STAKEHOLDER PERSPECTIVES ON INTERPRETIVE SIGNAGE AT CLAUDE MOORE PARK

by

Bobby Colicci

A Project
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of
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Date: _____ Spring Semester 2018
George Mason University
Fairfax, VA

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I would like to thank my committee for their multitude of edits and helping me as I struggled through the process of coherent writing.

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LIST OF ABBREVIATIONS AND/OR SYMBOLS

Quick Response Code ..... QR code
Uniform Resource Locator .....URL

ABSTRACT

STAKEHOLDER PERSPECTIVES ON INTERPRETIVE SIGNAGE AT CLAUDE MOORE PARK

Bobby Colicci, M.S.

George Mason University, 2018

Project Director: Dr. Brenda Wiggins

Signage is a often used media in providing information to park visitors. This study evaluated the visitors at Claude Moore Park in Sterling, VA regarding their interest in the signage currently in the park and their suggestions for improvements that they would like to see. The information was also used to provide input on technological improvements proposed by the park itself.

It was found that signage in the park was looked for by almost all visitors who entered the park. Locational information was found to be the most sought after, followed by general and interpretive information. It was also discovered that while there is interest in technological accompaniments, most people prefer signs with photos and text. It was further determined that the signs in Claude Moore Park are not up to standards of visitors and are due for improvements.

INTRODUCTION

Claude Moore Park is a 357-acre public amenity located in Sterling, VA, that comprises both passive and active recreational areas. The park is run by Loudoun County Parks, Recreation, and Community Services. A Visitor Center is located within the park and houses environmental and historic displays, and general information for the public. It is also home to multiple native animals with which the public can interact. The park includes 11 miles of hiking trails which intertwine throughout the forested areas and around the 3 acres of manmade wildlife ponds (see Figure 1). One section of the park contains multiple sports fields for use by youth leagues along with a Recreation Center, Community Center, and Farm Museum. The park is also home to a historic district which contains a circa 1779 farm house, 1800s school house, and a large stretch of one of the first colonial highways.

Both environmental and historical programming are offered by the park staff throughout the entire year, including excursions, open houses, and large events (e.g., 4th of July Celebration, Fall Festival). The park is open to the public daily from 7am until sunset; as such there is a considerable amount of self-guided use. Due to the large variety of activities, points of interest, sports fields, and recreational facilities available, signage is very important to park visitors. There are different types of signs used in the park (see Figure 3), and these signs are a powerful communication medium and the most important

tool for wayfinding (Barclay & Scott, 2012). The signage can also be used to inform visitors of expected behavior, remind visitors of important rules, and reduce damage to natural and cultural resources (Winter, 2008). Interpretive signs can provide consistent information, mark designated objects of interest, and offer larger and more communal information display areas than a brochure (Wandersee, & Clary, 2007). Additionally, warning signs provide information about foreseeable, yet hidden, hazards on the premises (Kozlowski, 1988).

There are two entrances to the park. The southern entrance (Loudoun Park Lane) leads to the more active recreational side (e.g., Sports Fields, Recreation Center), while the north entrance (Old Vestals Gap Rd) leads to the more passive recreational side (e.g., Visitor Center, trail heads). This project will focus on the passive recreational side of Claude Moore Park which houses the historic district, trail heads, Visitor Center, and Nature Center (see Figure 3). The park staff wants to provide readily available information on these natural and historic areas to park visitors. While the Visitor Center has materials available, it is only open from 9 am – 5 pm and is not centrally located. As a result, interpretive signage is predominantly used for information delivery throughout the park.

