Family & friends	5	36
<u>Total</u>	<u>14</u>	<u>100</u>

Types of Lodging

Thirty one percent of participants stayed in motels. Twenty three percent of visitors with disabilities stayed in hotels and 15% stayed in the campgrounds (Table 8).

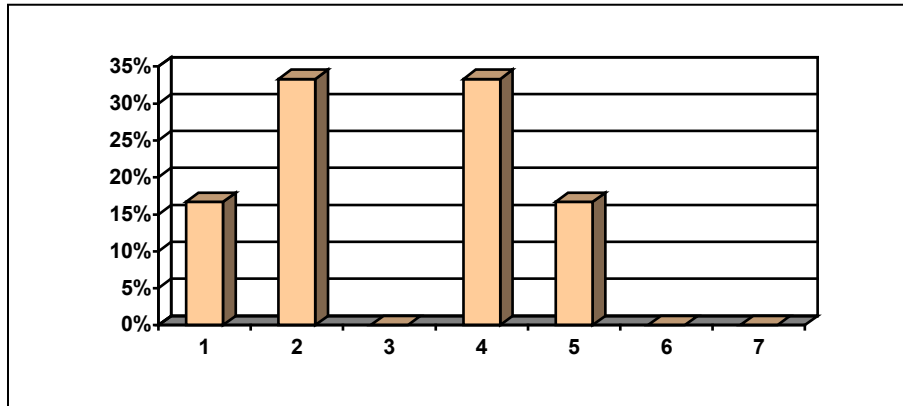
Table 8. Types of Lodging (n = 13)

Trip of Lodging	Frequency	Percent (%)
Hotel	3	23
Motel	4	31
Campground	2	15
With friends/relatives	3	23
Condominium	--	--
Resort	--	--
Cottage/cabin	--	--
Other	1	8
<u>Total</u>	<u>13</u>	<u>100</u>

Staying in the Park

Forty six percent of participants indicated that they have stayed in the park during their trip. Respondents indicated an average rating of 3 (on a 1 to 7 scale, 1 = very dissatisfied, 4 = neutral, 7 = very satisfied) for the effectiveness of the park's reservations system for camping and/or other lodging.

Figure 48. Rating the Effectiveness of the Park’s Reservations System for Camping and/or Other Lodging (n = 6, by all visitors with disabilities who stayed in the park)



Activity Engagement

The activities most frequently participated in by visitors were visiting a scenic area (50%), visiting a historical site (39%), camping (33%), fishing (28%), visiting a museum (28%), and hiking (22%) (Table 9).

Table 9. Activity Engagement

Types of Activities	Frequency	Percent (%)
Camping (n = 18)	6	33
Visiting a historical site (n = 18)	7	39
Visiting a scenic area (n = 18)	9	50
Boating (n = 18)	2	11
Having a picnic (n = 18)	6	33
Hiking (n = 18)	4	22
Attending the amphitheater program (n = 18)	3	17
Fishing (n = 18)	5	28
Visiting a museum (n = 18)	5	28
Visiting trails (n = 18)	7	39
Visiting a visitor center (n = 18)	3	17
Other (n = 18)	1	6

State of Origin

The majority of visitors with disabilities (88%) traveled from within Arkansas.

Gender and Age

Of the total respondents who indicated their gender, 65% were female, while 35% were male. The average age of respondents was 40 years.

Education Level

Twenty nine percent of the respondents indicated that they have a high school diploma, followed by those indicating that they have some college (21%), and some graduate school (21%). Of the remaining total respondents, 14% have two years of college and 7% have less than a high school diploma (Table 10).

Table 10. Education Level (n = 14)

Education	Frequency	Percent (%)
Grade school	0	0
Some high school	1	7
High school diploma	4	29
Some college	3	21
Two years college	2	14
Four years college	1	7
Some graduate school	3	21
Master degree	--	--
<u>Total</u>	<u>14</u>	<u>100</u>

Occupations

The most common occupations of respondents were part-time services support (33%) and retired (20%), while the most common occupations of respondents' spouses were retired (20%) and production/craft/repair (20%).

Income

Twenty five percent of respondents indicated a household income of \$20,000 to \$29,999, and 50% indicated a household income of under \$10,000 (Table 11).

Table 11. Income (n = 12)

Income	Frequency	Percent (%)
Under \$10,000	6	50
\$10,000 - \$19,999	1	8
\$20,000 - \$29,999	3	25
\$30,000 - \$39,999	--	--
\$40,000 - \$49,999	--	--
\$50,000 - \$59,999	--	--
\$60,000 - \$69,999	--	--
\$70,000 - \$79,999	--	--
\$80,000 and above	2	--
<u>Total</u>	<u>12</u>	<u>100</u>

Motivations/Benefits

The benefits most important to visitors with disabilities were to observe the beauty of nature (6.2 on a 1 to 7 scale), relax (6.4), and to get some fresh air (6). The least important benefits were to improve attitudes toward school (4.75) and to decrease sleep disturbance (4.72). Other mentioned important benefits were to spend time with friends and family.

The Mammoth Cave National Park

Results

A total of two hundred questionnaires were distributed to individuals with disabilities. Of these questionnaires, 18 completed and usable questionnaires were returned.

Characteristics of Visitors with Disabilities

The first objective of this study was to determine the characteristics, or demographic profiles, of the visitors with disabilities to the Mammoth Cave National Park. This includes types of disabilities, age, gender, and the uses of various devices and assistances (e.g., wheelchair, walker, personal assistant, scooter, TTY, and service animals, etc.).

Characteristics of Park Visitors with Disabilities

Three groups were sought for the Mammoth Cave National Park based on the categories of disabilities of individuals visiting the park (see Table 1): 1) people with physical disabilities, for example, individuals who use mobility devices (wheelchairs, scooters, walkers, cane, crutches); 2) people with hearing impairments, for example, individuals who use the hearing aids; and 3) people with developmental disabilities. People with disabilities visiting the Mammoth Cave National Park ranged between the ages of 8 and 83 with a mean age of 39 for all participants (53% were females, and 47% were males); with a mean age of 50 for the visitors (age 18 and above) with physical disabilities; with a mean age of 11 for the visitors (age under 18) with physical disabilities; with a mean age of 83 for the visitors with hearing impairments; and with a mean age of 10 for the people with developmental disabilities (Table 2).

Table 1. Categories of Disability of Persons Visiting the Mammoth Cave National Park (n = 18)

Disability	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Alzheimer's	1	5.56	1	5.56
Amputations	1	5.56	2	11.11
Asthma	1	5.56	3	16.67
Autism	1	5.56	4	22.22
Cerebral Palsy (CP)	2	11.11	6	33.33
Degenerative Disk Disease	2	11.11	8	44.44
General Mobility Disability	2	11.11	10	55.56
Heart Disease	1	5.56	11	61.11
Hydrocephalus	1	5.56	12	66.67
Joint pain	1	5.56	13	72.22
Loss of mobility in limbs	1	5.56	14	77.78
Paralysis-hemiplegia	1	5.56	15	83.89
Problems with walking	1	5.56	16	88.89
Sipna bifida	1	5.56	17	94.44
Stroke/CVA	1	5.56	18	100

Table 2. Characteristics of Visitors with Disabilities

Characteristics	All visitors with disabilities	Visitors with physical disabilities (age >= 18)	Visitors with physical disabilities (age <18)	Visitors with hearing impairments	Visitors with developmental disabilities
	n = 18	n = 13	n = 3	n = 2	n = 2
Age (average)	39	50	11	83	10
Gender					
Male	47%	42%	67%	50%	50%
Female	53%	58%	33%	50%	50%

(note: in this case, visitors with hearing impairments also use the mobility devices)

Types of Assistances and Devices

The three most common assistances/devices used by the park visitors with disabilities (Table 3) were power wheelchairs (44%), walkers (22%), and crutches (17%). The park visitors with disabilities also used hearing aids (11%), scooters (11%), and canes (6%).

Table 3. Types of Assistances/Devices Used by the Visitors with Disabilities

Assistances/Devices	Frequency	Percent (%)
Hear Aids (n = 18)	2	11
Walker (n = 18)	4	22
Cane (n = 18)	1	6
Manual wheelchair (n = 18)	0	0
Power wheelchair (n = 18)	8	44
Personal assistant (n = 18)	0	0
Crutch (n = 18)	3	17
Scooter (n = 18)	2	11
Communication device (n = 18)	1	6

Visitor Expectations/Perceptions of Program and Physical Accessibility in the Park

Knowing the perceptions of visitors with disabilities regarding the program and physical accessibility in the park will assist in the process of providing a good foundation for future development and planning decisions.

Part III. Question 1. Previous Visits.

Of the visitors, 88 percent had been to the Park, and the mean number of trips to the Park by these previous visitors was 2 times.

Part III. Question 2. Visitors' Opinions of the Mammoth Cave National Park and its Physical Accessibility

Participants were asked to rate their perceptions and experiences of the Park's accessibility during their national park trips. The results given are based on a 7 point scale, where 1 = not a problem, 4 = neutral, and 7 = major problem.

