



Colonial National Historical Park

Colonial National Historical Park 2010 Visitor/Motorist Survey



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Report Notes and Acknowledgments

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Executive Summary

Since 2004, Colonial National Historical Park (Colonial NHP) has operated seasonal shuttle services to connect key visitor attractions in the area, including Colonial Williamsburg, Historic Jamestowne, and the Yorktown Battlefield.

In August 2010, the US Department of Transportation (US DOT) John A. Volpe National Transportation System Center (Volpe Center) administered a survey to visitors not arriving by shuttle. The survey follows an earlier survey of shuttle riders, conducted in 2009, also by the Volpe Center. The 2010 survey asked visitors for basic demographic information, level of awareness of the shuttle, information sources used, and for their willingness to ride the shuttle in the future. This report presents the 2010 survey findings, comparison with the 2009 results, and recommendations for Colonial NHP and other parks operating alternative transportation systems. Major findings are listed below.

- 49% of non-riders were aware of the shuttle and 51% were unaware. Visitors aware of the service most frequently learned about it by seeing the shuttle vehicles in operation, from visitor site staff, or from a previous visit.
- Of those visitors who had been unaware of the shuttle, 60% were willing to use the service on a future visit. An additional 20% indicated that they may be willing and the final 20% indicated that they were unwilling to use the shuttle.
- There were no significant differences in visitor group composition or visitor age between shuttle riders surveyed in 2009 and non-riders surveyed in 2010. Comments from survey participants suggested that visitor itinerary and preferences for independent travel by personal vehicle were more important in leading visitors to choose not to use the shuttle.

The survey of non-riders at Colonial NHS found that a number of visitors are interested in using alternative transportation, but lacked sufficient information on the service. It also suggests that, so long as visitors have the option to freely use personal vehicles, others will continue to do so, due to their planned itineraries and personal preferences. While the park can do little to affect these latter factors, it is possible for the park to take action to improve visitor awareness of the service. Major recommendations include specific strategies for improving awareness, as informed by the survey findings.

Introduction

In 2004, Colonial National Historical Park (Colonial NHP) initiated a demonstration shuttle service to connect key visitor attractions in the area, including Colonial Williamsburg, Historic Jamestowne, and the Yorktown Battlefield. In addition to providing access to these primary attractions, the shuttle was intended to orient visitors to the various sites and enrich visitors' overall experience through a recorded historical interpretation presented to shuttle riders. In anticipation of the large crowds attending the 400th celebration of the founding of Jamestown in 2007, the shuttle service was viewed as critical in easing traffic congestion and improving visitor mobility.

In 2009, the park asked the US Department of Transportation (US DOT) John A. Volpe National Transportation System Center (Volpe Center) to evaluate the service over a multi-year period and develop a business plan for continuation of service beyond fiscal year (FY) 2010. As part of this evaluation, the Volpe Center administered a survey of shuttle service users to assess the performance of the existing transit system. The 2009 rider survey found that satisfaction with the service among riders was high, but that opportunities likely existed to increase ridership by improving awareness of the shuttle service among all visitors.

National Park Service (NPS) policy mandates that social science research will be used to provide an understanding of park visitors, the non-visiting public, gateway communities and regions, and human interactions with park resources. Such studies are needed to provide a scientific basis for park planning, development, operations, management, education, and interpretive activities. Given these policies, NPS management at Colonial NHP wished to learn about the preferences of non-riders – visitors who use modes of transportation other than the shuttle service to access the sites within the park – and the decisions and information sources used in planning their visit to the park.

Colonial NHP and the NPS Northeast Region Office tasked the Volpe Center with conducting an assessment and analysis of visitors who choose not to use the shuttle service to better understand their modal choices and to study how to better market alternative transportation systems in this and other parks. A survey was designed and administered in August 2010. This report summarizes the findings regarding non-shuttle users and provides recommendations for future marketing efforts. While the future of the shuttle service at Colonial NHP is uncertain due to funding challenges, the findings and recommendations in this report should be of interest to similar NPS units across the Northeast Region.

Colonial National Historical Park visitor sites

Primary tourist attractions in the area of Colonial NHP are located at the three “points” of the Historic Triangle of Colonial Virginia: Colonial Williamsburg, Historic Jamestowne, and the Yorktown Battlefield. Most visitors staying in the area lodge in the town of Williamsburg. From Williamsburg, visitors may access tourist sites in and around the Jamestown Island and the town of Yorktown; both are part of Colonial NHP and are accessible by separate legs of the scenic Colonial Parkway, which is also part of the NHP.

On Jamestown Island, the three primary tourist attractions are each about one mile apart: the visitor center, which is situated at the site of the first permanent English settlement, offers archeological excavations, visitor museums, and guided tours; the Jamestown Glasshouse, which hosts glassblowing demonstrations and activities; and the Jamestown Settlement, a living history museum. In addition, the Jamestown Neck-of-Land Information Station on Colonial Parkway is used for overflow parking as needed. In the Yorktown area, tourists may visit the Yorktown Visitor Center (located at the Yorktown Battlefield) and the Yorktown Victory Center (about a mile away from the Battlefield). The town of Yorktown spans the distance between the two sites, and includes restaurants, shops, as well as a beach area.

Neither the Jamestown Settlement nor the Yorktown Victory Center is part of Colonial NHP: both sites are owned and operated by the Commonwealth of Virginia and have separate admission fees (though visitors may purchase the America's Historic Triangle Ticket, a “local passport,” which enables them to visit sites operated by both NPS and the Commonwealth of Virginia for \$80.25 per adult). The admission

fee to visit the sites operated by Colonial NHP is \$10 per adult for a seven-day pass or \$40 for an adult twelve-month, annual pass (children age 15 or younger are free). Admission can be purchased at either the Yorktown Battlefield or Historic Jamestowne Visitor Centers and includes access to all Colonial NHP sites.

Colonial shuttle system

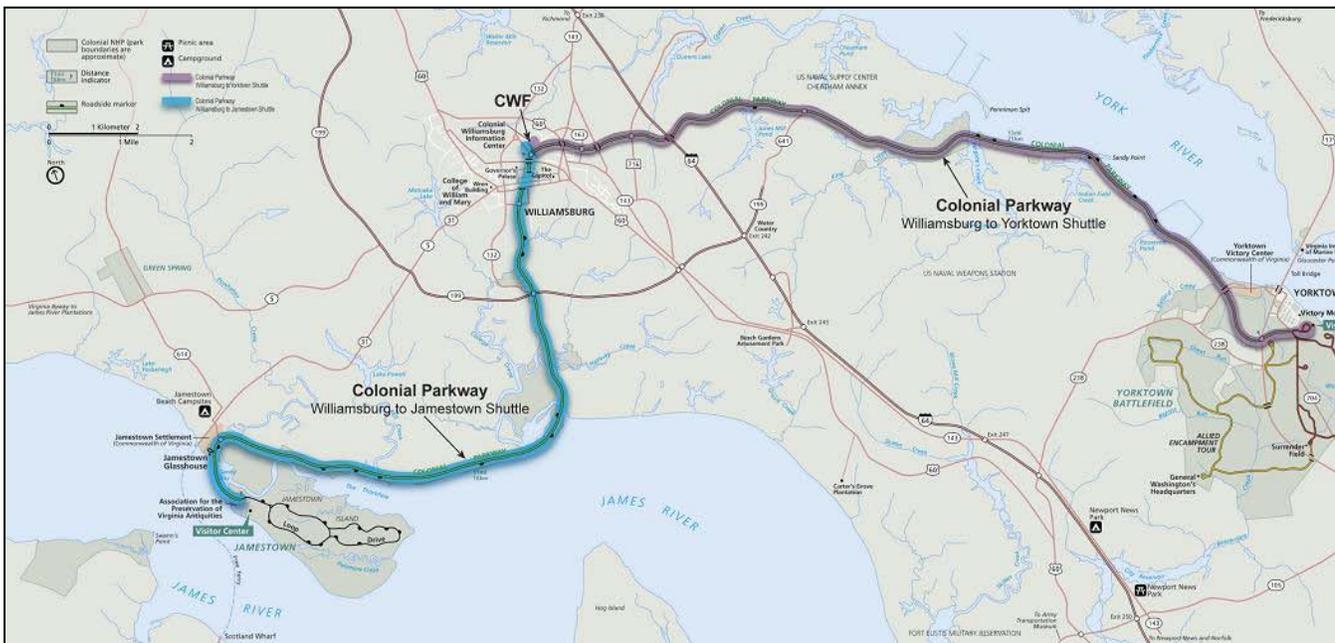
The Colonial NHP shuttle service consists of the Historic Triangle Shuttle (HTS) and the Jamestown Area Shuttle (JAS). Both are free of charge, and service is available seasonally. The shuttle service operates vehicles from Colonial Williamsburg to each of the key destinations in Colonial NHP: Yorktown and Jamestown. At its inception in 2004, the service consisted of two-hour headways from Memorial Day to Labor Day. The shuttle service was expanded to hourly headways in 2005. In 2010, the service operated between March 22 and October 31, with shuttles to both locations departing at half-hour intervals from the Colonial Williamsburg Visitor Center between 9:00 a.m. to 3:30 p.m. daily.

The trip to Yorktown is 13 miles along the Colonial Parkway and takes about 20 minutes. The shuttle makes stops first at the Yorktown Visitor Center and then Yorktown Victory Center prior to returning to Colonial Williamsburg.

The trip to Jamestown, also along the Colonial Parkway, is a slightly shorter ride (10 miles), and the shuttle service stops at the Historic Jamestowne Visitor Center before continuing to the Jamestown Settlement. Return service to Colonial Williamsburg departs every half-hour from 9:30 a.m. to 4:00 p.m. with a final pickup from Historic Jamestowne at 5:15 p.m. Each shuttle service makes 13 round trips from Colonial Williamsburg. The HTS schedule for 2010 is shown in Appendix A as it appears on the National Park Service website. A map of the HTS route, which includes service to Historic Jamestowne and to the Yorktown Battlefield, is shown below in Figure 1.

Figure 1: Colonial National Historical Park Historic Triangle shuttle routes

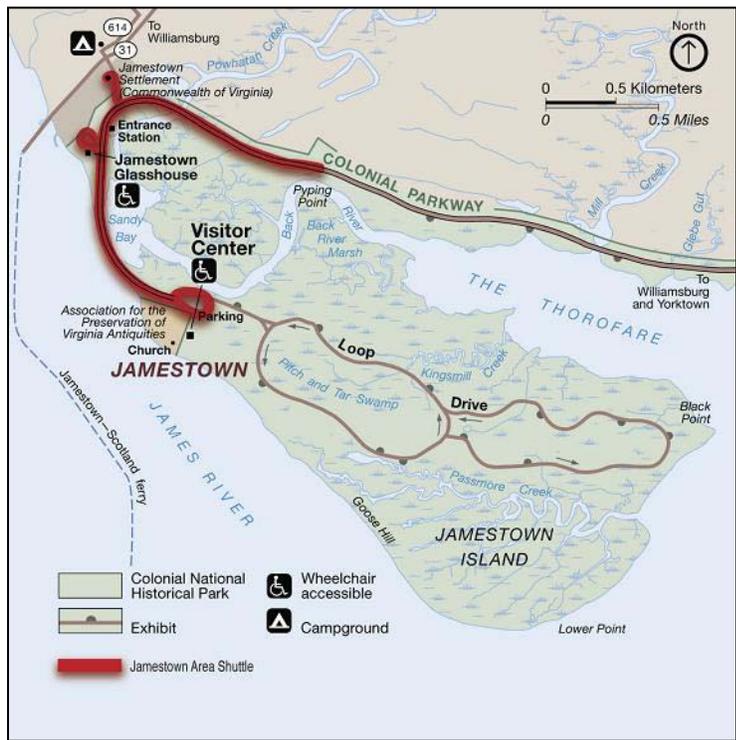
Source: NPS



The JAS service operates continuously between the hours of 9 a.m. and 5 p.m. The JAS departs from the Historic Jamestowne Visitor Center, and makes stops at the Jamestown Glasshouse, the Jamestown Settlement, and the Jamestown Neck-of-Land Information station (when open for overflow parking). The loop, depicted below in Figure 2, takes approximately 15 minutes to complete.

Figure 2: Jamestown area shuttle route

Source: NPS



Accessing Colonial NHP

The Colonial Williamsburg region and the surrounding attractions are easily accessible via car, airplane, or train. Various public and private transportation services are available throughout the region. Amtrak’s Northeast Regional service connects Newport News via Williamsburg twice daily to major cities throughout the Northeast, including Washington, DC; Philadelphia; New York City; and Boston. Three international airports are located within one hour of Colonial NHP including Newport News/Williamsburg International Airport, Norfolk International Airport, and Richmond International Airport.

Once in the Colonial Williamsburg region visitors may use the HTS and JAS or they may choose to take a personal vehicle or bicycle to any of the sites in Colonial NHP. Parking is free at all sites.

In addition, Colonial Williamsburg also operates a regular shuttle bus system, known as the Historic Area Shuttle (HAS), between the Colonial Williamsburg Visitor Center and hotels and attractions in the historic area. The HAS vehicles are identical in appearance to the HTS vehicles, which are owned and operated by Colonial Williamsburg through a cooperative agreement with the NPS. Like the HTS/JAS, the HAS improves access and induces visitors to leave their vehicles at the visitor center, which reduces congestion in the busy historic area.

Williamsburg Area Transport (WAT) provides local bus transportation within James City County, the City of Williamsburg, and the Bruton District of York County. While WAT does not provide direct access to

Historic Jamestown or the Yorktown Battlefield, two of the eight routes provide service to and from the Colonial Williamsburg Visitor Center, the central connection point of the HTS. Fares are \$1.25, with a .25 transfer. In addition, the Yorktown Trolley, operated by York County, is available to visitors in the Yorktown area free of charge. The trolley operates continuously from 10 a.m. to 6 p.m. The trolley leaves the Yorktown Visitor Center at 20 minute intervals, and makes stops at the Yorktown Victory Center, Riverwalk Landing, and other points of interest throughout Yorktown (for the 2010 route alignment and schedule, see Appendix B).

Colonial NHP and the Colonial Parkway are also accessible by bicycle. As noted on the NPS' Colonial NHP website, the Parkway's twenty-three scenic miles make it and the Colonial NHP sites a popular destination for bicyclists.

Previous studies

In developing this report, the Volpe research staff reviewed the previous studies conducted at Colonial National Historical Park, including a 2001 *Visitor Study* (The Visitor Services Project, Report #126), the *ATS Feasibility Study* (2004), the *Shuttle Service Survey Report* (2010), and the *Alternative Transportation System Evaluation and Business Plan* (2010). The latter two studies were conducted by the Volpe Center. None of these studies surveyed shuttle non-riders.