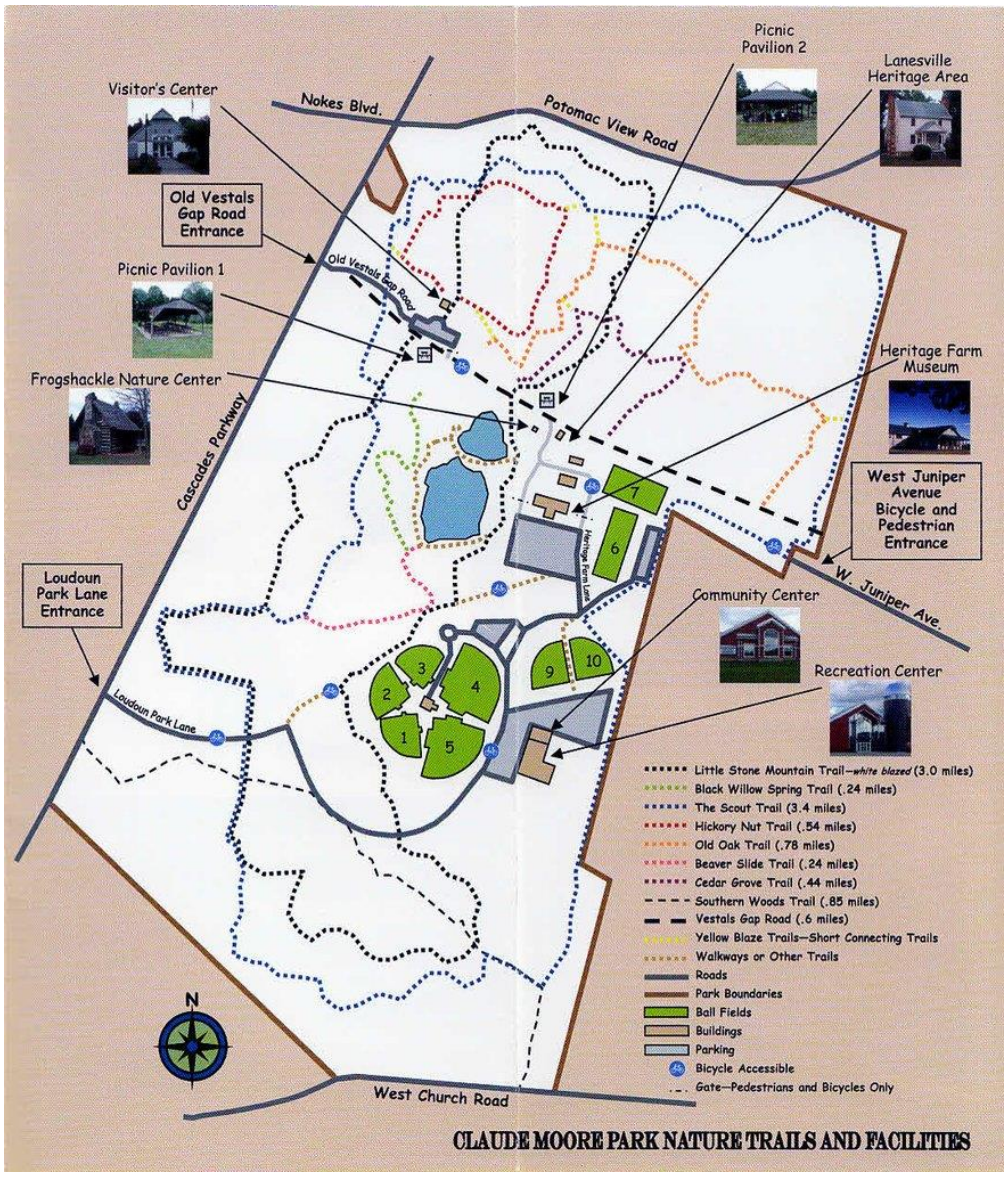
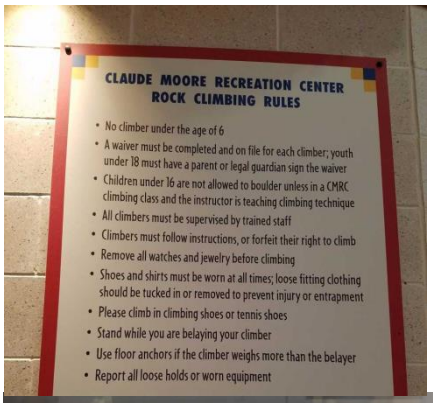


Figure 1: Claude Moore Park Map (Claude Moore Park, 2017)

General



Warning

Wayfinding

Interpretive

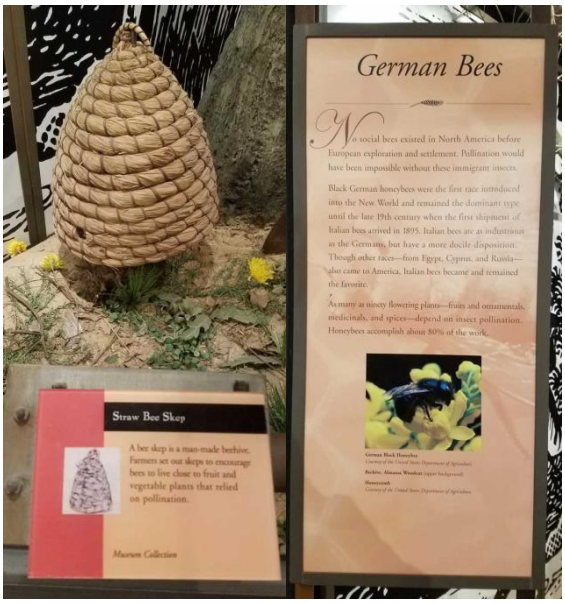


Figure 2: Examples of Signage (Claude Moore Park and Heritage Farm Museum, 2017)