General Accessibility Elements (1 = not a problem, 4 = neutral, and 7 = major problem)

Lack of knowledgeable and/or helpful park staff regarding accessibility in the park (3.38), and lack of accurate information on accessibility in the park (3.81) were rated by all participants (Figures 1 to 2).

Figure 1. Lack Of Knowledgeable/helpful Park Staff Regarding Accessibility (n = 16)

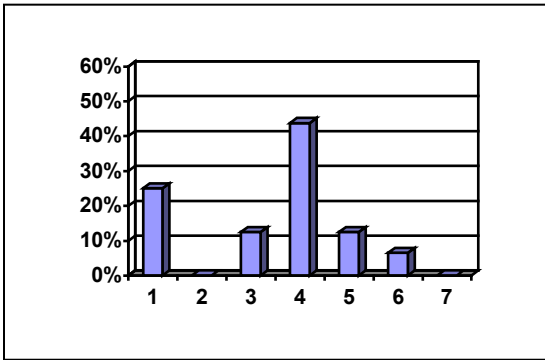
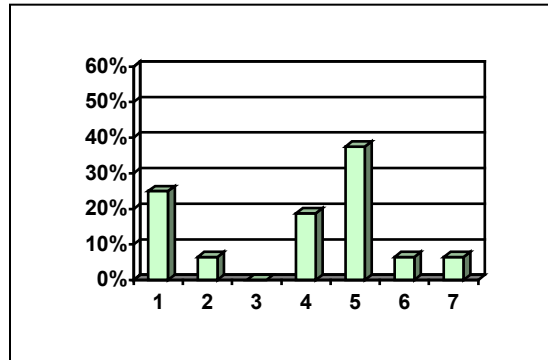


Figure 2. Lack of Accurate Information on Accessibility (n = 16)



Physical Accessibility Elements (1 = not a problem, 4 = neutral, and 7 = major problem)

The physical accessibility problems in the Park to visitors with physical disabilities (n = 13, age 18 and above) were lack of accessible restrooms (4.73), lack of grab bars in restrooms (4.44), lack of accessible parking spaces (4.36), lack of accessible trails (4.18), lack of accessible overlooks and viewings areas (3.64), lack of appropriate urinal height in restrooms (4.25), lack of curb cuts (2.91), lack of the width of doorway in restrooms (4.11), lack of accessible drinking water (3.36), lack of accessible utilities (2.82), lack of accessible camping facilities (3.2), lack of accessible storage facilities (2.24), lack of accessible route to the trash/recycling containers (2.22), lack of accessible route to the visitor center (2.72), and narrow tread width of outdoor recreation access routes (2.17) (Figures 3 to 17).

Figure 3. Lack of Accessible Trails [(n = 11, age 18 and above), (n = 3, age under 18, answered by parents/caregivers)]

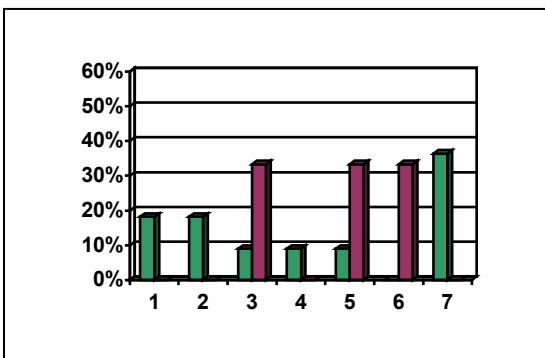


Figure 4. Lack of Accessible Parking Spaces [(n = 11, age 18 and above), (n = 3, age under 18, answered by parents/caregivers)]

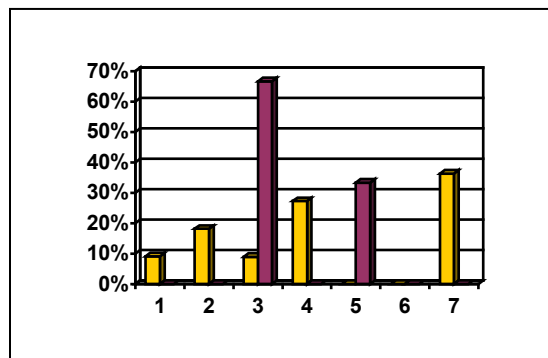


Figure 5. Lack of Accessible Overlooks and Viewings Areas [(n = 11, age 18 and above), (n = 3, age under 18, answered by parents/caregivers)]

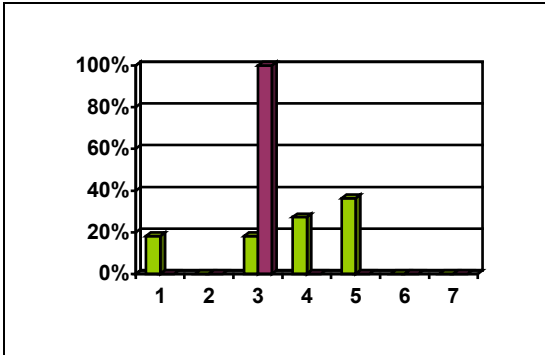


Figure 6. Lack of Accessible Restrooms [(n = 11, age 18 and above), (n = 3, age under 18, answered by parents/caregivers)]

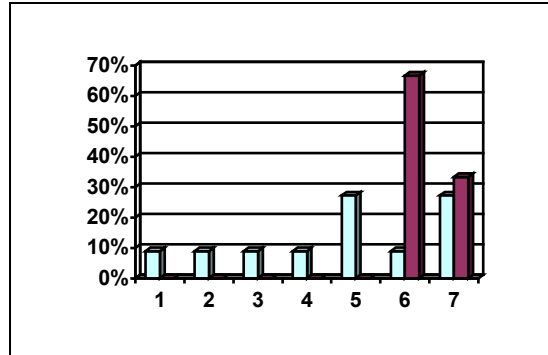


Figure 7. Lack of Grab Bars in Restrooms [(n = 9, age 18 and above), (n = 3, age under 18, answered by parents/caregivers)]

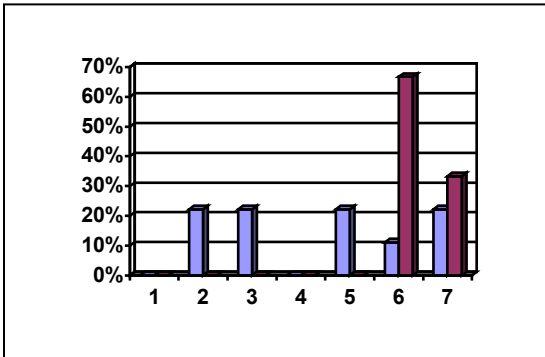


Figure 8. Lack of Appropriate Urinal Height in Restrooms [(n = 8, age 18 and above), (n = 3, age under 18, answered by parents/caregivers)]

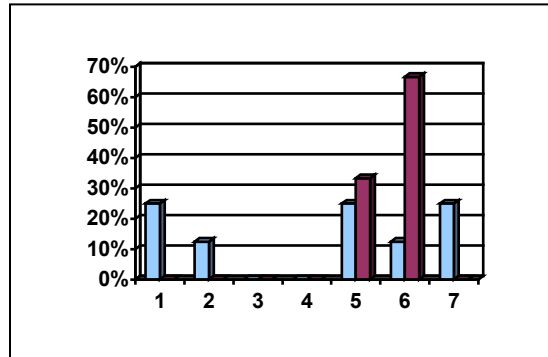


Figure 9. Lack of Curb Cuts [(n = 11, age 18 and above), (n = 3, age under 18, answered by parents/caregivers)]

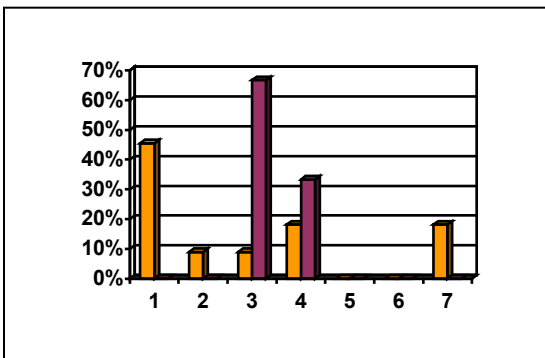


Figure 10. Lack of the Width of Doorway in Restrooms [(n = 11, age 18 and above), (n = 3, age under 18, answered by parents/caregivers)]

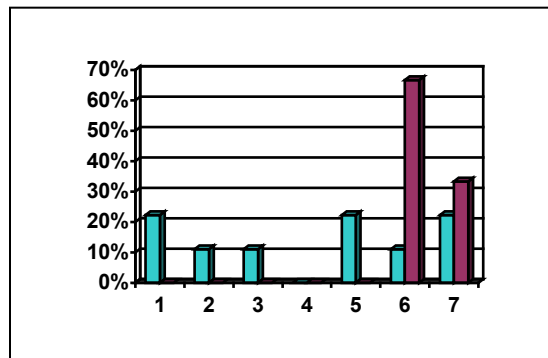


Figure 11. Lack of Accessible Drinking Water [(n = 11, age 18 and above), (n = 3, age under 18, answered by parents/caregivers)]