The 2001 *Visitor Study* conducted by the NPS Visitor Services Project surveyed visitors at the Jamestown Visitor Center parking lot and the Glasshouse parking lot. Visitors were asked to complete the survey either during or after their visit and to return it by mail. The study provided data on visitor demographics, trip and visit characteristics, individual activities, use of park resources, and evaluations of park services.

As part of its *Alternative Transportation System Feasibility Study*, a Colonial NHP visitor survey was conducted in 2002 (a mail survey). The purpose of this stated preference survey was to identify the key factors influencing the choice of bus use by visitors and to use that information to estimate potential demand for these services. In the survey, respondents were presented with three scenarios describing various combinations of travel and wait time, user cost, and other service options for travel by auto and shuttle bus and asked to choose auto or transit as the preferred mode of travel. The study found that a Parkway Shuttle was likely to achieve a 15-25 percent visitor capture rate, while a properly designed internal loop road shuttle was likely to attract 40-50 percent of total loop road users. Results of the survey were also used to inform the development of marketing strategies for the service.

The *Shuttle Service Survey Report* presents the results of a 2009 survey administered to shuttle riders at both Yorktown and Jamestown. The survey was designed to understand the following:

- How riders learned about the shuttle system and what motivated them to use it;
- How riders use the shuttle system (e.g., where they park to access the system, how many segments of the system are utilized by an individual rider, what attractions are visited by use of the system); and
- How satisfied are riders with different features of the service.

Rider groups intercepted over the survey period expressed a very high level of overall satisfaction with the shuttle service. Shuttle riders who had brought a personal vehicle to the area strongly expressed that the shuttle service was a preferable alternative to using that vehicle in the park. The data, as well as anecdotal evidence from the bus drivers, suggested that there may be an opportunity to increase ridership on the shuttle through enhancing publicity of the service. Riders' responses regarding their initial sources of information on the shuttle suggested that most were unaware of the shuttle system's existence prior to arriving in the Colonial Williamsburg area. Given the high level of satisfaction with the service in the case of those who used it, the study team hypothesized that there may be significant numbers of visitors to Colonial NHP who would choose to use the shuttle system but lack sufficient initial information on its availability to utilize it.

Congressional appropriations which have funded the shuttle service expired in September 2010. The *Alternative Transportation System Evaluation and Business Plan* (2010) examined the impacts of funding changes on the shuttle service and proposed and evaluated possible responses, including alternative service concepts. These concepts included a shorter operating season, possibly combined with shorter service hours, as well as doing away with the HTS service entirely, while continuing to operate the JAS service.

1 Survey methodology

The following section on survey methodology provides an overview of the survey instrument, its design, and its administration at Colonial NHP.

Description of the survey instrument

The survey instrument was designed to evaluate visitor knowledge of the shuttle service and assess the trip planning tools (if any) used by visitors prior to their visit. The target population was visitors who did not use the shuttle. A copy of the survey instrument can be found in Appendix C. The Volpe Center designed the survey in consultation with staff at Colonial NHP. The key survey topics addressed the following:

- Visitor group size and characteristics;
- Number of site visits in the past five-year period (the period in which the service has been fully operational);
- Trip planning resources / information sources consulted prior to the visit;
- Shuttle awareness; and
- Reasons for not using the service.

The survey consisted of six questions, some in multi-part or open-response format, arranged into a single-sheet, two-sided questionnaire. The estimated time burden of the survey was five minutes per respondent. The survey was designed to capture quantitative data regarding visitor trip planning resources while providing the respondents with the ability to submit qualitative information as well.

The front side of the questionnaire addressed the individual characteristics of the visitor as well as trip/visit characteristics. This side featured closed-ended questions where respondents were asked to select from preselected responses developed by NPS and Volpe Center. The four questions asked participants if they had previously visited Colonial NHP; the size and age group of their entire group; the city, state, and zip code of their place of residence; and the trip planning resources utilized prior to this visit.

The reverse side of the questionnaire was designed to capture non-shuttle user awareness of and willingness to use the shuttle on future visits to Colonial NHP. This component of the survey assessed user knowledge of the service prior to their visit. Open-ended questions were used in conjunction with closed-ended questions to gain a more thorough insight into the decisions made by visitors. Users who indicated prior knowledge were asked to describe the factors which influenced their decision to not use the service. Users without any knowledge of the shuttle were asked to read a brief paragraph describing the free shuttle service. After completing the paragraph, participants were then asked if they had known about this service prior to their visit, would they have been inclined to use it and what variables, if any, would affect their decision.

Survey administration period

To obtain a sufficient sample size, the survey team sought a three-day period, including a weekend, during peak season in which to intercept a statistically significant number of visitors. A three-day period was chosen not only to obtain a sufficient sample size, but also to include groups at different points in the duration of their visits (beginning and end). Due to delays in receiving Office of Management and Budget approval, the choice of survey dates was restricted to August 2010. The Volpe Center selected the three-day period of Friday, August 13, through Sunday, August 15, 2010, to administer the survey. The selected dates coincided with a fee-free weekend at National Parks nationwide. It was believed that this weekend would provide the study with a sufficient number of park visitors to survey. Because the research sought to explore the information resources consulted and decisions made to not use the service, there was little concern that the fee-free weekend would skew the results.

Intercept locations and strategy

The 2010 survey was administered at the two primary Colonial NHP sites: the Historic Jamestowne Visitor Center and the Yorktown Battlefield Visitor Center. Survey administrators were stationed outside of the visitor centers of each location, intercepting every third group arriving by private vehicle, bicycle, and on foot. The survey administrators purposely did not intercept visitors arriving by shuttle or organized tour group. The two intercept sites were chosen as NPS data indicated that few visitors visit the sites without entering the visitor centers¹.

A single survey was administered to each group of visitors traveling together, and completed by one adult in the group (that is, a person of age 18 or older). Staff informed potential respondents that the survey was being administered on behalf of NPS by the US DOT Volpe Center, and that all responses were voluntary and anonymous. Because visitors could have visited more than one site within the same day or within the three-day survey period, an introductory screening was conducted to ensure that groups were not surveyed more than once. The screening was also intended to omit visitors who had taken the shuttle at a prior point in the trip. Survey staff recorded date, location, and group characteristics each time that a group declined to complete a survey (in cases where the group had previously completed a survey, as well as for groups refusing all survey efforts).

¹ Colonial Williamsburg, Jamestown Settlement, and the Yorktown Victory Center were not used as intercept locations because these sites are not operated by the NPS, and the primary objective of the HTS is transport passengers to the respective Colonial NHP sites.

2 Survey findings

The following section provides detailed findings on visit characteristics, trip planning resources consulted, and shuttle awareness and potential use on future visits. The section concludes with a comparison with the 2009 rider survey, as documented in the 2010 *Shuttle Service Survey Report*.

Respondent sample

In the three-day assessment period, approximately 702 visitor groups were intercepted by staff to participate in the survey. Of these groups, 551 surveys were successfully completed by park visitors and 151 groups were noted by staff as voluntary refusals. The response rate among those intercepted (78%) was slightly higher than the expected rate of 75%. The three-day survey effort yielded nearly 25% more completed surveys than had been anticipated. Based on Colonial NHP staff estimates, the expected size of the respondent pool was estimated at 450 visitor groups.

Of the 551 successfully completed surveys, approximately 58% were collected at the Historic Jamestowne Visitor Center and 42% were collected at the Yorktown Battlefield Victory Center (Table 1). The surveys collected are similarly distributed among the three day collection period, ranging from a 30% share for August 15 to 36% on August 13.

Table 1: Visitor groups surveys collected (August 13-15, 2010), N =551

Source: Volpe Center

Collection Period	Historic Jamestowne VC	Yorktown Battlefield VC	Total Surveys Collected	Percentage of All Surveys Collected
8/13/2010 AM	68	42	110	20.0%
8/13/2010 PM	40	52	92	16.7%
8/13/2010 Total	108	94	202	36.7%
8/14/2010 AM	50	22	72	13.1%
8/14/2010 PM	70	41	111	20.1%
8/14/2010 Total	120	63	183	33.2%
8/15/2010 AM	40	29	69	12.5%
8/15/2010 PM	51	46	97	17.6%
8/15/2010 Total	91	75	166	30.1%
All Days	319	232	551	100%

The voluntary refusal rate among the two sites remained constant, varying between 15% and 25% of visitor groups intercepted (Table 2). Across both sites, the morning (AM) refusal rate was markedly lower than the afternoon (PM). The distinction between the morning and afternoon refusal rates is largely attributed to the fact that visitors in the afternoon were pressed for time to visit the sites before the 5:00 PM closing time. While a majority of those who declined to respond to the survey cited time as a primary reason, a number of others noted that they were not interested or did not speak English.

Table 2: Voluntary refusals (August 13-15, 2010), N =151

Source: Volpe Center

Collection Period	Historic Jamestowne VC	Yorktown Battlefield VC	Total Refusals	Percentage of All Refusals
8/13/2010 AM	11	11	22	17.9%
8/13/2010 PM	19	11	30	24.4%
8/13/2010 Total	30	22	52	42.3%
8/14/2010 AM	12	9	21	17.1%
8/14/2010 PM	19	10	29	23.6%
8/14/2010 Total	31	19	50	40.7%
8/15/2010 AM	6	3	9	7.3%
8/15/2010 PM	9	3	12	9.8%
8/15/2010 Total	15	6	21	17.1%
All Days	76	47	123	100%

Visitor profile and visit characteristics

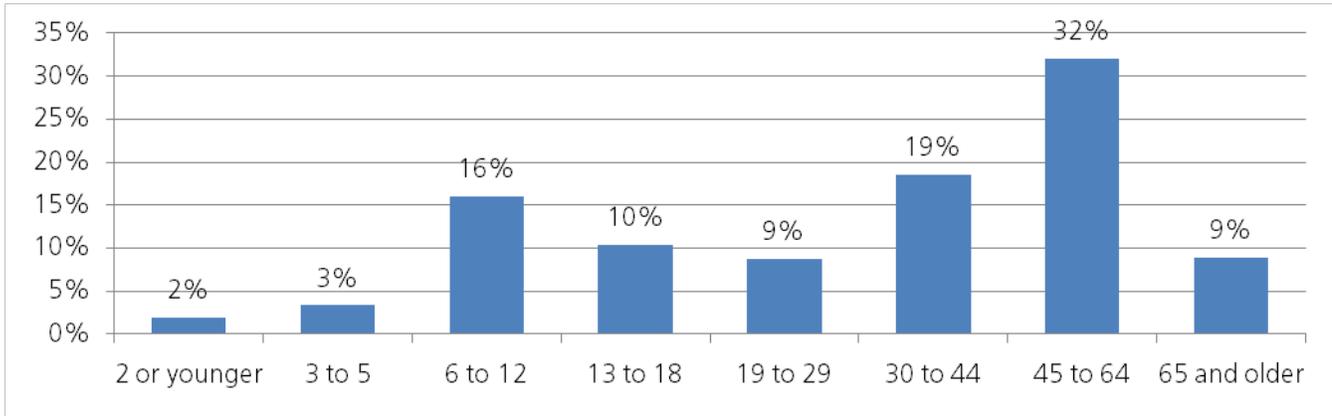
Age profile

Respondents were asked to identify each of their fellow group members by age group. The most common age group, those aged 45 to 64, accounted for over 30% of the visitors surveyed*. A distribution of the ages of the visitor groups surveyed is shown below in Figure 3.

* Estimates of group member ages rely upon Survey Question 2, in which respondents self-identified the number of group members whose age fell within each range listed. Because respondents were asked to write the total number of group members in each age range (as opposed to, for example, checking a single box to indicate group size), information at the individual traveler level cannot be considered to be equally precise as that at the group level. Moreover, approximately 20 groups also failed to identify the ages of any members in their visitor group.

Figure 3: Age distribution of visitors, N =1,745

Source: US DOT Volpe Center

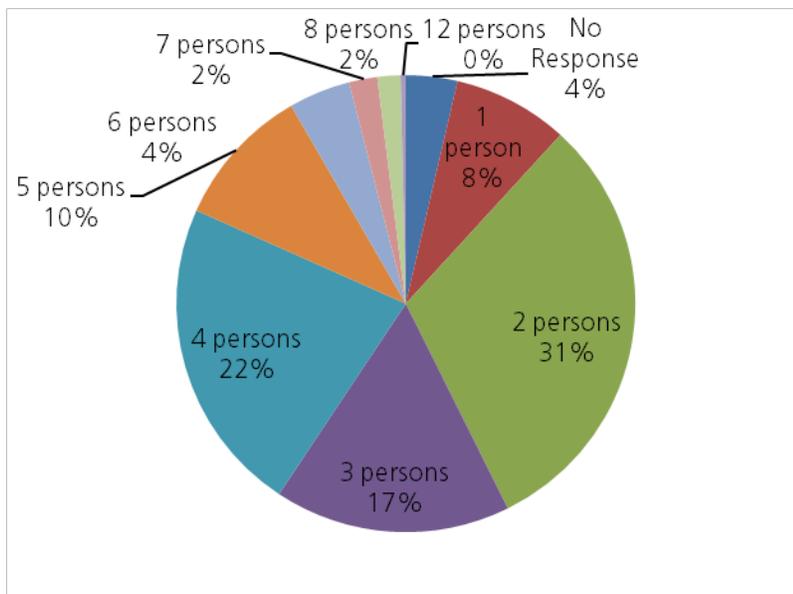


Visitor group size

The average group size among participants was about three persons per group. Excluding the 20 survey groups which failed to identify the number of members per age group, the mean visitor group population was 3.3 visitors. As depicted below in Figure 4, the majority of groups were either two-person groups (31%) or four-person groups (22%). Approximately 17% of respondents were traveling in three-person groups and approximately one in ten respondents were either traveling alone or in a five-person group.

Figure 4: Visitor group distribution by size, N =551

Source: US DOT Volpe Center



Prior Visits

Of the 551 visitor groups surveyed, approximately 46% had visited the site before August 2010 and 54% were new visitors (Table 3). Less than 1% of visitors were unsure if they had previously visited Colonial NHP.