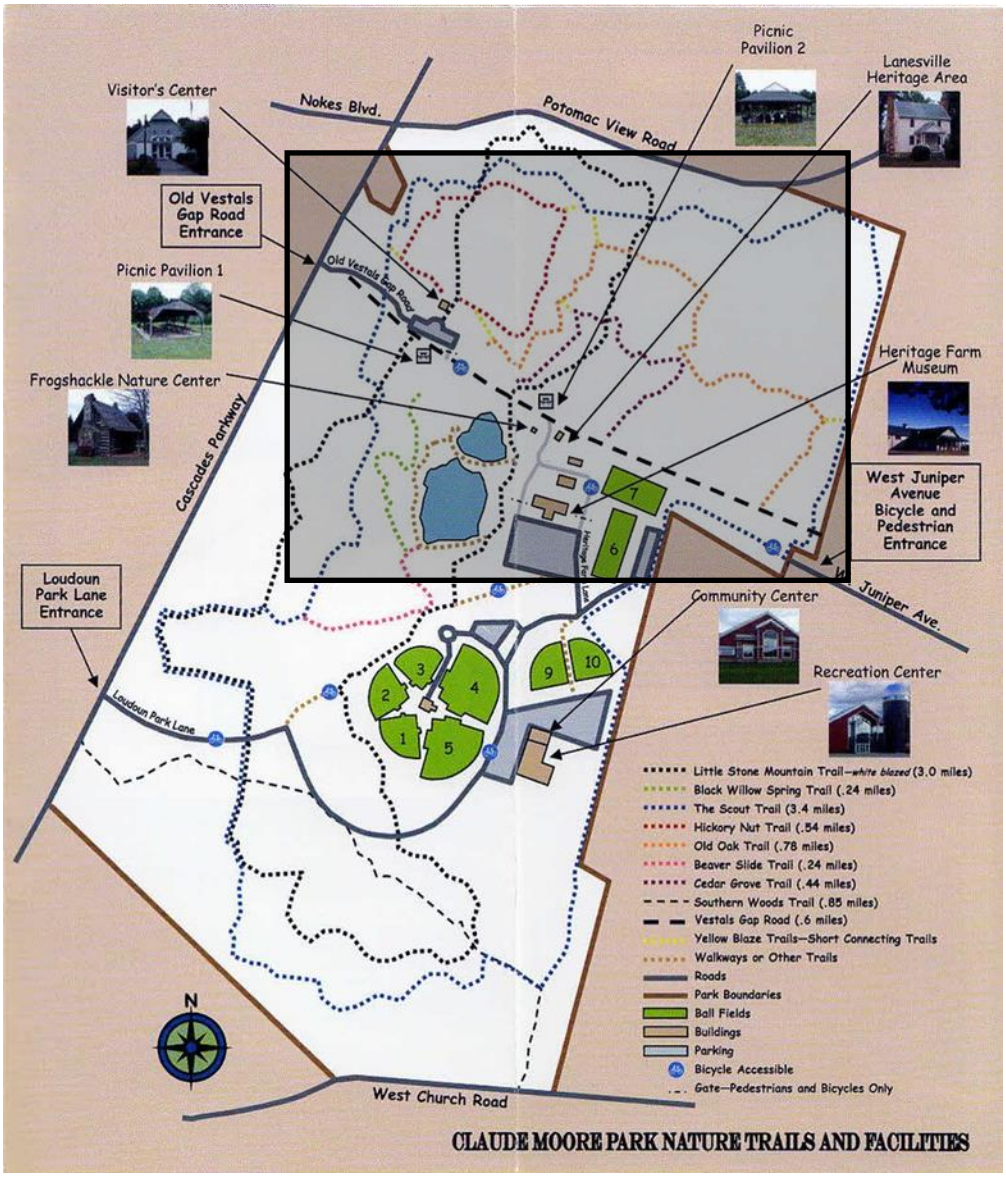


Figure 3: Passive Recreational Area of Claude Moore Park (Claude Moore Park, 2017)

The use of interpretive programs, pamphlets, and signage is common practice in most parks, zoos, and museums throughout the world, is. There is a range of interpretive media available from which park managers can choose (Wolf et al., 2013). These include

audiovisual products, signage, publications, and personal services. Many parks try to use a combination of different interpretive media. Claude Moore Park generally uses publications, signage, and personal programs (Figure 4).