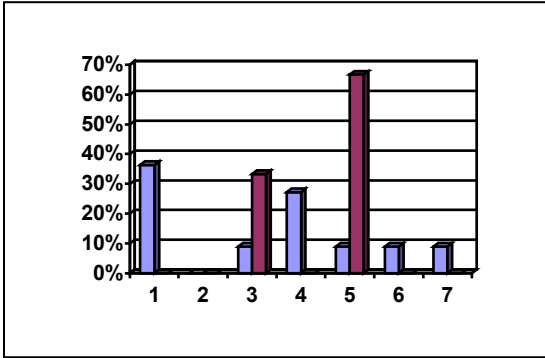


Figure 12. Lack of Accessible Utilities [(n = 11, age 18 and above), (n = 3, age under 18, answered by parents/caregivers)]

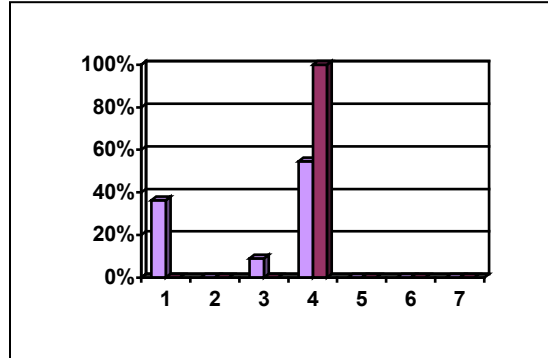


Figure 13. Lack of Accessible Camping Facilities [(n = 10, age 18 and above), (n = 3, age under 18, answered by parents/caregivers)]

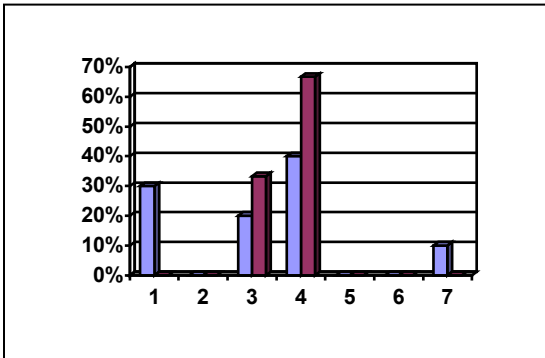


Figure 14. Lack of Accessible Storage Facilities [(n = 10, age 18 and above), (n = 3, age under 18, answered by parents/caregivers)]

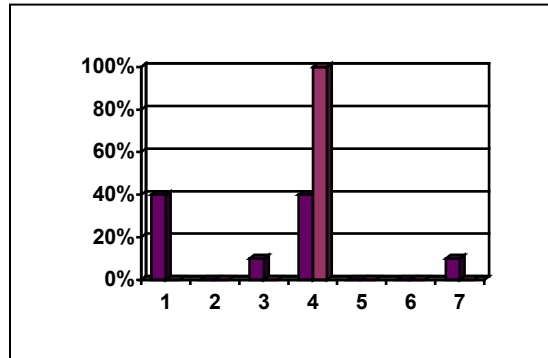


Figure 15. Lack of Accessible Route to the Trash/Recycling Containers [(n = 11, age 18 and above), (n = 3, age under 18, answered by parents/caregivers)]

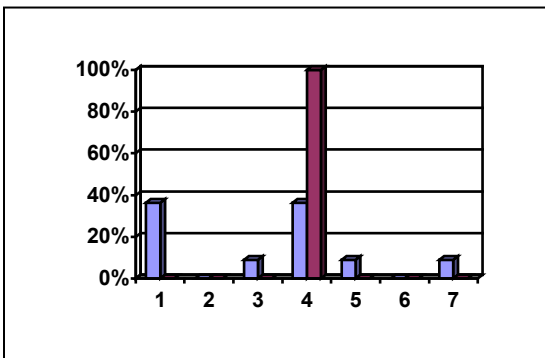


Figure 16. Lack of Accessible Route to the Visitor Center [(n = 11, age 18 and above), (n = 3, age under 18, answered by parents/caregivers)]

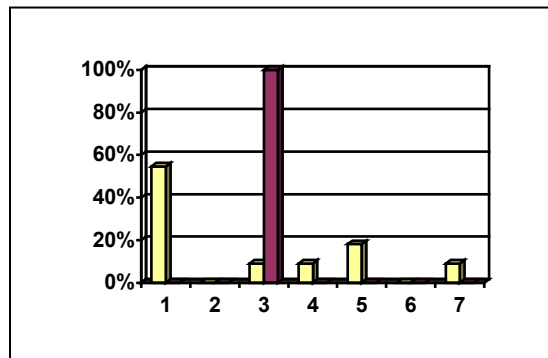
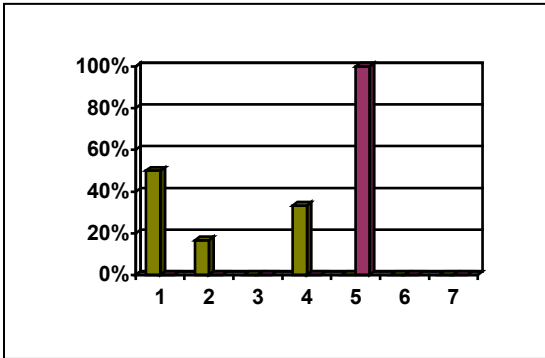


Figure 17. Narrow Tread Width of Outdoor Recreation Access Routes [(n = 6, age 18 and above), (n = 1, age under 18, answered by parents/caregivers)]



Visitors with physical disabilities were also asked to rate particular accessible facilities (including the picnic tables, grills, and fire rings) they were using during the Park visits. The accessibility guidelines for the above three facilities are: 1) the height of the elements; 2) seating space provided; 3) knee space; 4) clear space surrounding the element; 5) the ground surface; and 6) the ground slope.

Picnic Tables (1 = not a problem, 4 = neutral, and 7 = major problem)

Some (9% to 36%) of *individuals with physical disabilities* rated there was not a problem for the height of the picnic table (3.3), lack of clear space for knees (4.3), lack of appropriate ground surfaces around the table (3.36), lack of firm and stable seating space (4), lack of appropriate ground slope around the picnic table (3.73), lack of smooth surfaces around the table (3.36), and lack of accessible route to the table (4.2) (Figures 18 to 24).

Figure 18. The Height of the Picnic Table [(n = 11, age 18 and above), (n = 3, age under 18, answered by parents/caregivers)]

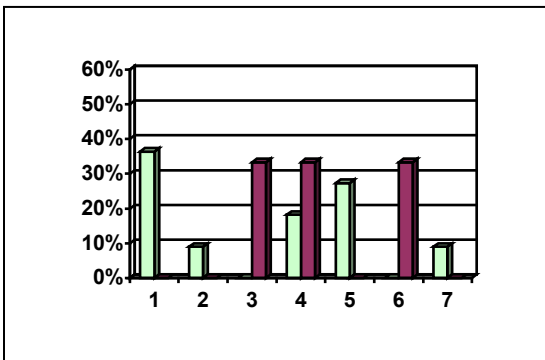


Figure 19. Lack of Clear Space for Knees [(n = 11, age 18 and above), (n = 3, age under 18, answered by parents/caregivers)]

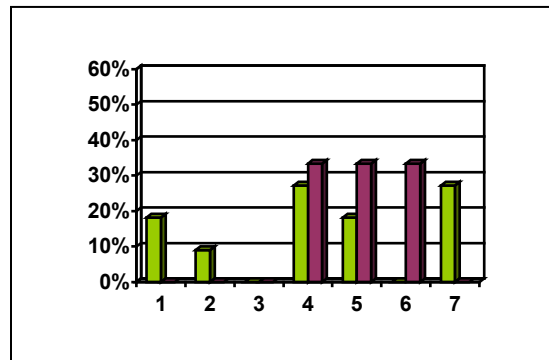


Figure 20. Lack of Appropriate Ground Surfaces Around the Table [(n = 11, age 18 and above), (n = 3, age under 18, answered by parents/caregivers)]

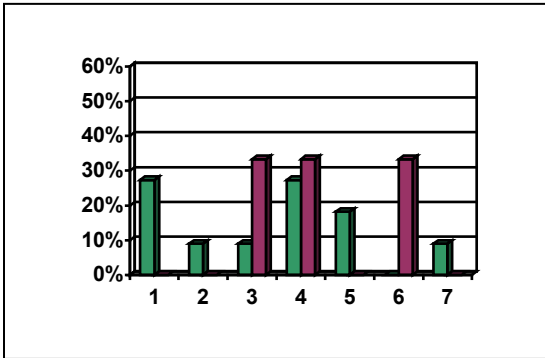


Figure 21. Lack of Firm and Stable Seating Space [(n = 11, age 18 and above), (n = 3, age under 18, answered by parents/caregivers)]