Table 3: Prior visit, N = 551

Source: Volpe Center

	Yes	No	Unsure
Yorktown Battlefield VC	101	131	0
Historic Jamestowne VC	149	165	5
Total	250 (45.4%)	296 (53.7%)	5 (0.9%)

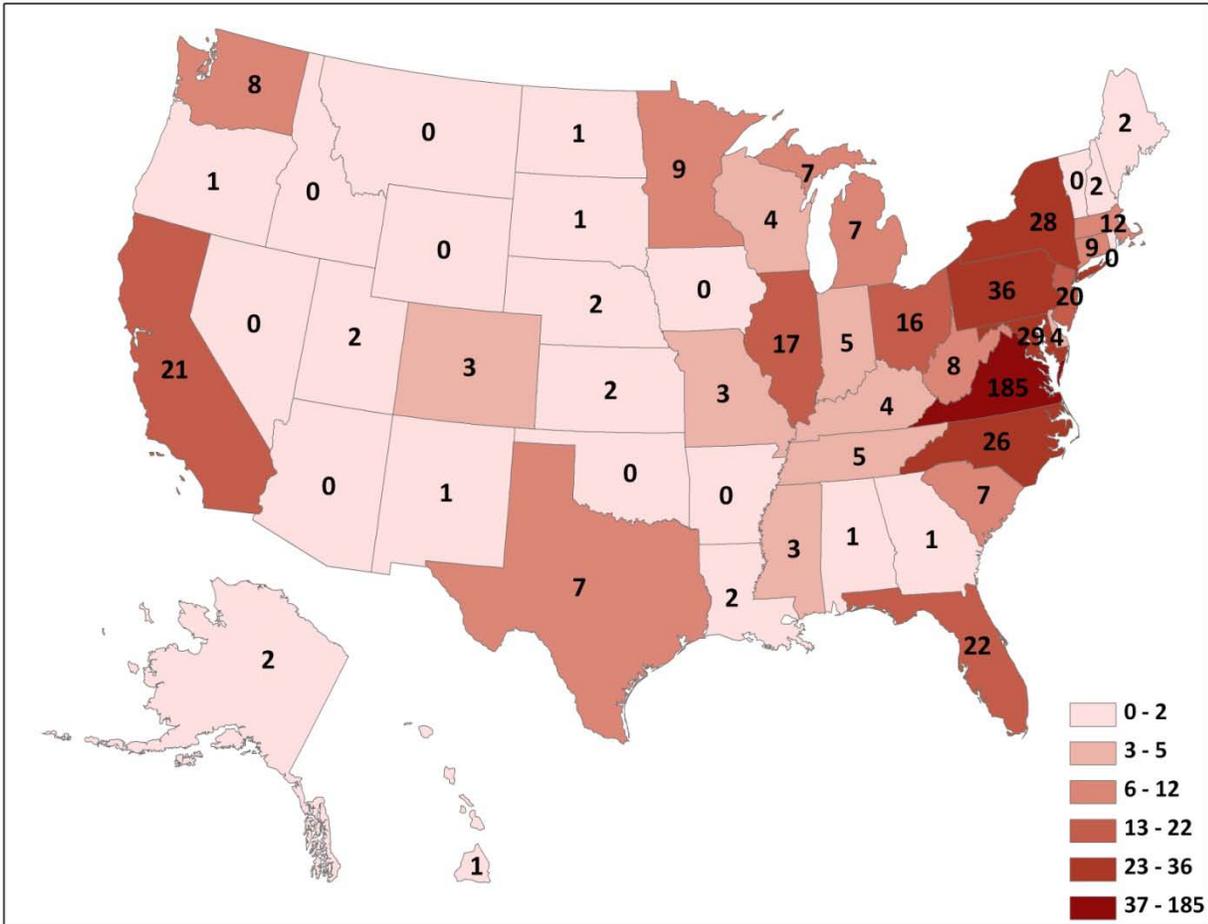
Place of residence

The survey found that park visitors hail from many domestic and international locations. Virginia comprised the largest component of park visitors surveyed (34%) followed by Pennsylvania (7%), and Maryland (5%). NPS staff indicated that it is possible that the fee-free weekend drew a higher than usual number of local visitors, as the press releases on the fee-free events tend to be released only shortly before the event, which is less conducive to advance planning by visitors from outside of the area. Figure 5 depicts the frequencies of domestic visitor groups surveyed distributed by origin.

International visitors accounted for 4% of the visitors sampled. The most frequent countries were the United Kingdom (9), Canada (6), the Netherlands (2), and Germany (2). Australia, the Dominican Republic, New Zealand, Russia, and Sweden accounted for one visitor group each. A comparison of the visitor group size and the age distribution for international visitors found these attributes to be similar to the entire population sample. Approximately 12% of international visitor groups indicated having previously visited Colonial NHP.

Figure 5: Number of visitor groups indicating residence in the United States, by state

Source: US DOT Volpe Center



Trip planning resources

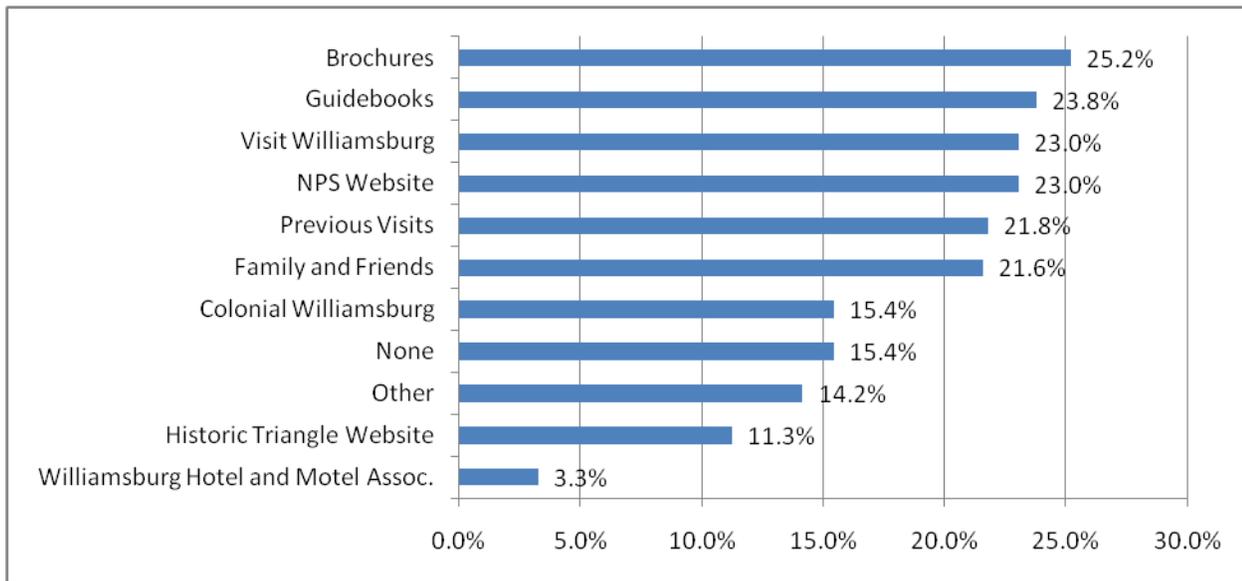
The participants were asked to select what tools (if any) were used to plan their trip prior to their visit. The options included prior visits, visitor guidebooks, and websites, among other choices and visitors could select more than one alternative. The survey instrument provided respondents with nine alternatives which could have been used to plan the trip in addition to “none” and “other” alternatives. The options included a mix of common digital and print resources as noted below:

- NPS website
- Visitor Guidebook
- Previous Visit
- Family or Friends
- Brochure or Pamphlet
- Historic Triangle website
- Visit Williamsburg website or 1-888-882-4156
- Williamsburg Hotel and Motel Association
- Colonial Williamsburg website
- Other
- None

As shown below in Figure 6, the brochures were the most popular information source (25%), followed closely by guidebooks, the Visit Williamsburg website, and the NPS Website were a close second. The least popular source was the Williamsburg Hotel and Motel Association site, with only 18 respondents (3.3%) saying they had consulted it as a trip planning resource*. Among “other” sources, a generic “internet” response and “AAA” were the most popular. Approximately 15% of respondents reported consulting no trip planning resources prior to their visit.

Figure 6: Use of trip planning tools by visitor groups, N =551

Source: US DOT Volpe Center



Shuttle awareness

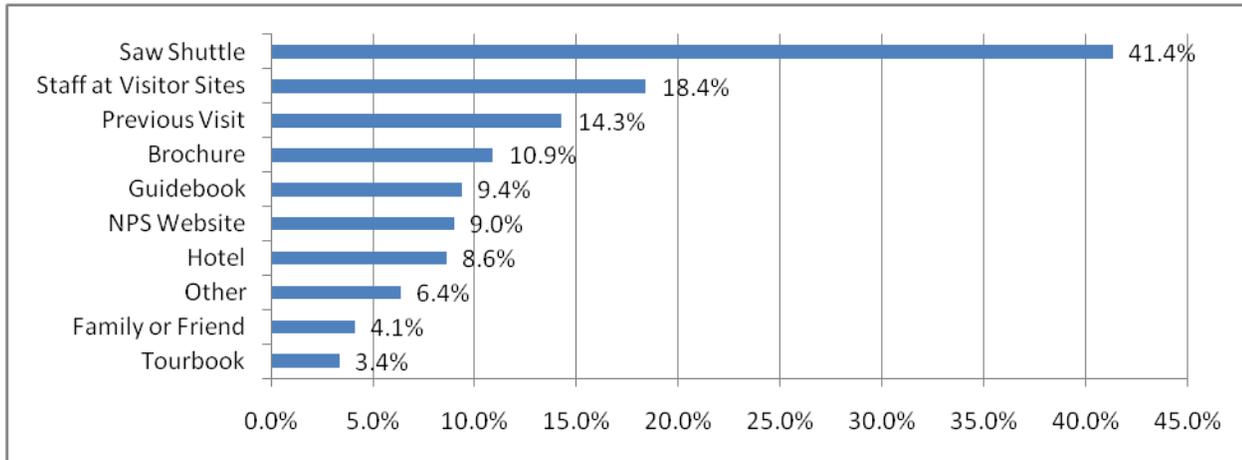
Overall, 49% of survey participants were aware of the service prior to their visit and 51% were not[†]. Those who were aware of the shuttle service were asked how they learned about it. They were given no alternatives, including “other” and could select more than one alternative. Figure 7 shows the percentage of the visitors aware of the shuttle who cited each source of information.

* Percentages do not sum to 100% as respondents could select more than one alternative.

[†] ± 2% - Between 1% and 2% of respondents who marked “yes” also noted that they had seen the shuttle for the first time in the parking lot or driving in, indicating that they were unaware of the service when making their mode choice.

Figure 7: Visitor source of information on shuttle service, N=551*

Source: Volpe Center



Visitors most commonly learn about the shuttle by seeing it in operation, talking with NPS staff, or from previous visits. The *Shuttle Service Survey Report* concluded that few visitors had taken advantage of websites as resources to gain trip planning and shuttle service (e.g., schedules, descriptions, route alignment) information. The results of the non-rider survey confirm this, as the largest number of visitors reported becoming aware of the service via witnessing the service in operation or in speaking with staff at the visitor sites. These results suggest that many visitors are unaware of the shuttle service prior to their arrival in the area, perhaps due to lack of easily available information on the service. As with the *Shuttle Service Survey Report*, survey staff from the non-rider survey anecdotally noted that visitors were surprised and pleased to learn of the service. In general, the study team found that visitors were not well-informed about the shuttle service.

Analysis

The study team used statistical analysis to examine the relationships between visitor demographics, trip planning resources consulted, visitor awareness of the service, and potential willingness to use the service on future visits to Colonial NHP. It should be noted that visitors who were previously aware of the service were asked about their reasons for not riding and only those visitors who were previously unaware of the service were asked about their willingness to ride in the future. In some cases, this distinction restricts the analysis that can be performed for these groups.

Visitor characteristics

By gaining a better understanding of riders' needs, transit agencies are able to enhance the customer experience, developing informative materials oriented to their audience's needs and adjusting service accordingly to appeal to the broadest audience. An understanding of visitor demographics, willingness to use the service on subsequent visits, and the information sources consulted in the decision making process is essential to understanding how to properly market and advertise the service to the park's diverse audience. Major findings are listed below.

Previous visitors are more likely to be aware of the shuttle. Not surprisingly, previous visitors to Colonial NHP were significantly more likely to be aware of the shuttle service. Among returning visitors, 62% reported being aware of the shuttle service. By comparison, only 38% of first-time visitors knew

* Does not sum to 100% as visitors could choose more than one source of information

about the shuttle service. This strong relationship suggests that the shuttle itself can serve as a valuable marketing tool to sites where visitors are likely to visit often or on more than one occasion.

The relationship between prior visitation and willingness to ride, however, is much weaker. As noted above, only visitors who answered that they were unaware of the shuttle service were asked about willingness to ride. After being told about the shuttle service, 66% of visitors who had previously visited the park said they would be willing to ride the shuttle, 18% said they would not be willing and 15% said maybe. While first-time visitors were somewhat less willing to ride the shuttle, the difference is not significant: 56% of first-time visitors said they would be willing to ride the shuttle in the future, 20% said no, and 24% said maybe. Results are shown in Table 5.

Table 4: Willingness to ride and previous visit

Source: Volpe Center

Willingness to Ride Shuttle	Made Prior Visit	No Prior Visit	Don't Remember	Total
Yes	79 (66%)	112 (56%)	0 (0%)	191 (60%)
No	22 (18%)	40 (20%)	1 (33%)	63 (20%)
Maybe	18 (15%)	47 (24%)	2 (67%)	67 (21%)
Total	119	199	3	321

There was no statistically significant relationship between age and willingness to ride. The research team hypothesized that the age of members within the group could have a relationship with willingness to use the service. The team theorized that groups travelling with young children and seniors might be less willing to ride due to outside factors, particularly impaired mobility for senior citizens and additional baggage (e.g., strollers) for families traveling with young children. The results of the statistical analysis (Table 6) partially affirm the trend hypothesized by the team, but the differences were not statistically significant. The data suggest that families traveling with young children are somewhat less willing to ride the shuttle (49%) compared to families with older children (63%) and adult groups (ages 19-64) with no children (61%). Among older visitor groups (65 or older, no children), 55% said they would be willing to ride the shuttle.

Table 5: Age group composition

Source: Volpe Center

Willingness to Ride Shuttle	Families with Children under 5 years of age	Families with children 6-18 years old	Adult Groups, ages 19-64	Adult groups, ages 65+
Yes	49%	63%	61%	55%
No	26%	20%	15%	28%
Maybe	26%	17%	24%	18%
Sample Size	43	114	124	40

Given the ability of the shuttle to serve as a marketing tool itself, the research team theorized that visitor origin could have a significant impact on prior knowledge of the service as those residing closer to Colonial NHP would have a higher likelihood of learning about the shuttle service. However, analysis indicated that Virginia residents were not significantly more likely to be aware of the shuttle service. Approximately one-half (52%) of Virginia residents reported being aware of the service, compared to 47% of visitors from other states and 50% of international visitors (Table 7). Similarly, willingness to ride the

shuttle in the future, for visitors previously unaware of the shuttle service, was 60% for both Virginia residents and out-of-state residents.