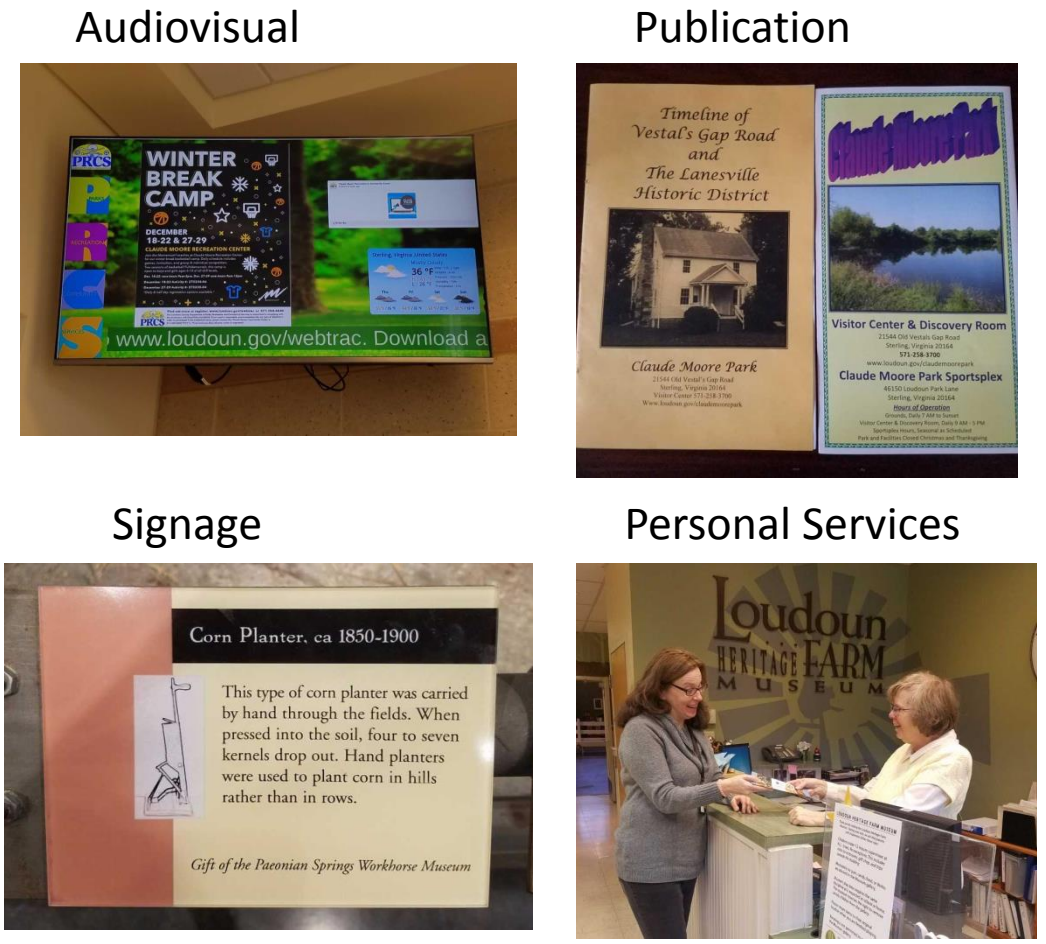


Figure 4: Examples of Interpretive Media Types (Claude Moore Park and Heritage Farm Museum, 2017)

Currently, a majority of the interpretive signs within the park are 10 to 20 years old. These signs are neither well-kept nor are they on a maintenance schedule. These signs are extremely wordy and hard to read. Some new information on the historic sites has also been discovered since the signs were installed, therefore, the signage is often erroneous or incomplete (Figure 5). It was decided by the park manager that the current signs should be evaluated and potentially updated.

A native tree trail is also being designed and will enhance the amount of interpretive signage focused on the natural habitat. The use of quick response (QR) codes to add audio and visual accompaniments are proposed for the native tree trail along with a virtual tour of the historic buildings. QR codes are two-dimensional bar codes that contain alphanumeric text and often feature URLs (i.e., website address) that direct users to sites where they can learn more about a certain object or place. Decoding software on smart phones interprets the code (Lee, et al., 2011).

The purpose of this project is therefore to evaluate stakeholder use, knowledge, and attitudes regarding their visit to Claude Moore Park, focusing on the value of signage, in order to provide suggestions and visitor experience improvements.

Figure 5: Samples of Current Interpretive Signs at Claude Moore Park (Claude Moore Park, 2017)

LITERATURE REVIEW

Scientists, educators, naturalists, historians, and writers have used interpretive techniques to effectively teach for quite some time (Brockman, 1978). Studies have shown that people actively engage with interpretive media (Wolf et al., 2013). Therefore, it is important to understand the different media options that are available, their impact on visitors, and their overall effectiveness of relaying important information.

A study of the impact of available interpretive media devices was conducted at Bradleys' Head Walking Trail in Sydney Harbour National Park, Australia (Wolf et al., 2013). The trail leads visitors to iconic and internationally significant Aboriginal and European heritage sites and provides insights into Australian naval history. A tour was developed to include modern media such as audio tours and GPS tracking along with pamphlets and signage. The researchers found that visitors who used interpretive media devices stopped more frequently along the trail and for longer periods of time. It was also discovered that of all of the media types used, signage held a greater attracting power (Wolf et al., 2013). While modern media enhanced the experience, overall signage was the dominant interpretive device.

Visitors often spend less than 40 seconds at a particular display (Colburn, 2008) and a maximum of 25 seconds reading text on signs (Cole et al., 1997). In addition, signs with more than two separate messages appear to cause information overload (Cole et al.,

1997). Researchers in the Valley of the Giants, within the Walpole-Nornalup National Park near the south coast of south-western Australia, examined the impact of less wordy interpretive signs on visitor knowledge (Hughes & Morrison-Saunders, 2002). These signs contained a maximum of 50 words to ensure reading time was less than 25 seconds. The authors reported that all visitors acquired a significant level of knowledge as a result of experiencing the site, and the number of visitors indicating a fulfilling learning experience after visiting the site was significantly increased (Hughes & Morrison-Saunders, 2002).

"It is a maxim of contemporary science education that less is more, if the less is carefully chosen" (Wandersee & Clary, 2007, p. #19). Wandersee and Clary (2007) performed an in-depth content analysis of the Mississippi State University Crosby Arboretum's trailside signage system. Based on the results of the study, the researchers recommended that signs should have no more than 70 words, eight-word average sentences, eighth grade reading level, one main topic per sign, invite visual comparison and contrast, promote critical thinking and meaning making, and represent the voices of a variety of stakeholders.

Signs are a useful interpretive tool. In order to design effective signage, best practice states one must first get to know the audience (Wharf Higgins, et al., 2015). At Claude Moore Park, this would primarily be local residents and tourists. It is therefore essential to understand their perspectives and preferences since these signs should not only transmit information, but stimulate meaning-making reflections for visitors (Wharf Higgins, et al., 2015). The role as an agent of education carries with it certain obligations

to the multifaceted public including audience diversity, audience needs, and diversity of perspectives (Professional Standards for Museum Educators, 1989).