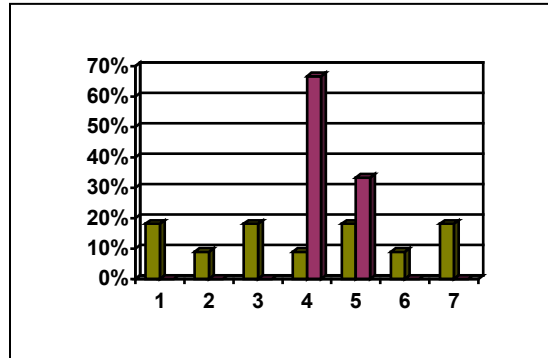


Figure 22. Lack of Appropriate Ground Slope Around the Picnic Table [(n = 11, age 18 and above), (n = 3, age under 18, answered by parents/caregivers)]

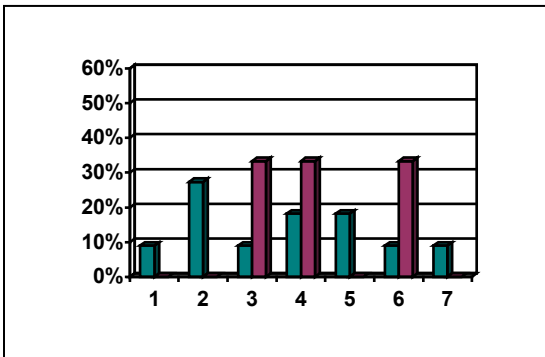


Figure 23. Lack of Smooth Surfaces Around the Table [(n = 11, age 18 and above), (n = 3, age under 18, answered by parents/caregivers)]

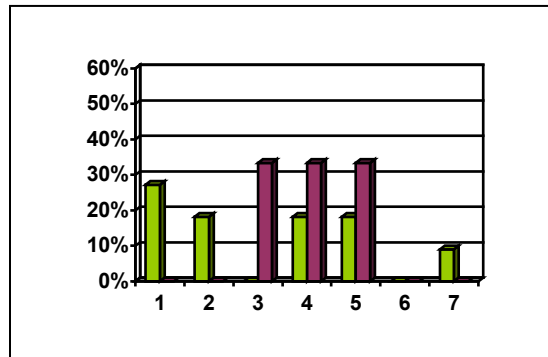
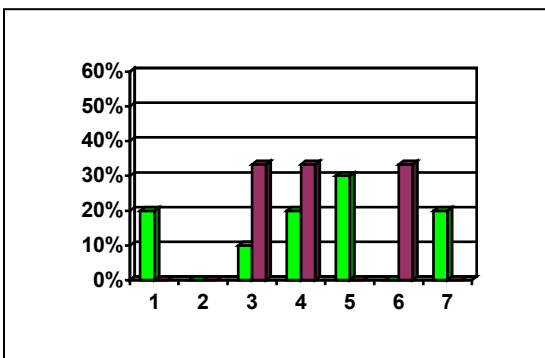


Figure 24. Lack of Accessible Route to the Table [(n = 10, age 18 and above), (n = 3, age under 18, answered by parents/caregivers)]



Cooking Grills (1 = not a problem, 4 = neutral, and 7 = major problem)

Some (about 40%) of individuals with physical disabilities rated there was not a problem for the height of the grill (3.27), lack of appropriate ground surfaces around the grill (3.27), lack of clear floor or ground spaces around the grill (3.27), and lack of appropriate ground slope around the grill (3.27) (Figures 25 to 28).

Figure 25. The Height of the Grill [(n = 11, age 18 and above), (n = 3, age under 18, answered by parents/caregivers)]

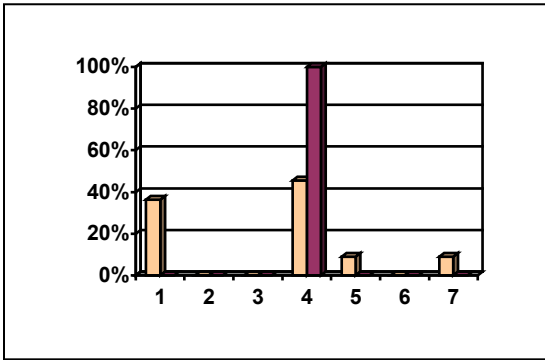


Figure 26. Lack of Appropriate Ground Surfaces Around the Grill [(n = 11, age 18 and above), (n = 3, age under 18, answered by parents/caregivers)]

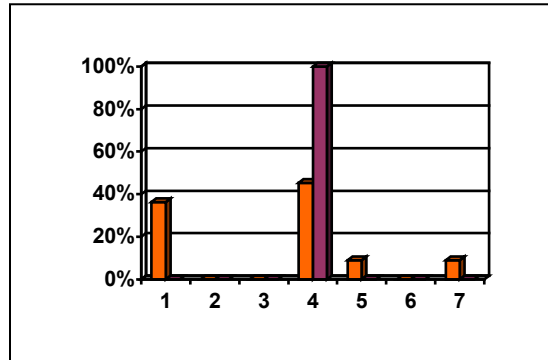


Figure 27. Lack of Clear Floor or Ground Spaces Around the Grill [(n = 11, age 18 and above), (n = 3, age under 18, answered by parents/caregivers)]

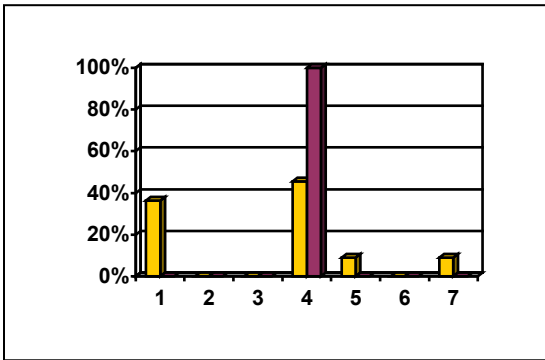
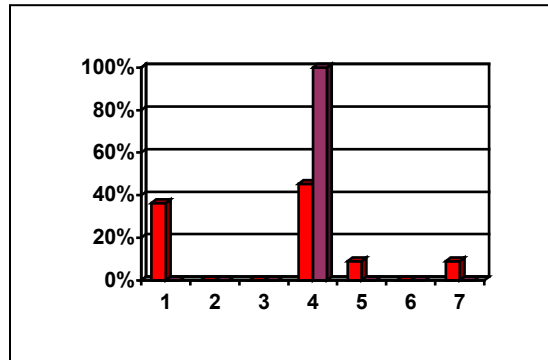


Figure 28. Lack of Appropriate Ground Slope Around the Grill [(n = 11, age 18 and above), (n = 3, age under 18, answered by parents/caregivers)]



Fire Rings (1 = not a problem, 4 = neutral, and 7 = major problem)

Some (20%) of individuals with physical disabilities rated there was not a problem for the height of the fire ring (3.78), lack of appropriate ground surfaces around the fire rings (3.67), lack of clear spaces around the fire ring (3.67), and lack of appropriate ground slope around the fire ring (3.67) (Figures 29 to 32).

Figure 29. The Height of the Fire Ring [(n = 9, age 18 and above), (n = 3, age under 18, answered by parents/caregivers)]

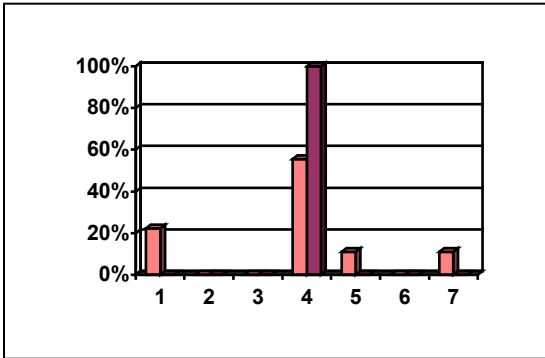


Figure 30. Lack of Appropriate Ground Surfaces Around the Fire Ring [(n = 9, age 18 and above), (n = 3, age under 18, answered by parents/caregivers)]

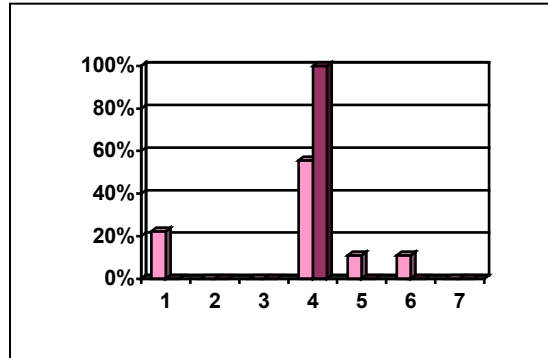


Figure 31. Lack of Clear Spaces Around the Fire Ring [(n = 11, age 18 and above), (n = 3, age under 18, answered by parents/caregivers)]