Table 6: Shuttle awareness and residence

Source: Volpe Center

Aware of Shuttle	VA Resident	Other US Resident	International	Total
Yes	95 (52%)	159 (47%)	12 (50%)	266 (49%)
No	88 (48%)	180 (53%)	12 (50%)	280 (51%)
Total	183	339	24	546

Trip planning resources

There were insufficient data to confirm a relationship between trip planning resources and awareness of the service. While the results were not statistically significant, the data show some interesting trends with regard to the relationship between trip planning resources and awareness of the shuttle service (Table 8). As might be expected, visitors who used no trip planning resources were least likely to be aware of the shuttle service (43%). Visitors who reported using guidebooks and brochures were also relatively less likely to be aware of the service (47% and 52%, respectively).^{*} Visitors accessing the Historic Triangle website, the NPS website, and the Colonial Williamsburg website were relatively more likely to be aware of the shuttle service (66%, 58%, and 59% respectively).

Looking more closely at the NPS website, of the 127 respondents who visited the NPS website to plan their trip, 75 (59%) were aware of the shuttle and 52 (41%) were not. Of the 75 who were aware of the shuttle, however, only 24 of them (32%) listed the NPS website as a source for hearing about the shuttle. The other 68% (51 respondents) had heard about the shuttle from other sources.

Table 7: Trip planning resource use and shuttle awareness

Source: Volpe Center

Trip Planning Resource Used	Percent of Resource Users Aware of Shuttle	Total Number of Visitors Using the Resource
Historic Triangle Website	66%	59
Colonial Williamsburg Website	59%	82
National Park Service Website	58%	124
Previous Visit	58%	102
Other	53%	76
Visit Williamsburg Website or 1-800 Number	52%	125
Brochure or Pamphlet	52%	124
Family or Friends	51%	113
Visitor Guidebook	47%	122
None	43%	103
Williamsburg Hotel and Motel Association	41%	17

^{*} Visitors using the Williamsburg Hotel and Motel Association website also had lower levels of awareness of the shuttle service (41%), but the small sample size limits any conclusions that can be drawn from this data.

Qualitative feedback on shuttle use

Survey participants were given the opportunity to provide additional information regarding their decision not to use the shuttle or their willingness to ride the shuttle on a future visit. The following sections discuss common themes in comments provided by visitors, grouped by their previous awareness of the shuttle service and their willingness to ride the shuttle in the future. As noted previously, visitors who were previously aware of the service were asked about their reasons for not riding; only those visitors who were previously unaware of the service were asked about their willingness to ride in the future. This restricts the analysis of “willingness to ride” to these visitors.

Prior shuttle knowledge

Of the 266 respondents who indicated prior knowledge of the service but chose to not use the service, 230 (86%) provided additional comments regarding their decision. The responses to the open-ended question were analyzed and categorized into ten themes, which are shown below in Table 9.

Table 8: Reasons for not using the shuttle: open-ended response topic areas, N = 230

Source: Volpe Center

Theme	Definition	Percent
Personal Vehicle	These respondents noted that owning or having access to a rental vehicle itself was a sufficient justification to not use the shuttle.	32.2%
Attraction Characteristics	Respondents in this category noted that the sites require too much time to visit more than one site per day. Other respondents cited the desire to travel to other local attractions (e.g. Busch Gardens) or that their visit to the area was beginning or concluding and would be continuing on to other destinations.	21.3%
Shuttle Schedule	These respondents cited that having to travel on the shuttle's schedule and pace conflicted with their ability to see the sites on their own.	20.0%
Local Visitor	These respondents noted that they were local visitors, often residing in Williamsburg, Hampton, or Newport News region. Some respondents noted that they resided closer to the actual site than Williamsburg, making any use of the HTS onerous.	9.1%
Group Characteristics	Attributed the reason for not using the shuttle on a particular member of the group (e.g. infant) or group characteristics that would impede their ability to comfortably see the sites (e.g., wheelchair, stroller).	7.4%
Insufficient Information	These respondents indicated that they did not have enough information regarding the service.	4.8%
Other Mode	Noted another mode not including a personal vehicle as the reason to not use the shuttle. Other modes included walking, cycling, and Jamestown-Scotland ferry service.	4.3%
Riding Later	Respondents who indicated that they intended to use the shuttle service at a later date.	3.9%
Williamsburg	Respondents who indicated that their visit to the Colonial sites would not involve a visit to Williamsburg.	3.9%
Free Parking	Indicated that the free parking at the sites was a sufficient factor to not use the shuttle.	0.9%

The findings suggest that many respondents view car ownership or access to a vehicle (e.g. rental car) as a sufficient reason to not use the service. The limited feedback provided makes it difficult to assess whether they believe that their vehicle allows them to view the sites more freely or in their entirety, or if they believe that the service would not contribute to a more enjoyable and complete visitor experience. The preference for the vehicle could indicate that the shuttle is viewed simply as a functional means of transportation for locating and reaching sites within the park, rather than part of the visitor experience. Representative visitor comments are below:

- “We have our own car”
- “Prefer personal vehicle”

Twenty-one percent of the respondents associated their reason for not using the shuttle with the *Attraction Characteristics* theme while another 20% attributed to the *Shuttle Schedule* theme. In general, these respondents believed that certain sites, such as Jamestowne Island Drive, could be best seen using their own mode of transportation, their visit was just beginning or ending and they were leaving the area, or they had only planned on visiting only one site per day and therefore had no need to travel between

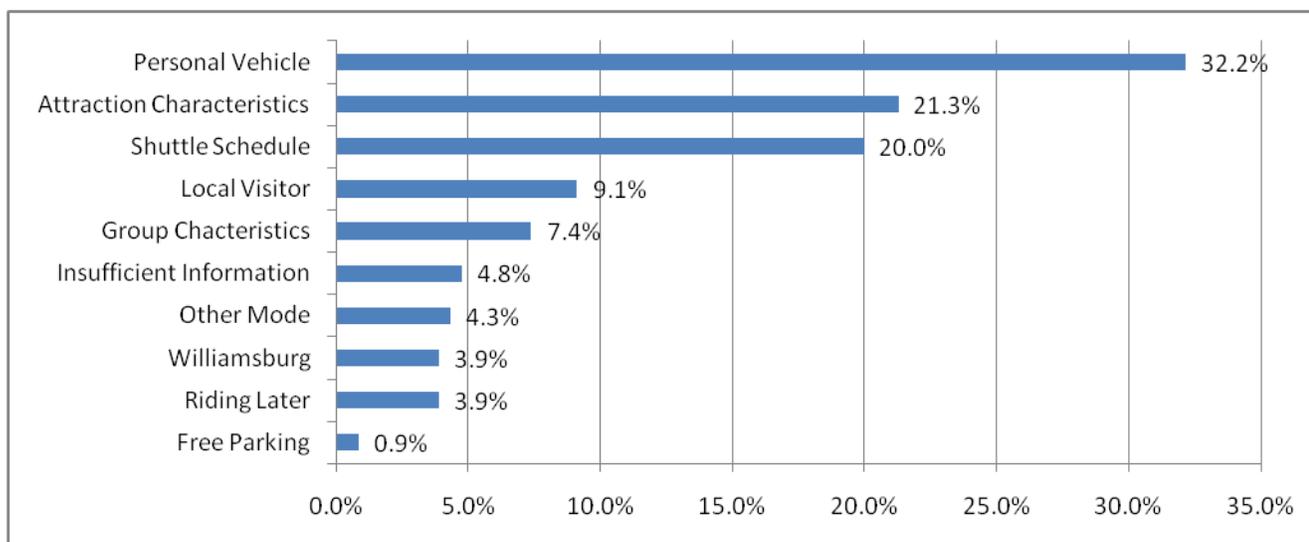
sites. The comments provided by these respondents indicate a strong preference to visit the site on their own time and not on a fixed schedule:

- “Like the freedom to stop along the way, change routes to see other places of interest - less time restrictions”
- “Prefer the convenience and time freedom of using our vehicle”

Nearly 8% indicated that as “local” visitors, there was no need to use the shuttle. Some of these visitors indicated that their place of residence, close to either NPS visitor center, made use of the HTS burdensome as it would require them to travel away from their destination to Williamsburg to use the service. Table D1 in Appendix D contains the full listing of responses received, and Figure 8 illustrates the percentage of respondents citing each theme, of those who chose not to use the service.

Figure 8: Percentage of respondents citing theme (not willing to use shuttle, aware of service prior to visit) N=230

Source: Volpe Center



No prior shuttle knowledge

The majority of participants previously unaware of the shuttle were interested in using it. Of the participants who were unaware of the shuttle service, after reading the description provided, 60% indicated that they would be interested in using such a service on any subsequent visits, 20% indicated that they definitely would not ride the shuttle, and 20% were uncertain, indicating that they would need more information about the service, schedule, and amenities before making a decision (10).

Among the respondents who were in favor of using the shuttle on any future visits, its price (free), convenience, and historical interpretation were primary reasons for selecting the service. Those who indicated that they would not ride the shuttle on any subsequent visits noted that they were traveling by car, in large groups, or with small children as reasons to not use the service.

Table 9: Willingness to use shuttle on subsequent visit (no prior knowledge of shuttle), N = 321

Source: Volpe Center

	Yes	No	Maybe
Yorktown Battlefield VC	90	23	25
Historic Jamestowne VC	101	40	42
Total	191 (59.5%)	63 (19.6%)	67 (20.9%)

No prior shuttle knowledge – willing to ride

Of the 191 respondents who indicated that they would be inclined to use the service on a subsequent visit, 40% did not provide any additional information. The responses of the 114 respondents who provided additional information were analyzed and categorized into nine themes. The themes and their definitions are provided below in Table 10.

Table 10: Open-ended response topic area and definition for visitors willing to use shuttle, N =114

Source: Volpe Center

Theme	Definition	Percent
Ease of Use	Respondents who indicated that the shuttle would facilitate their park visit experience by not having to drive or park.	30.7%
Convenience	Respondents who indicated that the shuttle would make their visit to the sites more "convenient." The majority of the respondents in this category simply cited the convenience of the shuttle rather than stating specific aspects of the service that would make their visit more convenient.	28.1%
Historical Interpretation	These respondents noted that the historical recording provided aboard the shuttle would be the most meaningful reason to use the service. Respondents also valued the ability to enjoy the scenery as passengers instead of having to concentrate on driving along the Colonial Parkway.	15.8%
Economic / Environmental Concerns	Respondents in this category cited the shuttle's fare (free), ability to contribute to reducing area congestion, and potential to save gasoline as favorable reasons to use the service.	14.9%
Unsure	These respondents were unsure why the shuttle would be appealing for use on subsequent visits to Colonial NHP.	9.6%
Other	Responses containing general feedback, enthusiasm for the service, or similar statements of support	9.6%
Navigational Concerns	These respondents cited the shuttle's fixed route as a motivating factor to use the service rather than have to navigate to and from the sites independently.	5.3%
Group Characteristics	Cited visitor group characteristics that would make use of the shuttle appealing including traveling with seniors or children.	3.5%
Time	Cited time savings as a reason to use the service.	2.6%

Respondents indicated that convenience and added value from historical interpretation were the most compelling reasons to ride the shuttle. The two most common themes, *Ease of Use* and the *Convenience* of the service, reflect the opinions of more than 50% of the willing respondents who provided additional feedback. The *Convenience* theme however, was generally a short response answer from respondents who often failed to elaborate exactly what aspect of the shuttle they deemed more convenient:

- "It appears to be interesting and very convenient"
- "Timely service, convenience"

The historical interpretation offered aboard the vehicle appealed to approximately 16% of respondents. Another 15% of respondents listed economic or environmental factors that appealed to them.

- "Love information on history! And free weekends at the park - though it wasn't well advertised."
- "Yes, I would have liked to hear the historical information as I traveled."
- The price is right! Also convenient
- Conserve fuel; minimize impact on climate

Responses classified in the *Other* theme included feedback that could not be categorized within the general theme areas. A few of these respondents noted the apparent lack of advertising and information regarding the service. Their responses echo previous notions of insufficient information regarding the service:

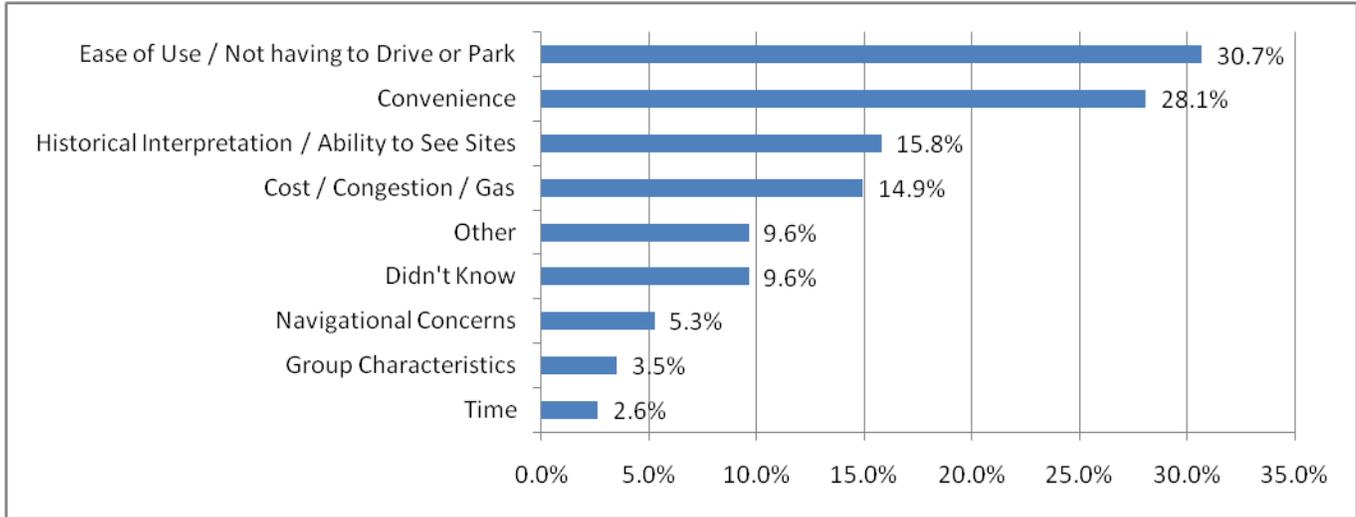
- "Not enough signs at Williamsburg. Map makes it seem far away - need advertisements."

- Saw it but didn't know much about it. Need more advertisements.

Figure 9 illustrates the percentage of respondents who cited each theme as a reason they were willing to use the service.

Figure 9: Percentage of respondents citing theme (willing to use shuttle), N = 114

Source: Volpe Center



No prior shuttle knowledge – unwilling to ride

Of the 63 respondents who indicated that they would not use the shuttle on a subsequent visit, 10% did not provide any additional feedback. The responses of the 57 respondents who provided additional information were analyzed and categorized into seven themes. The themes and their definitions are provided in Table II.