Mackintosh (1987) stated that historical parks need interpretation more than natural and recreational parks. This information is very site specific and must be factual and engaging. A simple "this is" label will not do when presenting historic materials. According to Schell (1985), simply naming an item or area is largely ineffective. Taking this into account, evaluating what information is of historic importance and what would be of interest to the public is important. Managers must understand that this is a process that should be implemented with planning and forethought.

According to Moscardo, et al. (2007), one should follow six major principles when designing signs.

1. Interpretation must make a personal connection with, or be relevant to the intended audience
2. Interpretation should provide or encourage novel and varied experiences
3. Interpretation should be organized with clear, easy to follow structures
4. Interpretation should be based on a theme
5. Interpretation should engage visitors in the learning experience and encourage them to take control of their own learning
6. Interpretation should demonstrate an understanding of, and respect for the audience

METHODS

The overall purpose of this project was to evaluate stakeholder use, knowledge, and attitudes regarding their visit to Claude Moore Park and the value of signage, in order to provide suggestions and visitor experience improvements. To start, evaluations were conducted involving the solicitation of feedback from a sampling of park visitors, volunteers, and staff. Questions were the same for both staff members and park visitors.

Evaluations

The purpose of the initial evaluation was to gather information on the visitor experience at Claude Moore Park and, specifically, their use of and attitudes toward signage. The survey instrument was created by this researcher in conjunction with the Park Manager. Patrons who entered the Visitor Center along with those visiting the historic area were randomly selected to participate in the evaluation. All were told that participation (including completion of the survey instrument) was voluntary. Some questions were open ended, in order to gain qualitative information such as one's personal thoughts and ideas (See Appendix A).

A one-hour period was randomly chosen by this researcher daily for two weeks. During this one-hour period, the researcher toured the grounds in a park vehicle and approached all park patrons to participate. Additionally, while the Visitor Center was open (9 am-5 pm), patrons were asked complete the survey instrument. Data were compiled to look for patterns in the responses. The intent of this data collection was to

gather information from Claude Moore Park stakeholders for use in a sign improvement project. Information on non-interpretive signs was compiled and set aside for future projects.

Proposed Sign Improvements

A Native tree trail is proposed to include small signs, QR codes, and a companion guide (See Appendix B). The purpose of using these three modes of interpretation is to provide patrons multiple ways to receive the information. Not everyone will be interested, or capable, of using the QR codes as they require the visitor to use smart phones or other types of QR code readers. For this reason, the companion guide will be created with similar information, albeit not as much as the QR codes would supply. The reason for the proposed implementation of QR codes is to include a more effective compact storage tool that contains the same information provided in an illustrated guidebook. Quick response codes are extremely affordable and can be printed on stickers for temporary teaching materials (Lee, et al., 2011). The information led to by the QR code can also be changed whereas a sign is permanent and expensive to replace.

As it is recognized that individuals spend no more than 25 seconds viewing a sign (Cole, et al., 1997), the tree signs are proposed to have a small amount of information; specifically, signs will include the name of the tree, a representation of the leaf shape, a number (to correspond with the companion guide), and the QR code. The QR code will lead to an internet site with more details about the specific native tree displayed. The companion guide will also house information but with fewer pictures and examples due to space constraints.

The last proposed improvement is a sign including QR codes that will lead to a video tour of the Lanesville House, a historic 1779 farmhouse. This house is only open one weekend a month and during special events/programs. Visitors are interested in the inside of the house, but hours are limited due to a lack of available staff to keep it open beyond current schedule. The QR code is planned to be placed on a sign for those who would like a brief preview and video tour of the site. The video tour will include audio so information about the house can be conveyed as well. Multiple QR codes are proposed for specific rooms of the house. No more than three videos are planned for creation. Each video will be no more than 30 seconds long so as not to overload the viewer.

This evaluation will help to decide if more technological accompaniments will be considered when making signage improvements within the park as well as if the proposed improvements are a good idea to implement. The data from evaluations and review of signage will be considered when developing the plan for what should be done with signage at Claude Moore Park. This will be discussed among park staff and administration after the completion of this project.

RESULTS

A total of 60 patrons and staff were surveyed during the two week period chosen (August 13-27, 2017). Of these, a majority (78.3%) were from the surrounding area (e.g., Sterling, Ashburn, Cascades), a few (11.6%) came from other locations in the county (e.g., Leesburg, Purcellville), and the least (9.9%) from outside the county (Gainesville, Haymarket), or Maryland (Table 1).

Table 1: Visitor Location of Residence

Zip Code	Totals	Percentages
Sterling, VA 20164	23	38.3%
Potomac Falls, VA 20165	13	21.7%
Brambleton, VA 20148	8	13.3%
Leesburg, VA 20175	3	5%
Ashburn, VA 20147	2	3.3%
Purcellville, VA 20132	2	3.3%
South Riding, VA 20152	2	3.3%
Reston, VA 20191	2	3.3%
Eldersburg, MD 21784	2	3.3%
Gainesville, VA 20155	2	3.3%
Dulles, VA 20166	1	1.7%

The average length of time respondents were in the park during this visit was 3 hours. A majority of the visitors surveyed (85%) stated they visited between one to four hours: 6.7% stayed six hours and 8.3% stayed eight hours. The frequency of these visits to Claude Moore Park varied from one to thirty visits per month (average of 11.5 visits). Three and ten times a month were the most represented at 13.3% each, followed by 10% of those who visited four times a month. Five percent stated that their visit times varied each month.