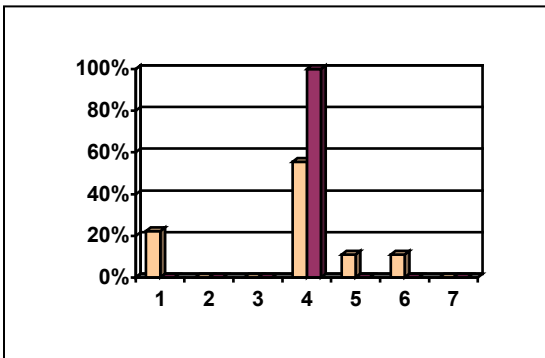
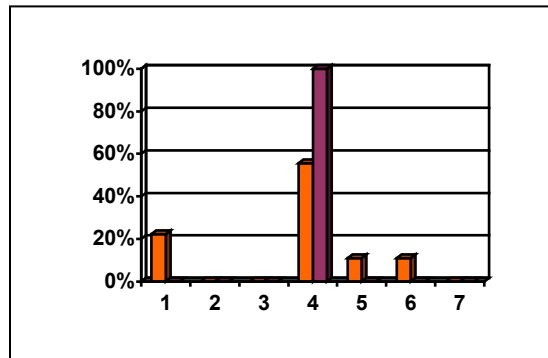


Figure 32. Lack of Appropriate Ground Slope Around the Fire Ring [(n = 11, age 18 and above), (n = 3, age under 18, answered by parents/caregivers)]



Elements for Hearing Impairments and Communication Accessibility (1 = not a problem, 4 = neutral, and 7 = major problem)

Visitors with hearing impairments (n = 1) indicated that the elements for hearing accessibility issues in the Park regarding lack of telephone volume amp (1), lack of assistive listening systems (1), lack of TTY (4), and lack of appropriate communication systems (1) were not a problem at all (Figures 33 to 36). All participants indicated that other elements for communication accessibility problems in the Park were lack of tactile maps (3.64) and lack of audio description (3.71) (Figures 37 to 38).

Figure 33. Lack of Telephone Volume Amp (n = 1)

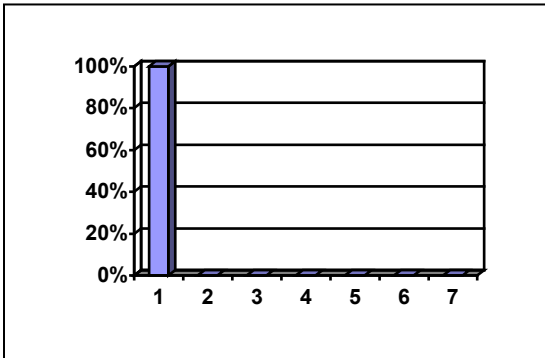


Figure 34. Lack Of Assitive Listening Systems (n = 1)

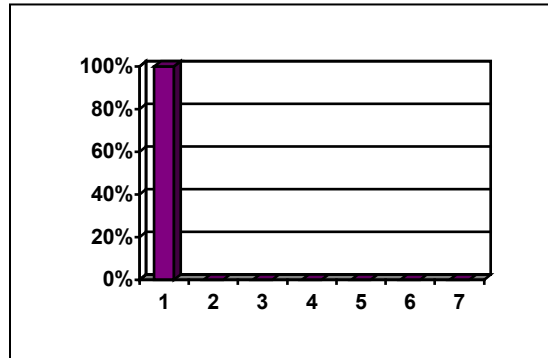


Figure 35. Lack of TTY (n = 1)

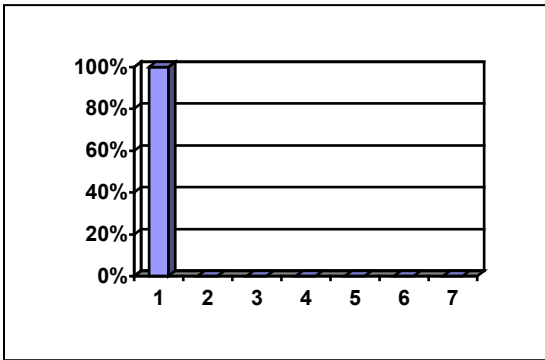


Figure 36. Lack of Appropriate Communication Systems (n = 1)

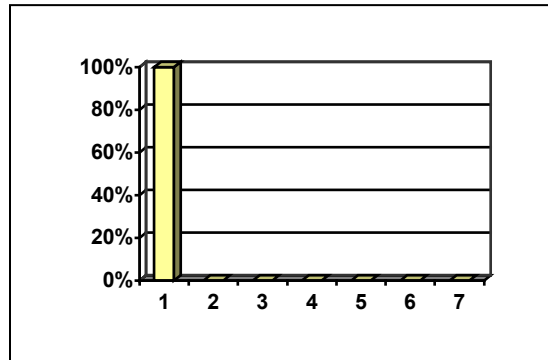


Figure 37. Lack of Tactile Maps (n = 14, answered by all respondents)

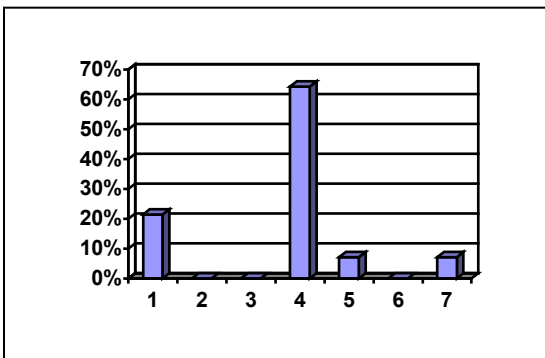
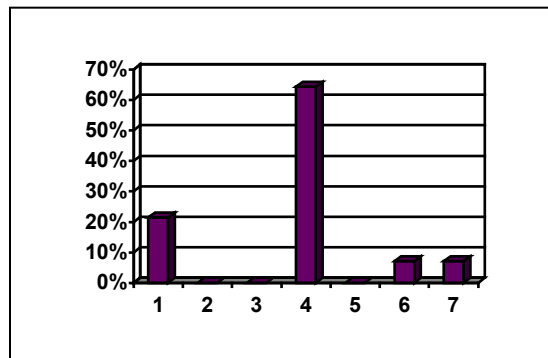


Figure 38. Lack of Audio Description (n = 14, answered by all respondents)



Question 3. Does the Park Have a TTY? (Hearing Accessibility Element)

Nineteen percent of total visitors with disabilities (n = 16) indicated that the park does not have a TTY and 81% indicated that they did not know if the park has a TTY. All 3 visitors with hearing impairments indicated that they did not know if the park has a TTY.

Question 4. At Least One Accessible Route of Travel to Each Park Facility or Program Element? (Physical Accessibility Element)

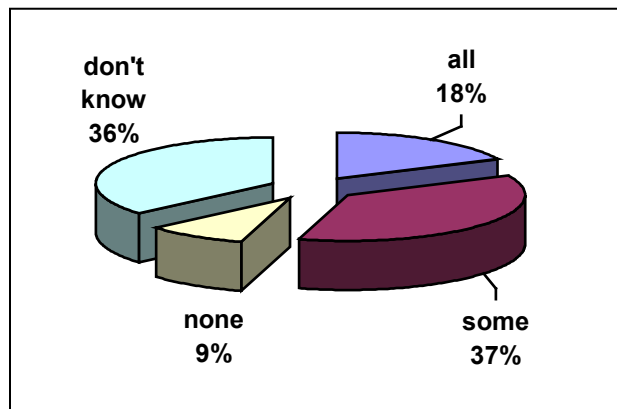
Twenty seven percent of total visitors (n = 15) with disabilities indicated that there is at least one accessible route of travel to each park facility or program element and 73% indicated that they did not know the answer.

Question 5. Do Park Parking Lots Provide Accessible Spaces? (Physical Accessibility Element)

Of 16 *all respondents*, 43% indicated that “some” park parking lots provide accessible spaces; 13% indicated that “all” park parking lots provide accessible spaces; 6% indicated that “none” of park parking lots provide accessible spaces; and 38% of respondents indicated that they did not know the answer.

Of 11 *visitors with physical disabilities*, 37% indicated that “some” park parking lots provide accessible spaces; 18% indicated that “all” park parking lots provide accessible spaces; 9% indicated that “none” of park parking lots provide accessible spaces; and 36% of respondents indicated that they did not know the answer (Figure 39).

Figure 39. Do Park Parking Lots Provide Accessible Spaces? (n = 11, by visitors with physical disabilities, age 18 and above)



Question 6. Audio Description Availability (Visual Accessibility Elements)

None of *all participants* indicated that audio description is available for “all” exhibit areas; 19% indicated that the audio description is available for “some” exhibit areas; 6% indicated that the audio description is not available for any exhibit areas; and 75% of respondents did not know the answer (Figure 40).

None of *all participants* indicated that audio description is available for “all” audio visuals; 20% indicated that the audio description is available for “some” audio visuals; 7% indicated that the audio description is not available for any audio visuals; and 73% of respondents did not know the answer (Figure 41).