Table 11: Open-ended response topic area and definition for visitors not willing to use shuttle, N =57

Source: Volpe Center

Theme	Definition	Percent
Personal Vehicle	These respondents noted that owning or having access to a rental vehicle was itself a sufficient justification to not use the shuttle.	43.9%
Shuttle Schedule	These respondents cited that having to travel on the shuttle's schedule and pace conflicted with their ability to see the sites.	26.3%
Attraction Characteristics	Respondents in this category noted that the sites require too much time to visit more than one site per day. Other respondents cited the desire to travel to other local attractions (e.g. Busch Gardens) or that their visit to the area was beginning or concluding and would be continuing on to other destinations.	17.5%
Other Mode	Noted another mode not including a personal vehicle as the reason to not use the shuttle. Other modes included walking, cycling, and Jamestown-Scotland ferry service.	5.3%
Group Characteristics	Attributed the reason for not using the shuttle on a particular member of the group (e.g. infant) or group characteristics that would impede their ability to comfortably see the sites (e.g. wheelchair, stroller).	5.3%
Other	Responses which cannot be categorized in any of the other themes or offer no insight into the response.	3.5%
Local Visitor	These respondents noted that they were local visitors, often residing in Williamsburg, Hampton, or Newport News region. Some respondents noted that they resided closer to the actual site than to Williamsburg, making any use the HTS onerous.	1.8%

The reasons for not using the shuttle remain consistent among respondents both with and without prior knowledge of the service. The most common response from visitors without prior information and unwilling to use the service after reading the informational passage, was that owning a car or having a rental vehicle was a sufficient reason to not use the service:

- “Don't need to. We have a car”
- “Don't like group function. I like independence!”
- “Could not wait 30 min in between unless we were staying longer next time”

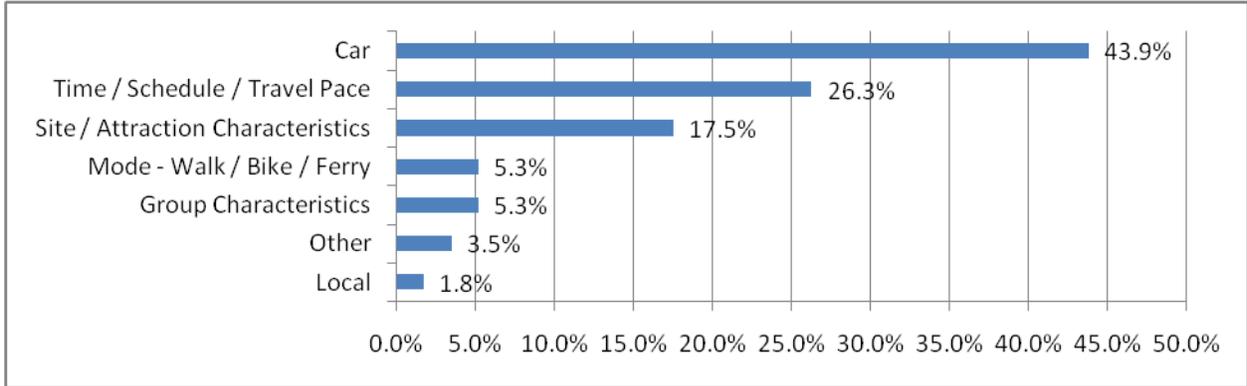
Similarly, the next two most common response themes, Shuttle Schedule and Attraction Characteristics, also remain consistent regardless of prior knowledge of the service. Respondents noted their intent to only visit one site per day or to continue on to other area attractions not easily accessible via the shuttle. A few respondents cited additional sites such as the Yorktown Battlefield and Jamestowne Island Drive that require vehicles to enjoy the sites in their entirety:

- “Son interested in Military History more so than what Williamsburg and Jamestowne have to offer”
- “Just came to see the battlefield”

Figure 10 illustrates the percentage of respondents citing each theme, for those not willing to use the service.

Figure 10: Percentage of respondents citing theme (not willing to use shuttle) N =57

Source: Volpe Center



No prior knowledge – undecided riders

Of the 67 respondents who were previously unaware and indicated that they may use the shuttle on a subsequent visit, 43% did not provide any additional feedback. The responses of the 38 respondents who provided additional information were analyzed and categorized into nine themes. Due to the small sample size, it is difficult to draw any firm conclusions. The themes and their definitions are provided in Table 13.

Table 12: Open-ended response topic area and definition for visitors who were unsure regarding future shuttle use, N =38

Source: Volpe Center

Theme	Definition	Percent
Personal Vehicle	These respondents noted that owning or having access to a rental vehicle itself was a sufficient justification to not use the shuttle.	28.9%
Shuttle Schedule	These respondents cited that having to travel on the shuttle’s schedule and pace conflicted with their ability to see the sites.	26.3%
Attraction Characteristics	Respondents in this category noted that the sites require too much time to visit more than one site per day. Other respondents cited the desire to travel to other local attractions (e.g. Busch Gardens) or that their visit to the area was beginning or concluding and would be continuing on to other destinations.	21.1%
Group Characteristics	Attributed the reason for uncertainty regarding future use of the shuttle on a particular member of the group (e.g. infant) or group characteristics that would impede their ability to comfortably see the sites (e.g. wheelchair, stroller).	15.8%
Other	Responses which do not address the question sufficiently within any of the other themes.	7.9%
Traffic / Congestion	Noted time and environmental savings in avoiding traffic congestion through the use of the shuttle service.	5.3%
Personal Vehicle Convenience	Noted the convenience of using a personal vehicle.	5.3%
Local Visitor	These respondents noted that they were local visitors, often residing in Williamsburg, Hampton, or Newport News region. Some respondents noted that they resided closer to the actual site than Williamsburg, making any use of the shuttle onerous.	5.3%
Shuttle Convenience	Noted that the shuttle appeared to be more convenient than driving in a personal vehicle.	2.6%

Comments from undecided respondents generally followed the pattern of those unwilling to ride.

While the distinction between whether an undecided respondent was leaning in favor of or against future use of the shuttle was often difficult to assess because of the survey design, a comparison with the yes and no qualitative data suggests that a majority of undecided respondents lean against future use of the service. The three most common response themes; *Personal Vehicle*, *Shuttle Schedule*, and *Attraction Characteristics*, closely mirror the responses received by respondents unwilling to use the service:

- “Organizing with kids is easier by car - might take shuttle when kids are older”
- “Only visiting for one day - limited time for touring with family”

It was often unclear whether respondents citing the characteristics of their visitor group considered the shuttle or vehicle to be advantageous. Approximately 5% of respondents explicitly indicated that a personal vehicle would be more convenient while 2.6% indicated that the shuttle would be more convenient.

- “We like driving the Historic National Parkway, but it would depend if we were going to two sites in one day”

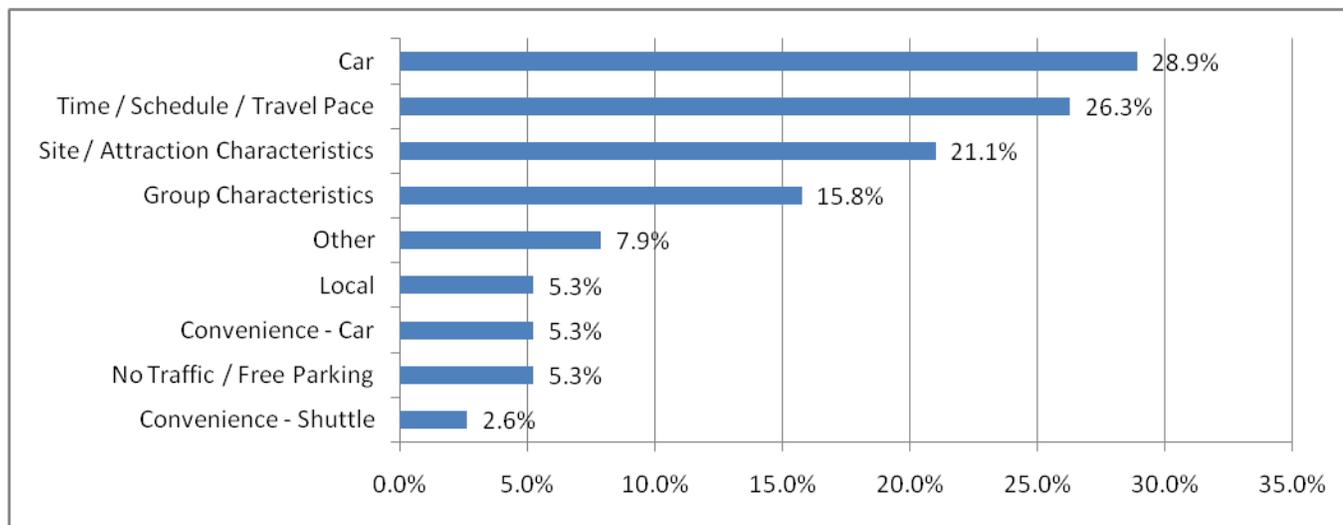
One respondent, once again, noted a clear disadvantage in using the shuttle as compared with a private vehicle as some sites at both Historic Jamestowne and the Yorktown Battlefield are best accessed via a more independent mode of transportation:

- “Without the vehicle, I would not have visited the island drive”

The percentage of respondents citing each is available below in Figure 11 and a table containing the complete responses is available in Table D4 in the Appendix.

Figure 11: Frequency of open-ended response topic areas – respondents maybe willing to use shuttle, N =45

Source: Volpe Center



Comparison with 2009 rider survey

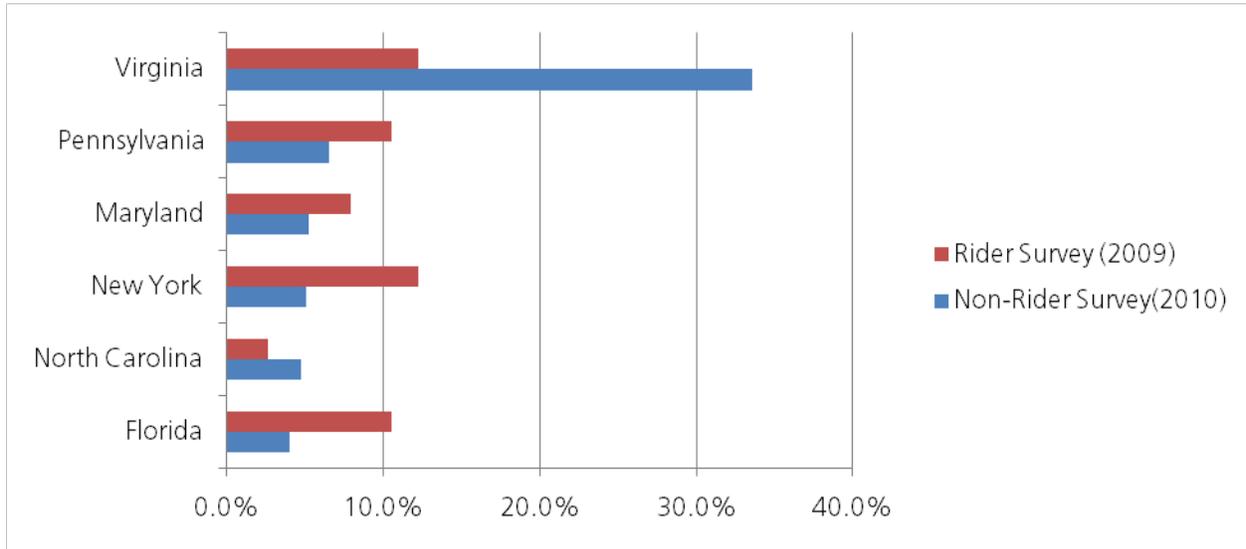
The team compared the results of the August 2010 non-rider survey with those of the August 2009 survey of shuttle riders (see *Shuttle Service Survey Report*) to determine whether there were significant differences in the characteristics of these two groups which could explain the choice to use the shuttle. Overall, the characteristics of the two groups were fairly similar.

The distribution of ages is nearly identical, indicating a consistent sampling of park visitor groups among both studies and indicating a consistent visitor profile and age distribution. Group size was also consistent, at approximately three visitors per group. The distribution of first-time and repeat visitors was also similar, with 54% first-time visitors in 2010 and 64% first-time visitors in 2009.

Examining place of residence for visitor groups (Figure 12), the study team found that a higher percentage of non-riders (33%) than riders (12%) were local, with Virginia as their place of residence. This is consistent with the finding that a majority (56%) of shuttle riders spent 4-7 days in the area. NPS staff indicated that it is also possible that the fee-free weekend drew a higher than usual number of local visitors, as the press releases on the fee-free events tend to be released only shortly before the event, which is less conducive to advance planning by visitors from outside of the area. Aside from this difference, the overall pattern was fairly similar. The split between international and domestic groups and the most common states of residence were consistent.

Figure 12: Most frequent place of residence for visitor groups, 2009 and 2010

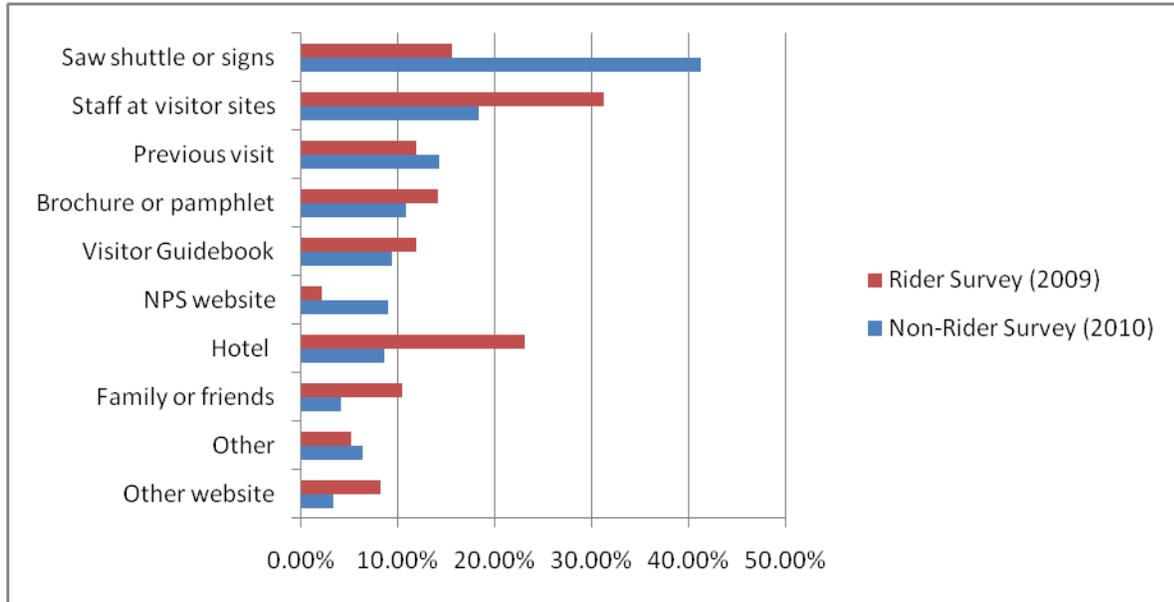
Source: Volpe Center



Respondents in both surveys were asked about the information sources they used to become aware of the shuttle. Respondents had the option to select more than one resource. Shuttle riders most frequently learned about the shuttle service from staff at visitor sites or from their hotel, i.e. by interacting with a person. Only 8% of shuttle riders selected the NPS or other website as their source of information about the shuttle. Non-riders, however, most frequently learned about the service by seeing it in operation, presumably after making their travel plans and arriving in the area. Figure 13 below depicts the resources cited by non-riders aware of the service as compared with the resources cited by riders in 2009.