Overall, a majority of visitors indicated that they came to the park for relaxation (61. 7%), hiking (60%), and nature (56.7%) (Table 2). Other reasons of note were sports (40%), programs (36.7%), exercise (33.3%), and picnicking (30%). Several visitors did mention visiting the park for other activities such as Pokémon Go (5%) and work (10%).

Table 2: Visitor Activity Engagement

Activities	Total	Percentages
Relaxation	37	61.7%
Hiking	36	60%
Nature	34	56.7%
Sports	24	40%
Programs/Events	22	36.7%
Exercise	20	33.3%
Picnicking	18	30%
Historic Sites	17	28.3%
Bird Watching	14	23.3%
Fishing	6	10%
Work	6	10%
Environmental Education	5	8.3%
Pokémon Go	3	5%
Rec Center	1	1.7%

Note: Respondents were able to select all that apply, therefore percentages do not total 100

Park Signage Use

When respondents were asked if they seek out park signage, it was found that only five percent disagreed (see Table 3). Park signage was clearly a source of interest to a majority of visitors (67%). There was great variation in opinion regarding visitor satisfaction with park signage: the majority of visitors (51.7%) was satisfied with park signage (16. 7% strongly agreed and 35% agreed) whereas 25% expressed dissatisfaction (10% disagreed and 15% strongly disagreed) and 23.3% were neutral. This raises some

concern regarding satisfaction with available signage. Nearly half of respondents (48.3%) seemed to read all information presented on the signs in Claude Moore Park. Only 15% disagreed that they had read all information. Over two-thirds of respondents (66.6%) claimed interest in signs that are part of a self-guided tour. A total of 23.3% strongly agreed and 43.3% agreed that they would be more inclined to use them, whereas 21.7% were neutral, 10% disagreed, and only 1.7% strongly disagreed.

Table 3: Use of Park Signage (n = 60)

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Average
I seek out Park Signage	36.7%	30%	28.3%	5%	0%	2.0
I am satisfied with the signage in the park	16.7%	35%	23.3%	10%	15%	2.7
I read all the information on the signs	21.7%	26.67%	36.7%	15%	0%	2.5
I am more inclined to read a sign that is part of a self-guided tour	23.3%	43.3%	21.67%	10%	1.67%	2.2

Note: Scale ranges from strongly agree (1) to strongly disagree (5); the lower the average, the higher the level of agreement

Sign Type, Content, and Media Interest

Respondents were asked via an opened ended question whether there were types of signs that they found obtrusive or visually displeasing. The majority of respondents (63.3%) failed to answer. For those that did respond, some shared displeasure with signs

that were not maintained, ugly, too wordy, or too large. A common theme among the responses was how the content was presented (Table 4).

Table 4: Visitor Attitudes Toward Signage

Response	Total
Unmaintained	7
Ugly	6
Too Wordy	5
Too Large	4
Too Many	3
Hard to Read	2
Obsolete	1
Flashing/Neon	1
Impolite	1
Brown	1
Uninformative	1
Negative	1
Billboards	1
Sloppy	1
No Response	38

Respondents were asked, via an open ended question, what kind of information they considered to be important on park signage. Responses were broken down into three major themes: 1) Wayfinding (i.e., location) information, 2) General information, and 3)

Interpretive information (Table 5). Location information was of greatest interest to a majority of visitors, specifically points of interest, directions and trails. General information (e.g., hours of operation), and interpretive information (e.g., historic site or element of interest) were of lesser, yet great interest.

Table 5: Importance of Park Signage Content

	Response	**Total**
Wayfinding		
	Points of Interest	14
	Directions	6
	Trails	5
	Parking	4
	Picnic Areas	3
	Maps	3
	Benches	1
General		
	Hours	9
	Rules	4
	Activities	4
	Fishing Limits	1
Interpretive		
	Historic	9
	Nature	3
	Animal Info	2
	Uses for Plants	1

	Fun Facts	1
	Plant Identification	1

Respondents were asked what type of media they would like to see accompanying park signage. Maps (76.7%) were of significant interest, followed by text (68.3%), photos (65%), and pamphlets (30%). Incorporating QR codes (15%), video (13.3%), and geo coordinates (6.7%), although mentioned by many respondents, were of somewhat less interest overall (Table 6).

Table 6: Visitor Interest in Signage Media

Media	**Number**	**Percent**
Maps	46	76.7%
Text	41	68.3%
Photos	39	65%
Pamphlet	18	30%
Audio	14	23.3%
QR Codes	9	15%
Video	8	13.3%
Geo Coordinates	4	6.7%

Note: Respondents were able to select all that apply therefore percentages do not total 100

CONCLUSION AND DISCUSSION

This study involved evaluating stakeholder use, knowledge and attitudes regarding their visit to Claude Moore Park, including the value of signage, in order to inform visitor experience improvements. The significance of these data suggest that a majority of Claude Moore Park visitors seek out and read signage within the park. Unfortunately, one fourth of respondents were dissatisfied with the signs that are currently located in Claude Moore Park. If park visitors are dissatisfied with the signs, then signage utility becomes quickly obsolete. This is a situation that needs to be rectified quickly, as the signs are erected to support the visitor experience and it is apparent that quality of signage is of high importance to park visitors.