Figure 40. Is Audio Description Available from Exhibit Areas? (n = 16)

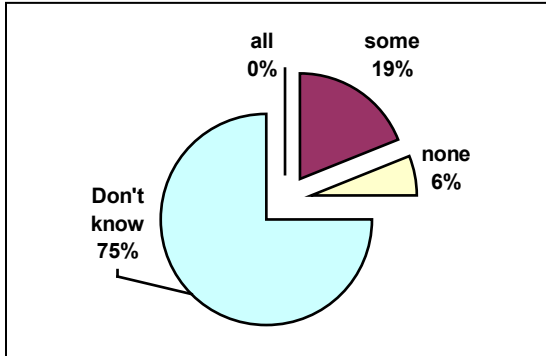
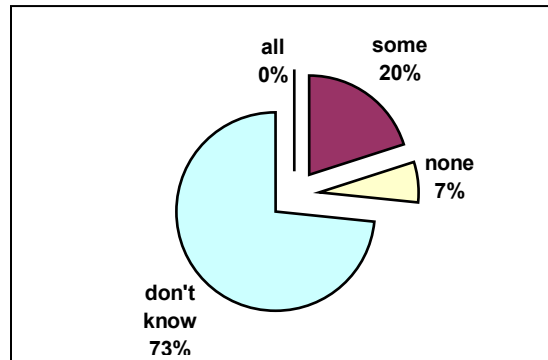


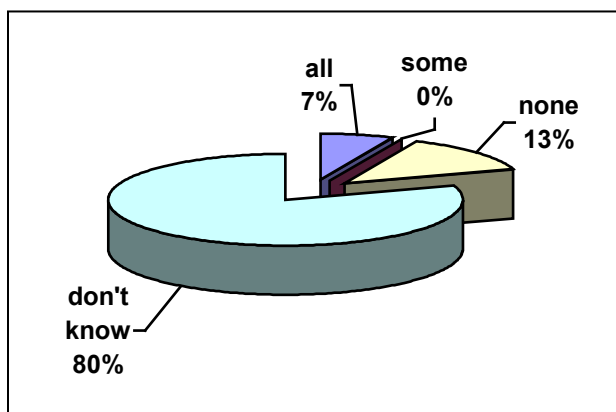
Figure 41. Is Audio Description Available from Audio Visuals? (n = 15)



Question 7. Maps in Some Tactile Form? (Visual Accessibility Element)

Seven percent of all respondents indicated that “all” provided maps are also available in some tactile form; none indicated that “some” provided maps are also available in some tactile form; 13% indicated that none of the provided maps is available in some tactile form; and 80% indicated that they did not know the answer (Figure 42).

Figure 42. Are Maps/Exhibits/Brochures Available in Some Tactile Form? (n = 15)



Question 8. Availability of Information on Park Accessibility. (General Accessibility Element)

Fifty percent of total respondents indicated that information on park accessibility was readily available. Thirty eight percent of respondents indicated that they were offered the information on park accessibility without asking for it. For those who asked for the information on park accessibility, park ranger station (10%), telephone call to the park (20%), visitor center (30%), and National Center on Accessibility (10%) were sources of information used on park accessibility (Table 3).

Table 3. Sources of Information on Accessibility used by the Visitors with Disabilities

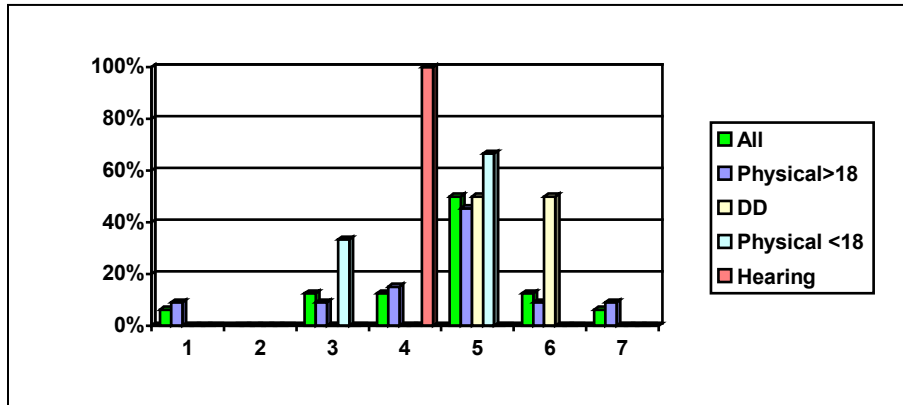
Sources of information on accessibility	Frequency	Percent (%)
Internet (n = 10)	0	0
Park ranger station (n = 10)	1	10
Phone call to the park (n = 10)	2	20
Visitor center (n = 10)	3	30
Disability resource center (n = 10)	0	0
National Center on Accessibility (n = 10)	1	10

Question 9. Overall Satisfaction Regarding Accessibility in Park?

The mean overall satisfaction to the accessibility in park was 4.6 (on a 1 to 7 scale) rated by all respondents (n = 16), 4.5 rated by visitors with physical disabilities (n

= 11, age 18 and above), 4.3 rated by parents/caregivers (n = 3) of kids with physical disabilities, 4 rated by visitors with hearing impairments (n = 2), and 5.5 rated by parents/caregivers (n = 2) of persons with developmental disabilities (Figure 43).

Figure 43. Overall Satisfaction Regarding Accessibility in Park (by types of disabilities)



[note: All = total visitors with disabilities (n = 16); Physical = visitors with physical disabilities (n = 11, age 18 and above); Hearing = visitors with hearing impairments (n = 2); DD = visitors with developmental disabilities (n = 2, answered by parents/caregivers); Physical <18 = parents/caregivers of kids with physical disabilities (n = 11)]

Questions 10 & 11 were open-ended and asked the participants to identify what they liked and disliked about the Mammoth Cave regarding accessibility in park. The general opinion of what individuals with disabilities (all respondents) liked about the park was “accessible trails”.

The general theme of what individual with disabilities (all respondents) did not like about the park was “non-accessible restrooms”.

Question 12. Revisit (Open-ended)

One hundred percent of respondents indicated that they would come back to visit the Park. The reason of revisits listed was “it’s a beautiful Park”.

Question 13. How the Park could be improved on accessibility? (Open-ended)

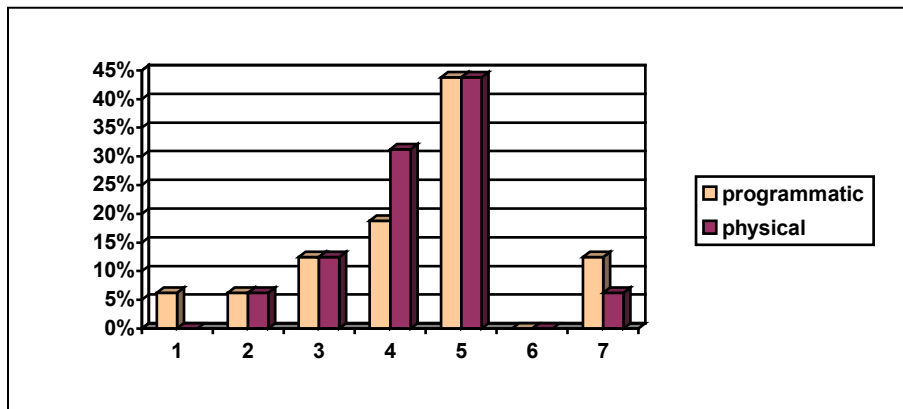
The general suggestion included “more funding budgets needed”.

Questions 14 to 15. Overall Perceptions of Accessibility

The mean overall perceptions of programmatic accessibility in park was 4.38 (on a 1 to 7 scale, 1 = not at all accessible, 4 = neutral, and 7 = completely accessible) rated by all respondents (n = 16), 4.27 rated by visitors with physical disabilities (n = 11), 4.33 rated by parents/caregivers (n = 3) of kids with physical disabilities, 5.5 rated by visitors with hearing impairments (n = 2), and 5 rated by parents/guardians (n = 2) of persons with developmental disabilities.

The mean overall perceptions of physical accessibility in park was 4.38 (on a 1 to 7 scale, 1 = not at all accessible, 4 = neutral, and 7 = completely accessible) rated by all respondents (n = 16), 4.27 rated by visitors with physical disabilities (n = 11), 4.33 rated by parents/caregivers (n = 3) of kids with physical disabilities, 4 rated by visitors with hearing impairments (n = 2), and 5 rated by parents/guardians (n = 2) of persons with developmental disabilities (Figure 44).