Figure 13: Comparison of resource cited for shuttle awareness

Source: Volpe Center



3 Conclusions and recommendations

This section highlights major conclusions drawn from the review of the 2010 non-rider survey and provides recommendations based on the data from both the rider and non-rider surveys.

Conclusions

There are no clear differences in visitor age or group size between shuttle riders in 2009 and non-riders in 2010. Supporting the idea that age and group composition are not strongly related to shuttle use is that a small percentage of respondents indicated visitor group composition factors (e.g., traveling with senior citizens, toddlers, etc.) as reasons to both support and reject the shuttle. Rather, differences in itinerary, the level of information about the shuttle, and personal preference seem to be important in making the decision to use the shuttle.

Local visitors may be less likely to ride the shuttle than out-of-state visitors. A number of non-riders stated their “local” status as a reason for not riding the shuttle. The 2009 rider survey found that 56% of shuttle riders were spending four to seven days in the area, suggesting the shuttle appeals mainly to those making those visiting the area for several days. Compared with the 2009 rider survey, there was a higher percentage of local visitors among non-riders. However, the administration of the survey during a fee-free weekend may have influenced the overall number of local visitors, so it is difficult to draw a firm conclusion.

Shuttle ridership at Colonial NHP suffers from a lack of visitor awareness. 51% of respondents were unaware of the service and many of those who were aware of the service prior to the visit lacked sufficient information regarding the service.

Trip planning resources generally lack detailed information regarding the service. Information regarding the shuttle service, hours, and routes varies widely among the information sources. The study team reviewed the content available from the online resources to determine the accessibility of HTS/JAS information. While the “brochure” and “guidebook” categories were popular resources with visitors, the number and variety of these resources made it impossible to assess the amount and detail of shuttle information they provided. Overall, it is difficult for potential visitors to find clear, easy-to-understand information on the shuttle service online. The results of the resource review are summarized in Appendix E.

There are opportunities to increase ridership through better information. Survey staff noted that many respondents verbally expressed clear interest in the service as a valuable amenity at Colonial NHP. Staff also anecdotally noted that a number of respondents indicated that their experience at Colonial NHP could likely have been improved by the service had they known about it prior to their visit. Approximately two-thirds of visitors who had visited the site previously, but had been unaware of the service, expressed willingness to use the shuttle on subsequent visits.

Colonial NHP staff have a key role to play in promoting shuttle use. In 2009, shuttle riders most frequently learned about the shuttle from park staff. Among non-riders, park staff were the second most common source of information on the shuttle after seeing it in operation. On the other hand, one respondent in 2010 noted that visitor site staff had informed them that it was better to visit the sites by car. This may point to the need for better training for park staff on the shuttle, or it may have been due to the visitor’s itinerary.

Visitors view the recorded narration aboard the shuttle as an attractive amenity, but it is not mentioned on any of the websites reviewed. Indeed, the NPS sites (Colonial, Jamestown, Yorktown) stress that there is no interpretation provided on the vehicles. While there is an understandable desire not to disappoint visitors who might otherwise expect a ranger-led tour on the shuttle, there should be a middle ground. The narration was cited as the third most popular response for reasons that non-riders would ride in the future and the 2009 rider survey found that 37% of groups that reported that the

historical information available had factored into their decision to use the shuttle. It should be noted, however, that few reported historical information to be their primary reason for using the service.

Some visitors will continue to be better served by using their personal vehicles, given the large area covered by the historic sites and the shuttle's operational structure. This conclusion is supported by the consistency of responses received from respondents unwilling to use the shuttle both with and without prior knowledge of the service. A few respondents pointed to the route alignment's inability to provide a direct ride from Historic Jamestowne to Yorktown, which instead requires passengers to disembark at Colonial Williamsburg and board a second shuttle before continuing on to the next site. Others noted the difficulties in viewing the sites completely, citing that had they used the shuttle they would have been unable to see the Jamestowne Island Drive or parts of the Yorktown Battlefield. These visitors also indicated a strong preference for their personal vehicles and enjoy the independence offered by visiting the sites in a private vehicle.

Recommendations

Based on the survey findings, the study team developed a set of recommendations for increasing shuttle ridership. Given the uncertain future of ongoing funding for the shuttle, the recommendations below focus on low-cost strategies, although other strategies are discussed as well.

Information dissemination

The primary recommendation is to improve the quality and accessibility of information regarding the shuttle service. Current passenger information materials on the NPS website and other area attraction websites are fragmented and difficult to understand. Because most potential users have little experience with transit services, improving the quality of information disseminated through websites, pamphlets, and visitor guides will ease potential visitor discomfort with using alternative transportation.

The study team observed that, in general, there is a high degree of confusion among visitors regarding the shuttle service, its route alignment, and service parameters. Many groups indicated a willingness to use the service had they become aware of it earlier in the trip planning and decision making process. In general, these groups thought the shuttle would be convenient and easy-to-use, and found the historical interpretation appealing.

Improve the quality of information available on NPS websites. 41% of visitor groups reporting using the NPS website were unaware of the shuttle. Analysis found that, of those visitors who used the NPS website and were aware of the shuttle, only 24 of them (32%) listed the NPS website as the medium used to learn about the shuttle. The other 68% (51 respondents) had learned about the shuttle from other sources. These findings suggest that information available on websites currently is not effective in encouraging visitors to make use of the shuttle.

However, websites provide a low-cost way of reaching a large audience and NPS-controlled websites offer a relatively direct way for park staff to provide information to potential visitors. Specific recommendations are below.

- Post shuttle information on the most relevant pages for visitors. For example, in the 2010 season, the highest-quality information on the shuttle was provided in the press release under the "Park News" link, which prospective visitors are less likely to consult than the "Plan Your Visit" section. Many parks include information on alternative transportation under the "Directions" or "Public Transportation" sections, in addition to "Things to Know Before You Come". Including links from all of these sections will help ensure that visitors find the information. Including shuttle information only under "Public Transportation" is not recommended, as visitors may overlook that section if they are traveling by private vehicle.
- Include the following elements on every page mentioning the shuttle service, or provide via an easy-to-find link from that page:
 - Clear information on the route and stops. A printable and downloadable route map with stops clearly marked is suggested. If a PDF is provided, the second page should include

the timetable and a phone number for more information. In addition, on at least one NPS page, a simple listing of the stops, with a one-sentence description of what there is to see, or links to more information, would be useful in helping visitors to understand the service and decide if it will take them where they want to go.

- A timetable, preferably printable and downloadable.
- A photo of the shuttle vehicle.
- Promote features of the service that shuttle riders and potential riders indicated that they find appealing.
 - The ability to relax and leave navigating the many sites to the shuttle drivers.
 - On-board historical interpretation. This feature is appealing to visitors. The language should clearly indicate this is recorded narration, to avoid disappointing those who may be expecting an on-board guide.
 - Accessibility for the mobility-impaired.
 - The ability for larger parties to split up and visit separate sites, for groups with limited time at the park.

Expand the use of social media tools. Park staff could also take a proactive role in improving the quality of information on third-party websites, such as www.tripadvisor.com. Consumer-generated review and advice websites are increasingly popular with travelers in the United States. Many of these resources can be edited by any user; some provide special access for staff members of the place being reviewed. In the case of Trip Advisor, the study team found erroneous information advising visitors that they must purchase a ticket to ride the shuttle (as of the date the site was reviewed (12/20/10)). Colonial NHP is already taking advantage of other social media tools, such as Twitter; these outlets will likely become increasingly important in reaching certain audiences.

Continue working with partners. Continuing to issue press releases to partners and tourism-related organizations is recommended. Links on area websites may reach visitors who do not consult the NPS website directly. The URL provided in the press release should direct users to the NPS page with the information listed above. The list of press release recipient should be reviewed to ensure it is as thorough as possible. As hotel staff and staff at visitor sites were a common source of information on the shuttle, it is important to continue to reach out to these groups.

Other strategies

Use traditional advertising. Given the high number of non-riders who were unaware of the shuttle service and nearly 20% of non-riders reported not consulting any trip planning resources, using traditional advertising media, such as print, outdoor, or television or radio advertising may be effective in increasing shuttle awareness and ridership. Detailed strategies were considered by the study team to be out of the scope of this study and these media are likely to be cost-prohibitive for Colonial NHP. If these media are used, a message which focuses on the elements of the service which respondents found attractive is recommended.

Increase visitor access to park sites. Non-riders of the shuttle raised concerns regarding the limitations of the service, particularly the inability to explore the Yorktown Battlefield and Jamestowne Island Drive. Colonial NHP could explore alternatives that facilitate access to these sites without a personal vehicle. Some potential alternatives include the creation of a concessionaire bicycle rental at the visitor centers or more extensive ranger-guided tours aboard a tram-like vehicle. A bicycle rental service would best support shuttle ridership if it were implemented on the “bike sharing” model, whereby users could pick up and drop off cycles at every shuttle stop. Changes to the route alignment, such as providing a “one-seat” ride without the need to transfer at Colonial Williamsburg, or providing new service to areas not served today could also theoretically attract additional shuttle riders.

Consider financial incentives. Incentives to shuttle use, such as charging transportation or parking fee, were discussed in the *Alternative Transportation System Evaluation and Business Plan* (2010). A parking fee, for example, could serve as both a ridership incentive and a new funding stream to support shuttle

operations. However, the 2010 business plan study found that charging a parking fee, in particular, was not supported by stakeholders.

Conclusion

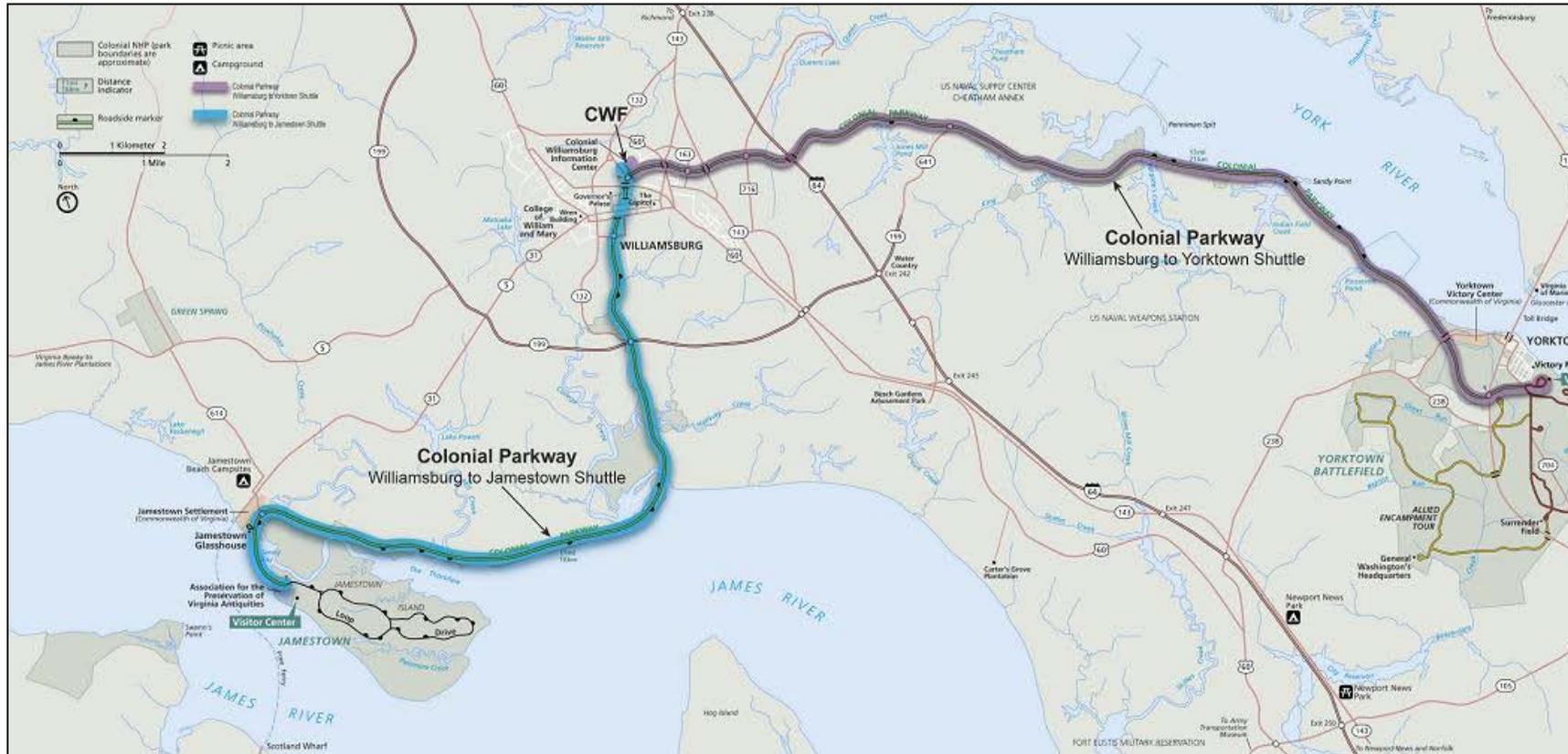
Staff at NPS sites often work hard to develop and promote alternative transportation services for visitors, but are hampered by a lack of information on why visitors choose to use the service or not. The 2010 survey of visitors who did not ride the shuttle at Colonial NHS, in tandem with the 2009 survey of shuttle riders, provides useful insights into visitor characteristics and motivations.

The survey of non-riders at Colonial NHS found that a number of visitors are interested in using alternative transportation, but lacked sufficient information on the service. It also suggests that, so long as visitors have the option to freely use personal vehicles, others will continue to do so, due to their planned itineraries and personal preferences. While the park can do little to affect these latter factors, it is possible for the park to take action to improve visitor awareness of the service.