These data, as applied to the interpretive signs within the park, show that there is room for improvement. Respondents noted that existing signs were extremely wordy and unmaintained, perhaps causing dissatisfaction with Claude Moore Park signage. Therefore, it is recommended that the current signs in Claude Moore Park (both interpretive and informational) be updated to address the needs and interest of the visitors, as well as serving as a better reflection on the park. Sign text should be reduced in amount to comply with best practices (e.g., how long the average visitor spends reading a sign).

It is recommended that all signs in the park be put on a regular maintenance schedule. They should be checked, cleaned, and assessed for damages at least once a

quarter. A content evaluation should be executed once a year to make sure all content is current and relevant as well to enhance the visual impression of Claude Moore Park. It is worthy of note that during the length of this study only two warning signs were found within Claude Moore Park. It would be worth further investigation to see if any signs, such as warning signs, are in need of being added to the park. It is possible that all dangers associated within the park do not warrant a warning sign but it would be beneficial to find out this information.

While a majority of the respondents were interested in seeking out signage it is important to understand what factors were of most interest to this audience. Locational information seemed to be the main purpose for visitor use of signage, especially points of interest. This implies that park visitors want to know more about points of interest and how to locate them. They also want to know where things are located and what they are viewing.

Considering the most common activities in which visitors engaged at the park (e.g., hiking, nature, relaxation), signage can be tailored to provide information on areas of greatest interest to visitors. Visitors can be directed to those parts of the park in which they can engage in activities of interest as well as providing a meaning-making signage experience.

Taking into account the popular interests of the visitors surveyed, it is safe to say a native tree trail would fill a stated audience need. As a self-guided tour, Claude Moore Park visitors would be more inclined to read information. It is recommended to continue with the implementation of the trail and signage. In design of the trail signage, the

responses indicate that having a small sign with a picture and a small amount of text would best address visitor preferences (See Appendix B). The idea of creating a pamphlet as a companion to signage also addresses the stated preferences of visitors. While there was less interest than anticipated in using a QR code, there are many free, easy to use QR code creators online (McGinnis, 2014). The limited interest may be a function of new technology and latent demand. As there was some interest, and likely a growing understanding of such codes, it may be worthwhile to incorporate a temporary code (at the very least). The idea of updating or replacing information and providing more detail with little to no cost while meeting visitor needs and enhancing their experience, is compelling. As there will be few signs, and they will be small in size, use of QR codes will be an inexpensive way to test out a new style of park sign. Information on how to use the QR codes must be made available in the Visitor Center. Future studies should be completed to evaluate usage of the tree trail and the QR codes. The use patterns of QR codes can be easily measured by tracking the number of times the page is viewed.

Creating a video to be accessed via QR code for the historic buildings may be less beneficial at this time. The interest in video was marginally smaller than the use of QR codes themselves, which leads this researcher to believe that such an investment may not yet be warranted. On the other hand, this too is new technology: as users become more accustomed to videos, they may develop a greater interest. The video tour QR code should be tabled until further studies are done on the usage of the tree trail codes.

Future studies are recommended to evaluate changing visitor interest trends. This study showed a high interest in knowing where things are and how to get to them. A future study would do well to find out the places or activities within the park that visitors would like to know more about. When reevaluating, this researcher would recommend asking questions that lead to an understanding of the content of interest for the interpretive signs. It is also recommended that more detailed demographic information be collected to increase the understanding of Claude Moore Park's visitor base (e.g., age, sex, ethnicity, education, past experience, other parks visited). I would also recommend that general interest evaluations be done yearly and include demographic questions. This could be done inexpensively via emails or other online questionnaires. It should also be made available in the park during programs and special events. This study only assessed general visitors, therefore having evaluations made available to program and event visitors should target a different audience.

In addition to further data collection, a review of signage practices at local jurisdictions and agencies would be helpful. Better understanding how regional agencies respond to signage for changing demographics (e.g., use of multiple languages; raised text, braille, and leaf imprints) is key. In this way, Claude Moore Park management can learn from current best practices and local/regional benchmarks.

As a companion to this process, park staff plans to physically inspect all currently erected signs. The main purpose of the physical inspection will be to determine if any signs are in need of updating, repair, or full replacement. The evaluation criteria will be determined by the Park Manager after the conclusion of this project.

Based on this signage inspection, complemented by the project evaluation of visitor experience, discussions will be held with all park staff to determine what can be done immediately and what must be put into future planning to improve all signage. Due to budget constraints, a full replacement or updating of all signs is not likely. Priorities will be determined by the Park Manager. These priorities will be decided by taking into account both the opinions of staff and the data from the evaluation that includes public participation.

It is this researcher's opinion that since the park houses an already large number of signs within its 357 acres, the replacement and updating of signs should be done systematically. First priority should be placed on safety and warning signs (as visitor safety is always top priority) followed by wayfinding, general information, and finally interpretive. While this study's intent was to help improve the interpretive signage, it is obvious to this researcher that visitors want and need to know how to maneuver within the park first and foremost. Signage further insures safety of visitors and helps lead them to the locations of greatest interest, therefore enhancing the experience overall.