Figure 44. Overall Perceptions of Accessibility (programmatic access vs. physical access), n = 16

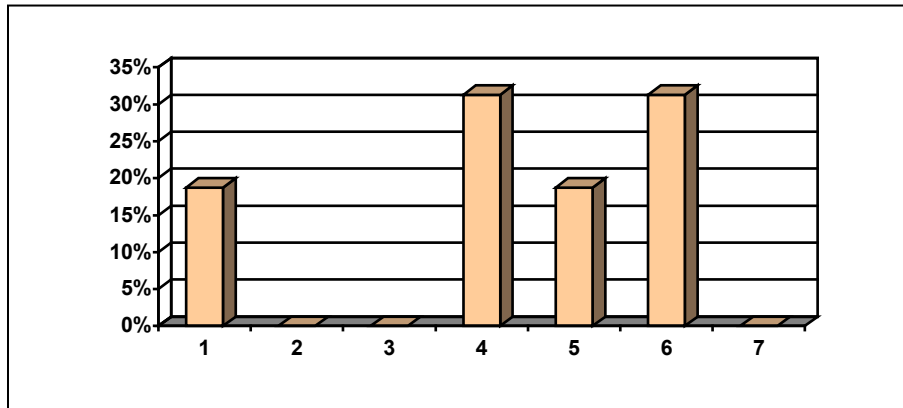


(note: programmatic = visitors' perception of the park's overall accessibility in regard to programmatic access; physical = visitors' perception of the park's overall accessibility in regard to physical access)

Question 16. Rating Personal Knowledge of Federal Accessibility Laws and Standards

The mean overall personal knowledge of federal accessibility laws and standards was 4.25 (on a 1 to 7 scale, 1 = not at all knowledge, 4 = neutral, and 7 = very knowledge) rated by all respondents (n = 16), 3.82 rated by visitors with physical disabilities (n = 10), 5 rated by parents/caregivers (n = 3) of kids with physical disabilities, 2.5 rated by visitors with hearing impairments (n = 2), and 5 rated by parents/guardians (n = 2) of persons with developmental disabilities (Figure 45).

Figure 45. Rating Personal Knowledge of Federal Accessibility Laws and Standards (n = 16, by all participants)



Question 17 Rating Programmatic Access (See Figure 46)

The mean overall programmatic access to people with physical disabilities was 3.67 (on a 1 to 7 scale, 1 = not at all accessible, 4 = neutral, and 7 = completely accessible) rated by all respondents (n = 15), 3.7 rated by visitors with physical disabilities (n = 10), 3.33 rated by parents/caregivers (n = 3) of kids with physical disabilities, 7 rated by the visitor with hearing impairments (n = 1), and 4 rated by parents/guardians (n = 2) of persons with developmental disabilities.

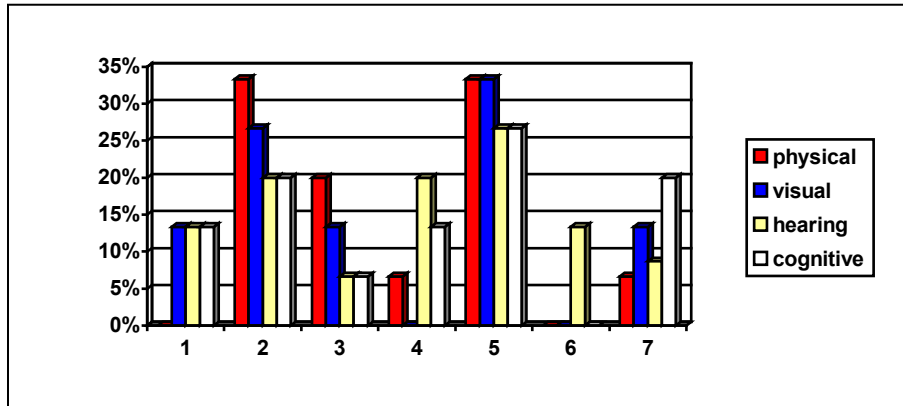
The mean overall programmatic access to people with visual impairments was 3.67 (on a 1 to 7 scale, 1 = not at all accessible, 4 = neutral, and 7 = completely accessible) rated by all respondents (n = 15), 3.8 rated by visitors with physical disabilities (n = 10), 3.33 rated by parents/caregivers (n = 3) of kids with physical disabilities, 7 rated by the visitor with hearing impairments (n = 1), and 3 rated by parents/guardians (n = 2) of persons with developmental disabilities.

The mean overall programmatic access to people with hearing impairments was 3.8 (on a 1 to 7 scale, 1 = not at all accessible, 4 = neutral, and 7 = completely accessible) rated by all respondents (n = 15), 4 rated by visitors with physical disabilities (n = 10), 3.33 rated by parents/caregivers (n = 3) of kids with physical disabilities, 7 rated by the visitor with hearing impairments (n = 1), and 3 rated by parents/guardians (n = 2) of persons with developmental disabilities.

The mean overall programmatic access to people with cognitive impairments was 4 (on a 1 to 7 scale, 1 = not at all accessible, 4 = neutral, and 7 = completely accessible) rated by all respondents (n = 15), 4.3 rated by visitors with physical disabilities (n = 10),

3.33 rated by parents/caregivers (n = 3) of kids with physical disabilities, 7 rated by the visitor with hearing impairments (n = 1), and 3 rated by parents/guardians (n = 2) of persons with developmental disabilities.

Figure 46. On a Park Wide Basis, How Would You Rate Programmatic Access to People with Physical Disabilities, Visual, Hearing, or Cognitive Impairments?



[note: physical = total respondents (n = 15) rating programmatic access to people with physical disabilities; visual = total respondents (n = 15) rating programmatic access to people with visual impairments; hearing = total respondents (n = 15) rating programmatic access to people with hearing impairments; cognitive = total respondents (n = 15) rating programmatic access to people with cognitive impairments;]

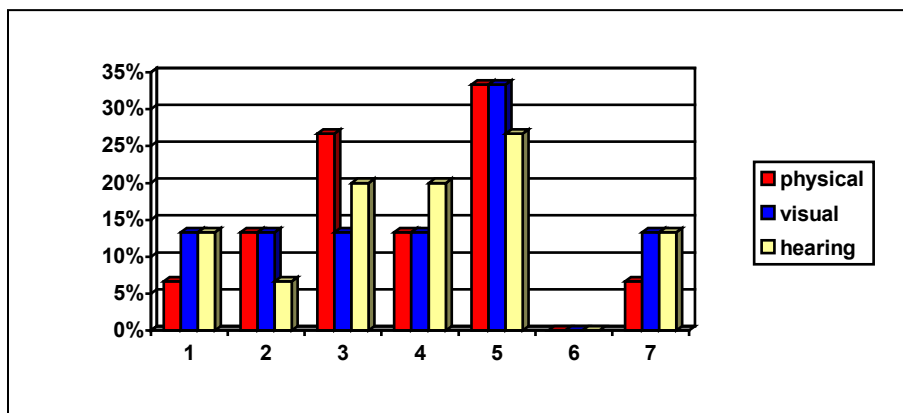
Question 18. Rating Physical Access (see Figure 47)

The mean overall physical access to people with physical disabilities was 3.8 (on a 1 to 7 scale, 1 = not at all accessible, 4 = neutral, and 7 = completely accessible) rated by all respondents (n = 15), 3.9 rated by visitors with physical disabilities (n = 10), 3.33 rated by parents/caregivers (n = 3) of kids with physical disabilities, 7 rated by the visitor with hearing impairments (n = 1), and 4 rated by parents/guardians (n = 2) of persons with developmental disabilities.

The mean overall physical access to people with visual impairments was 3.93 (on a 1 to 7 scale, 1 = not at all accessible, 4 = neutral, and 7 = completely accessible) rated by all respondents (n = 15), 4.3 rated by visitors with physical disabilities (n = 10), 3.33 rated by parents/caregivers (n = 3) of kids with physical disabilities, 7 rated by the visitor with hearing impairments (n = 1), and 3 rated by parents/guardians (n = 2) of persons with developmental disabilities.

The mean overall physical access to people with hearing impairments was 3.93 (on a 1 to 7 scale, 1 = not at all accessible, 4 = neutral, and 7 = completely accessible) rated by all respondents (n = 15), 4.3 rated by visitors with physical disabilities (n = 10), 3.33 rated by parents/caregivers (n = 3) of kids with physical disabilities, 7 rated by the visitor with hearing impairments (n = 1), and 3 rated by parents/guardians (n = 2) of persons with developmental disabilities.

Figure 47. On a Park Wide Basis, How Would You Rate Physical Access to People with Physical Disabilities, Visual, Hearing, or Cognitive Impairments?



[note: physical = total respondents (n = 15) rating physical access to people with physical disabilities; visual = total respondents (n = 15) rating physical access to people with visual impairments; hearing = total respondents (n = 15) rating physical access to people with hearing impairments]

Question 19. Primary Challenges (Open-ended)

Respondents were asked to identify three primary challenges encountered in making the park more accessible. The primary challenge identified was more accessible parking spaces. The second most common response was more accessible restrooms.

Travel Behaviors of Visitors with Disabilities

Trip characteristics such as planning time, traveling distance, and lodging can provide a good foundation for future marketing and promotional decisions. The following section also provides demographic profiles of respondents (including visitors with disabilities, caregivers/parents of visitors with developmental disabilities, and parents of kids with disabilities).

Planning Time

Fifty three of respondents made their trip decision to visit the park on the day of the trip. Twenty six percent of respondents made their trip decision to visit the park less than 1 week in advance. This is followed by those indicating that the trip decision was made 1 month but within 3 months (7%) and 1 week but within 2 weeks (7%) in advance (Table 4).

Table 4. How Far in Advance the Trip was planned? (n = 15)

Trip Planning Time	Frequency	Percent (%)
The same day	8	53
Less than one week	4	26
1 week but < 2 weeks	1	7
2 weeks but < 1 month	1	7
1 month but < 3 months	1	7
> 3 months	0	
<u>Total</u>	<u>15</u>	<u>100</u>

Number of nights Spent Away From Home

Forty three percent of respondents to the Park did not spend any night away from home. Of those visitors who did spend nights away from home, 43% spent 1 to 2 nights away from home and 14% spent 3 to 4 nights away from home during their trip.