Appendix A: 2010 HTS schedule and route alignment

A 1: Map of Colonial Shuttle service routes

Source: NPS



A 2: Historic Triangle Shuttle schedule

Source: NPS

All service available from March 22 through October 31, 2010



HISTORIC TRIANGLE SHUTTLE



Jamestown Route	
Colonial Williamsburg to Jamestown	Jamestown to Colonial Williamsburg
9:00 am	9:30 am – Historic Jamestowne
9:30 am	9:35 am – Jamestown Settlement
10:00 am	10:00 am – Historic Jamestowne
10:30 am	10:05 am – Jamestown Settlement
11:00 am	10:30 am – Historic Jamestowne
11:30 am	10:35 am – Jamestown Settlement
12:00 pm	11:00 am – Historic Jamestowne
12:30 pm	11:05 am – Jamestown Settlement
1:00 pm	11:30 am – Historic Jamestowne
1:30 pm	11:35 am – Jamestown Settlement
2:00 pm	12:00 am – Historic Jamestowne
2:30 pm	12:05 am – Jamestown Settlement
3:00 pm	12:30 pm – Historic Jamestowne
3:30 pm	12:35 pm – Jamestown Settlement
	1:00 pm – Historic Jamestowne
	1:05 pm – Jamestown Settlement
	1:30 pm – Historic Jamestowne
	1:35 pm – Jamestown Settlement
	2:00 pm – Historic Jamestowne
	2:05 pm – Jamestown Settlement
	2:30 pm – Historic Jamestowne
	2:35 pm – Jamestown Settlement
	3:00 pm – Historic Jamestowne
	3:05 pm – Jamestown Settlement
	3:30 pm – Historic Jamestowne
	3:35 pm – Jamestown Settlement
	5:15 pm – Historic Jamestowne
	5:25 pm – Jamestown Settlement

Yorktown Route	
Colonial Williamsburg to Yorktown	Yorktown to Colonial Williamsburg
9:00 am	9:30 am – Yorktown Battlefield
9:30 am	9:40 am – Yorktown Victory Center
10:00 am	10:00 am – Yorktown Battlefield
10:30 am	10:10 am – Yorktown Victory Center
11:00 am	10:30 am – Yorktown Battlefield
11:30 am	10:40 am – Yorktown Victory Center
12:00 pm	11:00 am – Yorktown Battlefield
12:30 pm	11:10 am – Yorktown Victory Center
1:00 pm	11:30 am – Yorktown Battlefield
1:30 pm	11:40 am – Yorktown Victory Center
2:00 pm	12:00 pm – Yorktown Battlefield
2:30 pm	12:10 pm – Yorktown Victory Center
3:00 pm	12:30 pm – Yorktown Battlefield
3:30 pm	12:40 pm – Yorktown Victory Center
	1:00 pm – Yorktown Battlefield
	1:10 pm – Yorktown Victory Center
	1:30 pm – Yorktown Battlefield
	1:40 pm – Yorktown Victory Center
	2:00 pm – Yorktown Battlefield
	2:10 pm – Yorktown Victory Center
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	2:40 pm – Yorktown Victory Center
	3:00 pm – Yorktown Battlefield
	3:10 pm – Yorktown Victory Center
	3:30 pm – Yorktown Battlefield
	3:40 pm – Yorktown Victory Center
	5:15 pm – Yorktown Battlefield
	5:30 pm – Yorktown Victory Center



JAMESTOWN AREA SHUTTLE

Service between Historic Jamestowne, Jamestown Glasshouse and Jamestown Settlement. Stops every 10-15 minutes from 9:00 a.m. to 5:00 p.m.



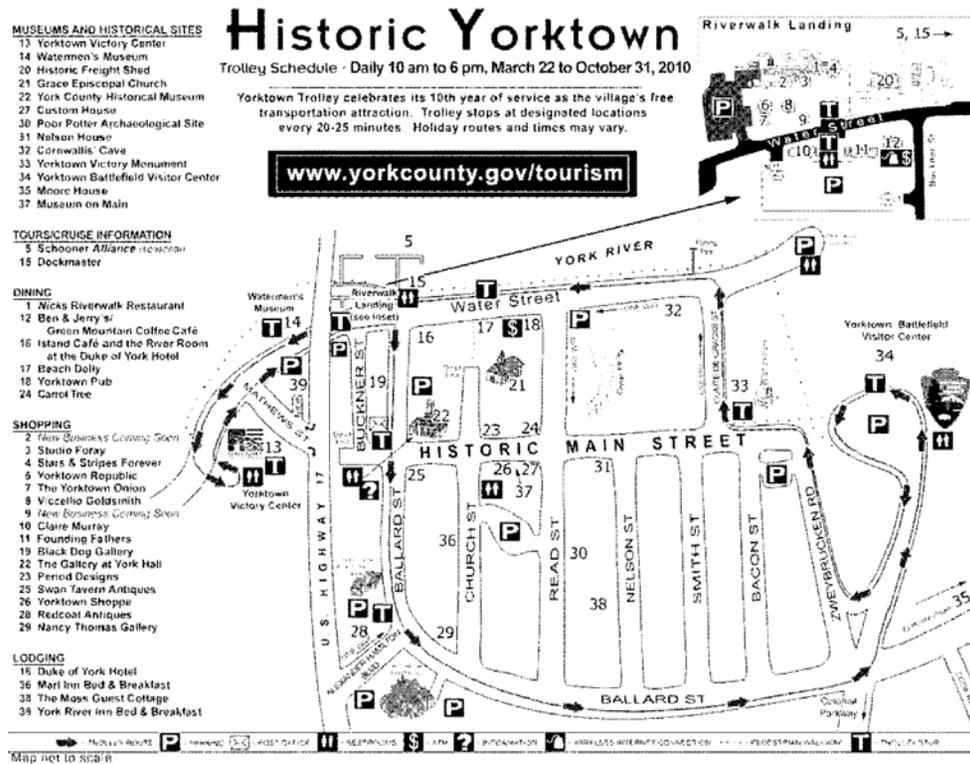
YORKTOWN TROLLEY

Service to Yorktown Battlefield Visitor Center, Yorktown Victory Center, Riverwalk Landing and other points of interest in Yorktown. Stops every 20 minutes from 10:00 a.m. to 6:00 p.m.

Appendix B: 2010 Yorktown Trolley schedule and route alignment

B 1: Yorktown Trolley schedule and route alignment

Source: NPS



Appendix C: Survey Instrument

Colonial National Historical Park: Visitor Survey

To help the National Park Service improve the transportation system at Colonial National Historical Park, please take a few minutes to answer the following questions. Thank you for your participation!

Please fill out one survey per family or group

1. Have you visited Colonial National Historical Park before today?

Yes No Don't know

IF YES, approximately how many times have you visited during the last 5 years?

_____ # of prior visits last 5 years

2. Including yourself, how many people in your personal travel group are:

_____ 2 years and under _____ 6-12 years _____ 19-29 years _____ 45-64 years
_____ 3-5 years _____ 13-18 years _____ 30-44 years _____ 65 or older

3. Where do you live?

City _____ State _____ ZIP _____

Country (if not US) _____

4. Prior to this visit, what information sources did you use to plan your trip to Colonial National Historical Park? (Check all that apply)

- | | |
|--|--|
| <input type="checkbox"/> None | <input type="checkbox"/> Historic Triangle Website
(http://www.historictriangle.com/) |
| <input type="checkbox"/> National Park Service website | <input type="checkbox"/> Visit Williamsburg website
(http://www.visitwilliamsburg.com/) or 1-800 number |
| <input type="checkbox"/> Visitor guidebook | |
| <input type="checkbox"/> Previous visit | <input type="checkbox"/> Williamsburg Hotel and Motel Association website
(http://www.gowilliamsburg.com/) or 1-800 number |
| <input type="checkbox"/> Family or friends | |
| <input type="checkbox"/> Brochure or pamphlet from visitor sites | <input type="checkbox"/> Colonial Williamsburg website
(www.history.org) or 1-800 number |
| <input type="checkbox"/> Other source: _____ | |

(OVER)

5. Are you aware of the shuttle service that provides transportation from Colonial Williamsburg to Historic Jamestowne sites and to Yorktown Battlefield?

___ Yes ___ No (*Go to Question 6*)

IF YES:

5a. How did you hear about this service? (*Check all that apply*)

- | | |
|---|--|
| <input type="checkbox"/> Staff at visitor sites | <input type="checkbox"/> Visitor guidebook |
| <input type="checkbox"/> Hotel/motel/timeshare/campsite staff | <input type="checkbox"/> Family or friends (word of mouth) |
| <input type="checkbox"/> Saw shuttle bus or signs for the service | <input type="checkbox"/> National Park Service website |
| <input type="checkbox"/> Brochure or pamphlet from visitor sites | <input type="checkbox"/> Tourism website or 1-800 number |
| <input type="checkbox"/> Previous visits | <input type="checkbox"/> Other: _____ |

5b. What factors influenced your decision not to take the shuttle?

IF YOU ANSWERED “NO” TO QUESTION 5 (YOU ARE UNAWARE OF THE SHUTTLE), PLEASE ANSWER QUESTION 6:

6. A free shuttle service provides transportation from Colonial Williamsburg to Historic Jamestowne sites and Yorktown Battlefield. The service arrives every 30 minutes and provides recorded historical information along the way.

6a. Now that you know a little about the shuttle, would you be willing to take it?

___ Yes ___ No ___ Not Sure

6b. Why or why not?

Thank you for your help in completing this Survey!

16 U.S.C. 1a-7 authorizes collection of this information. This information will be used by park managers to better serve the public. Response to this request is voluntary. No action may be taken against you for refusing to supply the information requested. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

BURDEN ESTIMATE STATEMENT: Public reporting burden for this form is estimated to average **3 minutes** per response. Direct comments regarding the burden estimate or any other aspect of this form to: Dorothy Geyer, Landscape Architect
Colonial National Historical Park
10815 George Washington Highway

Yorktown, VA 23690
Dorothy_Geyer@nps.gov

Appendix D: Open-Response Feedback

D1: Prior Shuttle Knowledge: Survey Question 5

Source: Volpe Center

Personal Vehicle

- Came by Car
- Driving is easier
- Like my own car
- Used to my Car
- Quicker to drive
- Have Car
- Personal Car
- Rental Car
- Preferred Personal vehicle
- Bus sickness - I like my car
- Car Rental and limited time
- Prefer to drive
- Driving
- We have our own car
- Rental Car
- Convenience
- Convenience
- Convenience of car to leave whenever
- Convenience - freedom to come and go as we please
- Prefer the convenience and time freedom of using our vehicle
- Convenience
- See sites in car
- Have own transportation
- Have my own car
- Radio available in car
- Private Vehicle
- Had a rental car and could take our time
- I like the comfort of the car
- Had own transportation
- Have car
- Car
- I like my car
- Rental Car
- Like to drive
- Wanted to drive own car
- Not needed
- Have a car
- own car
- Car
- Convenience
- On Motorcycle

- Drove
- Have a car
- Personal preference for personal car
- own vehicle - several other stops
- had car
- Convenience
- Easier to drive your car
- Easy drive
- we had a car
- prefer personal vehicle
- Driving car
- easier to drive
- 2 cars in party
- have car
- private vehicle
- Drove
- I like to drive
- we were driving!
- personal vehicle
- I drove - I can drive there
- own car was more convenient
- already here with car
- have own car = convenient
- We got a rental car
- own car
- Drove car
- We have a car
- Easier to drive
- HAVE CAR
- easier to drive at our own pace
- not necessary
- Have car/free parking

Attraction Characteristics

- Came direct from Jamestowne
- Came from different area
- We live in Newport News and drove ourselves
- Parked at Yorktown, took trolley
- Heading to beach after
- Came straight down
- Leaving area today
- On the way home from vacation

- Rental property was not at starting point
- Out to other attractions
- Visiting multiple locations in vicinity
- Only visiting one site per day
- Departing area today
- Driving on to Delaware
- Where we are staying we would have to drive to a second site to catch the bus.
- Headed out of town
- Spent time on Yorktown battlefield
- Traveling to Roanoke
- Traveling to multiple locations
- Closer to drive from hotel; used shuttle at Williamsburg
- We are staying nearby
- Leaving Town
- Came straight from hotel
- Parked at Historic Jamestowne
- Leaving after visit
- Proximity to hotel - very close
- Not going to the other sites today
- Heading home from site
- Leaving for home from here
- Length of stay
- Did not know what we were going to visit
- Came direct from Richmond
- Convenience, came right from hotel
- going on somewhere else after we leave here
- Drove from home directly here
- Only visiting this site
- other activities
- plan to attend other area attractions

Shuttle Schedule

- Time
- Not knowing how late we would stay for dinner
- Time
- Like to look on my own
- Time
- Kids Schedule
- Self-Tour
- Own schedule - didn't want to be tied to the bus schedule
- Narrated tour on bus; thought it would be easier to make it to ranger program times by driving. Did not want to wait for shuttle. Avoid crowds by driving; not arriving with everyone else.

- Only 1 stop
- Time - All day events (went to Williamsburg yesterday)
- Took it earlier this week - wanted a change of pace
- Flexibility
- Horrible Experience! Overcrowded. Nothing of interest to see out the windows.
- Crowding; Independence
- On our own schedule
- Crowdedness Sometimes
- Time
- lack of familiarity
- Prefer to drive on own time
- Not fully familiar, time, convenience of traveling with 6 family members
- Travel at our own pace and stop along the way
- Wanted more flexibility
- Time, In a rush
- Weather, Short Distance
- Probably would take more time than by car
- Flexibility of owning a vehicle
- Convenience
- set own pace
- time involved
- Wanted to use my own vehicle so I could go where and when I wanted
- Freedom to drive and leave when we wanted
- 4 people, looking for flexibility
- Independence
- did not want to wait
- wanted to do other site seeing in between
- Wanted to travel on our own time frame (not have to be on shuttle schedule)
- wanted to follow our own schedule
- Time
- Like the freedom to stop along the way, change routes to see other places of interest - less time restrictions
- Person at visitor information @ Williamsburg said it was easier to see Yorktown Battlefield by car
- Freedom of time and movement - our own schedule
- our itinerary would NOT have been helped
- wanted to stop and have lunch

- Freedom of control over my time
- timing, convenience
- personal convenience and additional travel today
- It was easier to come and go and stop as we pleased in our own car
- Flexibility - Yorktown was last if time allowed. Did not know it was FREE

Local Visitor

- Local, own car
- Coming from home
- Live here; time constraints
- I live here
- We live here
- I live less than 2.5 miles from the site
- Local
- Proximity
- Live in the area
- Live local. We drive
- I live nearby
- Have our vehicle here and live close by
- Local tourist
- we are residents and drove here from home
- Local - easier to drive
- Live too close
- live here

Group Characteristics

- Ease - Traveling with baby
- Easier to take car with kids
- Number of people in party, time, live in the area
- Too hard to travel with infant
- Have baby - easier to drive
- We have a wagon to pull the kids in.
- Time and Father's Health Condition
- Have dog with us
- we have a small child and a schedule
- Grandchildren
- I wasn't the driver :)
- Car seats
- Have dog with us
- need to come and go quickly due to infant
- Small kids / Too much to carry/ TOO HOT!