APPENDIX

Appendix A

Claude Moore Park Signage Survey

Thank you for your participation in this brief survey. The information will be used to improve our park. Please answer to the best of your ability.

Please indicate your level of agreement with each of the following. Select only one response per statement:

1.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I seek out park signage					
I am satisfied with the signage in the park					
I read all the information on the signs					
I am more inclined to read a sign that is part of a self-guided tour					

2. Are there types of signs that you find obtrusive or visually displeasing? Please describe

3. What kind of information do you find important on park signage?

4. What media would you like to see on or accompanying park signage? Circle all that apply.

Audio	Video	Text	Maps
QR Codes	Pamphlet	Photos	Geo coordinates

5. In what activities do you generally participate at Claude Moore Park? Circle all that apply.

Hiking	Sports	Bird Watching
Historic sites	Picnicking	Relaxation
Exercise	Nature	Environmental Education
Fishing	Programs/Events	

Other_____

6. Number of visits per month? _____

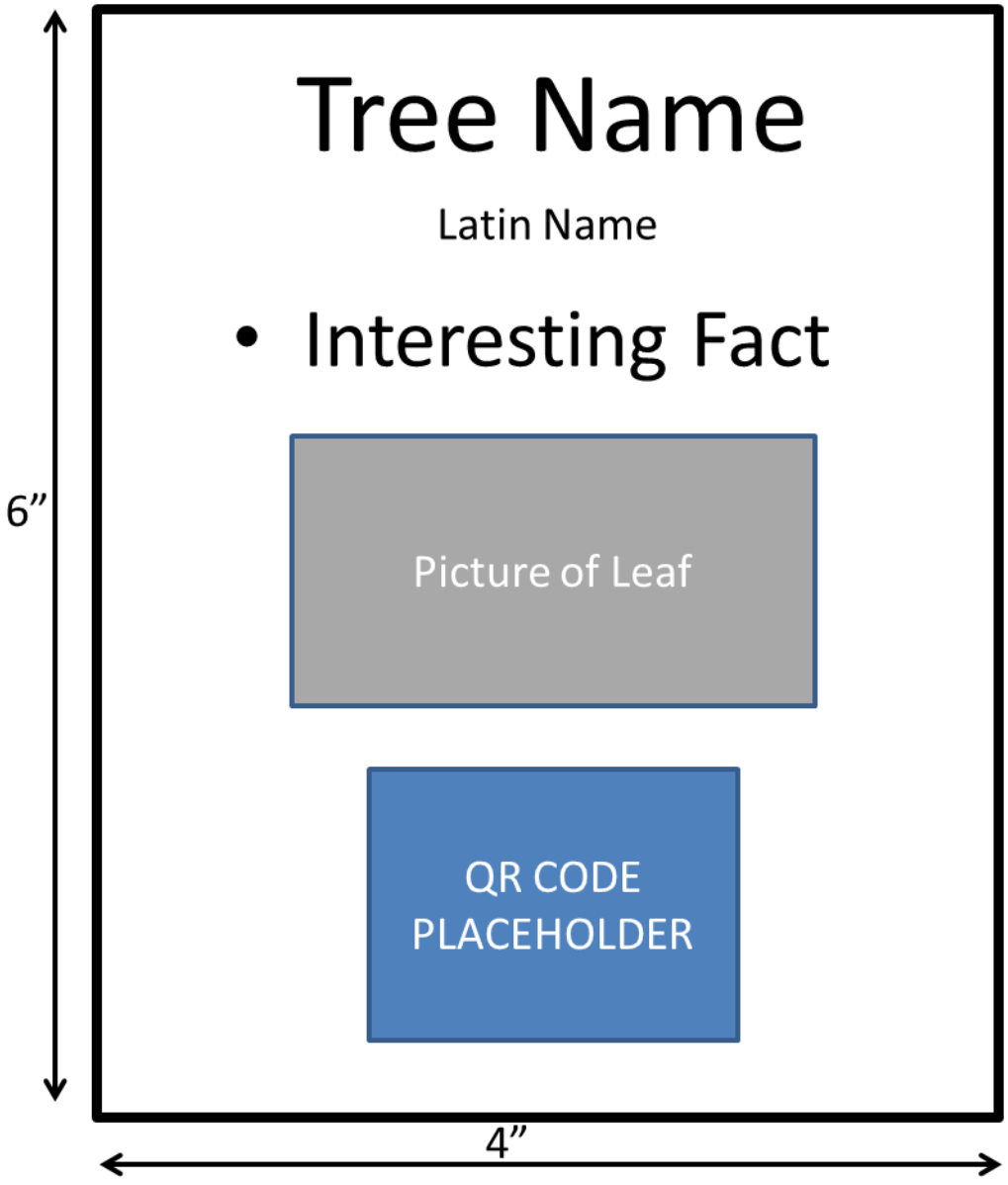
7. On Average how long (hours/minutes) do you spend in the park per visit?

   _____

8. What is the Zip Code in which you live? _____

Appendix B

Proposed Native Tree Trail Sample Sign



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