Distance Traveled

In order to determine how far visitors travel to visit the Mammoth Cave National Park, visitors were asked how far, in miles they traveled from their home origin to the Park. These distances were broken down into more general categories, as shown in Table 5. Seventy six percent of the visitors traveled between 20 and 50 miles, 16% traveled between 300 and 499 miles, and 8% traveled between 100 miles and 299 miles.

Table 5. Nights and Miles

Trip Characteristic	Percent (%)	Trip Characteristic	Percent (%)
Nights (n = 7)		Distance Traveled (n = 12)	
0 night	43	20 – 50 miles	76
1 night	14	100 - 299 miles	8
2 nights	29	300 – 499 miles	16
3 nights	0	500 miles and above	0
4 nights	14		
5 nights and above	0		
<u>Total</u>	<u>100</u>	<u>Total</u>	<u>100</u>

Sources of Information Used for Planning the Trip

The most common sources of information used while planning trips were relatives (44%), friends (22%), the previous experience (17%), and local tourist offices (17%) (Table 6).

Table 6. Sources of Information Used for Planning the Trip

Sources of information on accessibility	Frequency	Percent (%)
Automobile clubs (n = 18)	0	0
Previous experience (n = 18)	3	17
Attraction brochures (n = 18)	2	11
Commercial guidebooks (n = 18)	2	11
Relatives (n = 18)	8	44
Friends (n = 18)	4	22
Local tourist offices (n = 18)	3	17
State tourism offices (n = 18)	0	0
State highway maps (n = 18)	0	0
Magazine ads/articles (n = 18)	0	0
Newspaper ads/articles (n = 18)	0	0
Television (n = 18)	2	11
Internet (n = 18)	0	

Types of Travel Group

Majority (50%) of respondents indicated that they traveled with their family during the park visit, 44% indicated that they traveled with their family and friends, and 6% indicated that they visited the Park with church groups (Table 7).

Table 7. Types of Travel Group (n = 16)

Types of Travel Group	Frequency	Percent (%)
Family	8	50
Friends	0	0
Family & friends	7	44
Church group	1	6
<u>Total</u>	<u>16</u>	<u>100</u>

Types of Lodging

Forty percent of visitors with disabilities stayed in the campground, and 30% stayed with friends/relatives (Table 8).

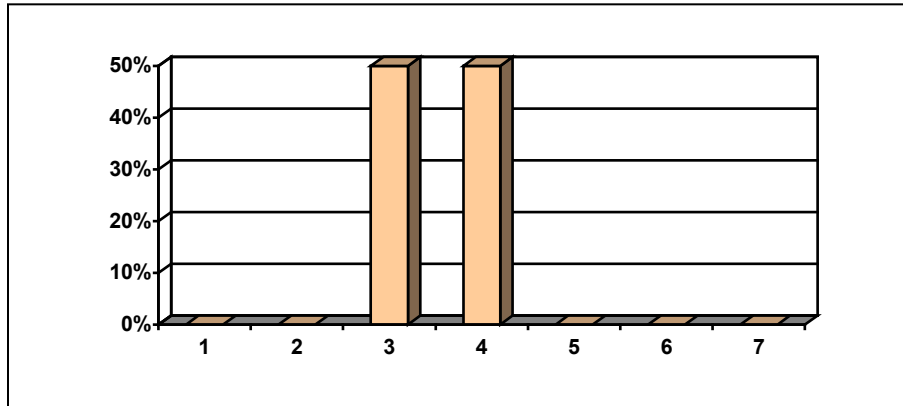
Table 8. Types of Lodging (n = 10)

Trip of Lodging	Frequency	Percent (%)
Hotel	1	10
Motel	1	10
Campground	4	40
With friends/relatives	3	30
Condominium	0	0
Resort	0	0
Cottage/cabin	0	0
Other	1	10
<u>Total</u>	<u>21</u>	<u>100</u>

Staying in the Park

Thirteen percent of participants indicated that they have stayed in the park during their trip. Respondents indicated an average rating of 3.5 (on a 1 to 7 scale, 1 = very dissatisfied, 4 = neutral, 7 = very satisfied) for the effectiveness of the park's reservations system for camping and/or other lodging.

Figure 48. Rating the Effectiveness of the Park’s Reservations System for Camping and/or Other Lodging (n = 2, by all visitors with disabilities who stayed in the park)



Activity Engagement

The activities most frequently participated in by visitors were having a picnic (72%), visiting a historical site (50%), a visitor center (28%), a scenic area (28%), and visiting a trail (22%) (Table 9).

Table 9. Activity Engagement

Types of Activities	Frequency	Percent (%)
Camping (n = 18)	2	11
Visiting a historical site (n = 18)	9	50
Visiting a scenic area (n = 18)	5	28
Boating (n = 18)	0	0
Having a picnic (n = 18)	13	72
Hiking (n = 18)	2	11
Attending the amphitheater program (n = 18)	1	6
Fishing (n = 18)	1	6
Visiting a museum (n = 18)	1	6
Visiting trails (n = 18)	4	22
Visiting a visitor center (n = 18)	5	28
Other (n = 18)	0	0

State of Origin

The majority of visitors with disabilities (85%) traveled from within Kentucky.

Gender and Age

Of the total respondents who indicated their gender, 53% were female, while 47% were male. The average age of respondents was 39 years.

Education Level

Forty two percent of the respondents indicated that they have two years of college, followed by those indicating that they have some college (18%) and some graduate school (18%). Of the remaining total respondents, 12% have a high school diploma and 12% have less than a high school diploma (Table 10).

Table 10. Education Level (n = 17)

Education	Frequency	Percent (%)
Grade school	1	6
Some high school	1	6
High school diploma	2	12
Some college	3	18
Two years college	7	42
Some graduate school	3	18
Master degree	0	0
<u>Total</u>	<u>17</u>	<u>100</u>

Occupations

The most common occupations of respondents were production/craft/repair (30%) and managerial/professional (30%), while the most common occupation of respondents' spouses was retired (67%).

Income

Twenty three percent of respondents indicated a household income of \$60,000 to \$69,999, 15% indicated a household income of \$50,000 to \$59,999, 15% indicated a household income of \$30,000 to \$39,999, and 23% indicated a household income of under \$10,000 (Table 11).

Table 11. Income (n = 13)

Income	Frequency	Percent (%)
Under \$10,000	3	23
\$10,000 - \$19,999	2	15
\$20,000 - \$29,999	0	0
\$30,000 - \$39,999	2	15
\$40,000 - \$49,999	1	8
\$50,000 - \$59,999	2	15
\$60,000 - \$69,999	3	23
\$70,000 - \$79,999	0	0
<u>Total</u>	<u>13</u>	<u>100</u>

Motivations/Benefits

The benefits most important to visitors with disabilities were to observe the beauty of nature (5.5 on a 1 to 7 scale) and to reduce anger, tension, and frustration (5.5). The least important benefits were to enhance social interactions (4.8) and to decrease sleep disturbance (4.9).

Discussion

Several studies have been written about the trip characteristics of state/national park users. However, very little has been done about the behaviors, perceptions, motivations, and expectations of park visitors with disabilities. During spring (2001), the National Center on Accessibility/National Park Service sponsored a study of national park unit visitors with disabilities that was designed to assess the perceptions of people with disabilities relative to program and physical accessibility in the National Park Service.

The uniqueness of this project is that it 1) provides a comprehensive survey instrument which could be transferable to other related accessibility study in city/state/national parks and 2) represents the first time focusing on the perceptions and expectations of visitors with disabilities regarding the accessibility in individual national park units. However, several concerns and suggestions are listed below:

- The findings discussed above (in result sections) indicate the pilot-test results only. Like all surveys this study has limitations. Due to the purpose of this project and budget/time constraints, this report interprets the data with a sample size of less than 30 for each selected national park unit. Caution is advised for the results may be unreliable. Data collection for the individual selected national park unit needs to be continuing, and additional benefits of this project will be realized following the analysis of these data.
- In this study, specific questions have been broken down into categories of disabilities of park users (for example, all elements that need to be accessible by people with physical impairments, all elements that need to be accessible by people with hearing impairments or who are deaf, and all elements that need to be accessible by people with visual impairments). For future related studies, researchers need to continue to make sure that only those who use the specific elements are answering each question. For instance, someone with a physical disability would not have use for audio described or captioned video.
- This report summarizes the findings of the perceptions, expectations, participations, motivations, and behaviors of people with disabilities toward their visits at the five national park units. In order to further understand accessibility in the National Park Service, future research may consider collecting these patterns and attitudes from people with and without disabilities of various national park units (national parks, national historical sites, national parkways, and national monuments) at state, regional, and/or national wide levels.

Reference

Chen, R. J. C. (2001). "Comparing Forecasting Models in Tourism", International Society of Travel and Tourism Educators (ISTTE).