- more comfortable in own vehicle with large group
- Like to have access to cooler in car

Insufficient Information

- Just saw shuttle when we got here and then asked
- We were at the park already
- Didn't know it was free; walked today
- Didn't think about it
- just saw it driving into Jamestown
- Did not know of it
- N/A
- we didn't know about it before
- did not know about it
- N/A
- saw the information too late (that is after arriving in Williamsburg)
- Location and times not clearly available in AAA tourbook, cost unknown

Other Mode

- Bike
- Need exercise - nice day
- Wanted to take Ferry
- Walked
- Biking Instead
- Walk
- Wanted to take ferry and visit other sites
- prefer walk/drive
- exercise

Riding Later

- Might take it later
- Might take it later today
- Might take it later
- Might take shuttle today
- Not Sure
- Plan to use shuttle later
- Limited time today, will likely take the shuttle on a longer day, maybe tomorrow...
- Leaving all options open
- Checking out the site. We will probably take the shuttle in the future
- Easier and more time savings to drive to sites if we have more time to spend here;

will definitely take shuttle for convenience

Williamsburg

- Did not intend to spend time in Williamsburg
- Not coming from Williamsburg
- Didn't go to Williamsburg
- Would have to drive to Williamsburg from resort; faster to drive
- Used it in Williamsburg
- Didn't go to Williamsburg

- Not visiting Williamsburg - came directly
- Didn't go to Williamsburg. First stop today
- We are closer going to than Colonial Williamsburg
- Stayed in Williamsburg - limited time here

Free Parking

- Knew there was free parking
-

D2: No Prior Shuttle Knowledge: Respondents Willing to use shuttle on Future Visits (Survey Question 6)

Source: Volpe Center

Ease of Use

- Best mode to travel, free
- Save driving others (?)
- Easier
- Sounds like fun!
- Easier than driving
- Not having to park or drive
- Seems useful
- Not have to drive
- Enjoyable; stress free
- Easy Transportation
- Ease
- it will be easier to get around
- Ease of getting around
- Won't have to use car
- Easier to park and when friends visit
- Ease of use; reduced emissions
- Easy to tour the area
- Easy
- Ease - but do have an impatient 7 year old, so only in the cooler months.
- No need to park
- Not having to drive would be a bonus
- I was not aware, but would enjoy the freedom of not having to drive or park.
- less driving
- Wouldn't have to worry about parking, gas, directions, etc.
- Leave the driving to someone else
- easier to see more
- easier
- Depends on the cost. Seems easier to get around
- It's easier to park and ride
- don't have to drive
- Don't have to drive, get information, relaxing
- Saves driving and the information would be helpful

Convenience

- Timely Service, Convenience
- Convenience
- Convenience
- Convenient

- Convenience
- Convenience
- Convenience, Narrative, Not Having to drive, need info for shuttle at campsites
- Convenience
- Parking the car is inconvenient
- Convenient and informative
- Convenient
- Convenience
- Convenience
- Convenient and useful
- convenience, information
- Convenience
- Convenience, I dunno
- Convenience, accessibility
- Convenience and saves on gas!! :)
- convenience
- more convenient
- Convenience, less driving
- Ease of convenience
- convenience - no driving
- increased convenience, economical
- Convenience, environmental considerations
- More convenient
- Convenience

Historical Interpretation

- Provides Historical information, easier with a handicapped group member.
- Love information on History! & free weekends at the park - though it wasn't well advertised.
- Yes, I would have liked to hear the historical information as I traveled.
- Recording / Interpretation
- It would be fun and different
- Information during trip
- To learn more about the various sites
- For the recorded info
- Easier, provides information
- Sounds very informative
- Historic value
- to get from one place to another and hear great info along the way
- would be interesting and informative

- new experience
- It appears to be interesting and very convenient

- Needs more advertisement - didn't even know it existed
- Saw it but didn't know much about it. Need more advertisements.

Economic / Environmental Concerns

- Less Congestion
- Save Gas
- Save Gas
- Save gas
- Conserve Fuel; minimize impact on climate
- Alleviate traffic - no need for directions
- Save gas
- save gas
- The price is right! Also convenient
- saves on gas and is a good transportation
- Because its free
- because it's free -- save gas

Didn't Know

- Of course! Didn't know about it.
- Didn't know about it
- Great - didn't know it existed
- Like the idea - wish we had known ahead of trip
- In future, I would plan day for part Col. Williamsburg / Jamestown/Yorktown. Shuttle sounds great!
- Out of town - need more information
- Hotels and resorts can inform guests of the service
- Not enough signs at Williamsburg. Map makes it seem far away - need advertisements.
- Had I known about the pick-up site, I would have taken the shuttle.

Other

- Just got into town
- but arrived by bicycle
- Sounds Great!
- Absolutely!
- Fun, enjoyable
- See above
- Why not?

Navigational Concerns

- Saves time and will guide us in an unfamiliar area.
- Keeps me from getting lost
- Able to pay attention to the sights
- So that I can see instead of driving by.
- Won't get lost easily

Group Characteristics

- The kids like bus rides. We won't have to find another parking space.
- Makes visits easier with grandchildren

Time

- Times/ Schedule/Map needed
- We are driving through the area and plan to visit 1 to 2 stops at most. If we stayed longer, we definitely would have made use of the public shuttle
- wore out

D3: No Prior Shuttle Knowledge: Respondents Unwilling to use shuttle on Future Visits (Survey Question 6)

Source: Volpe Center

Personal Vehicle

- We have our car
- Own Vehicle
- Because I drove here in my own car
- Borrowing a vehicle
- Easier to drive
- We have a car
- Own Car
- Like to drive
- Drove car
- Driving
- Have car
- Drove car
- Car
- Driving is easier, convenient
- Car is more convenient
- LR: Always have a car
- I have a car
- We like the freedom of our own car.
Perhaps we would be more interested if we had no car.
- Prefer to drive - more convenient
- HAVE CAR
- Don't need to. We have a car
- Convenient to have the car
- Driving to each site
- prefer to drive, stop when we want

Shuttle Schedule

- Did not want to depend on another form of transportation when it was time to leave.
- Prefer to travel at our own pace
- Time - schedule does not permit
- Like to travel at own pace
- Time
- Time
- limits my time
- not flexible enough
- not enough time today
- Could not wait 30 min in between unless we were staying longer next time
- We don't have time
- Don't want to be on a schedule
- rather have control
- Like to sightsee at our own pace

Attraction Characteristics

- Saw all sites without the bus
- On the way home
- Parking in Colonial Williamsburg is scarce
- Because we only have 2 hours before we leave today - sadly - otherwise we would have loved to use the shuttle!
- Not sure I want to go to Williamsburg, and after I visited I would need to come back to get car
- Not going to Williamsburg today as we have been there in the past
- we go lots of places that are between stops and it is not convenient to where we stay
- leaving town

Other Mode

- Want to walk
- Going to take Ferry

Group Characteristics

- I need to be able to come and go quickly since I am traveling with young children
- Don't like group function. I like independence!
- have the dog

Other

- Son interested in Military History more so than what Williamsburg and Jamestowne have to offer.
- Just came to see the battlefield
- Don't live here
- No reason

Local Visitor

- Local. Drive from my home to here
- live close to the park, so the shuttle would be out of the way

D4: No Prior Shuttle Knowledge: Unsure Respondents (Survey Question 6)

Source: Volpe Center

Personal Vehicle

- Flexibility of driving. Lack of traffic/parking.
- Have a car and traveling with kids, more convenient to drive
- Prefer to drive
- Hire car
- we have our own transportation
- we like the independence of our own transportation
- Convenience, previous car rental, time
- Traveling through area using personal car. Going on to other sites from here
- not sure- would like to drive ourselves

Shuttle Schedule

- Time
- Waiting Time
- Time
- need to check with family - how much time involved
- Depends on what the travel time difference would be
- time
- lack of time
- may be ----- and have little time

Attraction Characteristics

- Not staying in town
- Because we are Camping!
- Only visiting one site today
- depending on arrival time
- may not visit both sites
- Depends on what we are doing

Group Characteristics

- Organizing with kids is easier by car - might take shuttle when kids are older

- Visiting family
- Need to discuss with group; baby accessories
- Only visiting for one day - limited time for touring with family
- timing with kids and how long they would be willing to do 1 part or another

Other

- Without the vehicle would not have visited the island drive
- Need to discuss
- Not sure I have the opportunity to return here

Traffic / Congestion

- Cut down on driving. It's free

Personal Vehicle Convenience

- We like driving the Historic National Parkway, but it would depend if we were going to two sites in one day
- Prefer personal car

Local Visitor

- I live in the area
- Live here - car would be easier for getting here, although if start in Williamsburg would most likely use shuttle

Shuttle Convenience

- Confusing to drive in
- It would be nice to not have to drive when the park is busy, free

Appendix E: Review of Trip Planning Resources

To better understand the survey findings regarding trip planning resources and the source of information on the shuttle, the study team conducted a review of the online trip planning resources to determine the accessibility of shuttle information. While the “brochure” and “guidebook” categories were popular resources with visitors, the number and variety of these resources made it impossible to assess the amount and detail of shuttle information they provided. Other sources, such as “friends and family” could not be reviewed for content. Information regarding the shuttle service, hours, and routes varies widely among the information sources. Overall, it is difficult for potential visitors to find clear, easy-to-understand information on the shuttle service online.

Resource	Content	HTS/JAS Information
Colonial > Plan Your Visit > Directions http://www.nps.gov/colo/planyourvisit/directions.htm	Driving directions and narrative information on the HTS/JAS and Yorktown Trolley. Provides links for “maps” and “public transportation”	<ul style="list-style-type: none"> • Narrative description of route • No route map or link to route map • No timetable • States that HTS is “public transportation only” and does not provide “interpretive” service
Colonial > Plan Your Visit > Directions > Public Transportation http://www.nps.gov/colo/planyourvisit/publictransportation.htm	Mentions availability of rental cars, Amtrak service, nearby airports, etc.	<ul style="list-style-type: none"> • Similar information as above; no maps or links to maps • A link to a PDF timetable is provided
Colonial > Park News > News Releases http://www.nps.gov/colo/parknews/historic-triangle-shuttle-available-march-22-to-october-31-in-2010.htm	Press release on the 2010 HTS / JAS service.	<ul style="list-style-type: none"> • Provides longer narrative description of shuttle service • A link to a PDF timetable is provided
Yorktown Battlefield > Plan Your Visit > Directions http://www.nps.gov/york/planyourvisit/directions.htm	Mentions availability of rental cars, Amtrak service, nearby airports, etc.	<ul style="list-style-type: none"> • Brief paragraph with dates of service, headways, and departure point • No links, maps, or timetable
Yorktown Battlefield > Plan Your Visit > Things to Know Before You Come > Getting Around http://www.nps.gov/york/planyourvisit/gettingaround.htm	Provides information on Yorktown Trolley and HTS	<ul style="list-style-type: none"> • Brief narrative description of both services • Directs visitors to Colonial Williamsburg Visitor Center or Yorktown Information Desk for more information • A link to a PDF timetable is provided • No route map

Resource	Content	HTS/JAS Information
<p>Historic Jamestowne > Plan Your Visit > Public Transportation http://www.nps.gov/jame/planyourvisit/publictransportation.htm</p>		<ul style="list-style-type: none"> • Narrative description of route • No route map or link to route map • No timetable • Includes a photo of the vehicle in the header
<p>Historic Jamestowne > Visit http://historicjamestowne.org/visit/</p>	<p>Provides information on directions, hours, tickets, attractions, etc.</p>	<ul style="list-style-type: none"> • Provides a link to the Colonial NHS press release, noted above
<p>Historic Triangle http://historictriangle.com</p>	<p>Operated by America's Historic Triangle and serves a primarily historical information role.</p>	<ul style="list-style-type: none"> • Hosts the PDF timetable on its server, but no clear link to it from within the site. • No mention of shuttle on website
<p>Visit Williamsburg > Maps and Transportation > Historic Triangle Shuttle Service http://visitwilliamsburg.com/maps--local-info/index.aspx</p>	<p>Developed by the Williamsburg Area Destination Marketing Committee, provides area attraction information, hotel reservation service, and promotional materials and itineraries to visitors.</p>	<ul style="list-style-type: none"> • Link redirects visitors to the NPS Historic Jamestowne "Public Transportation" page
<p>Williamsburg Hotel and Motel Association > Colonial Williamsburg http://www.gowilliamsburg.com/colonialwilliamsburg/</p>	<p>Provides information on Colonial Williamsburg</p>	<ul style="list-style-type: none"> • Instructs visitors to go the Visitor Center and "learn about the shuttle service" • No further information or links (except for general links to Colonial Williamsburg)
<p>Colonial Williamsburg > Visit > What to See and Do > Recreation and Activities http://www.history.org/visit/recreation/historicVenues/index.cfm</p>	<p>Describes the Historic Triangle attractions with links to NPS websites and ticketing</p>	<ul style="list-style-type: none"> • Paragraph with dates of service, headways, and departure point • Mentions that service is free for "ticketed guests"

Appendix F: Data Tables

The data tables below provide supplementary data for the figures and charts which appear throughout the document.

Data Table for Figure 3: Age Distribution of Visitors, N=1,745

Age Group	Percentage of Visitors
2 or younger	2%
3 to 5	3%
6 to 12	16%
13 to 18	10%
19 to 29	9%
30 to 44	19%
45 to 64	32%
65 and older	9%

Data Table for Figure 4: Visitor Group Distribution by Size, N = 551

Visitors in Group	Percentage of Total Responses
No response	4%
1 person	8%
2 persons	31%
3 persons	17%
4 persons	22%
5 persons	10%
6 persons	4%
7 persons	2%
8 persons	2%
12 persons	0%

Data Table for Figure 5: Number of visitor groups indicating residence in the United States, by State

State	Number of Visitor Groups Indicating Residence
Alabama	1
Alaska	2
Arizona	0
Arkansas	0
California	21
Colorado	3
Connecticut	9
Delaware	4
Florida	22
Georgia	1
Hawaii	1
Idaho	0

State	Number of Visitor Groups Indicating Residence
Illinois	17
Indiana	5
Iowa	0
Kansas	2
Kentucky	4
Louisiana	2
Maine	2
Maryland	29
Massachusetts	12
Michigan	7
Minnesota	9
Mississippi	3
Missouri	3
Montana	0
Nebraska	2
Nevada	0
New Hampshire	2
New Jersey	20
New Mexico	1
New York	28
North Carolina	26
North Dakota	1
Ohio	16
Oklahoma	0
Oregon	1
Pennsylvania	36
Rhode Island	0
South Carolina	7
South Dakota	1
Tennessee	5
Texas	7
Utah	2
Vermont	0
Virginia	185
Washington	8
West Virginia	8
Wisconsin	4
Wyoming	0

Data Table for Figure 6: Use of trip planning tools by visitor groups, N=551

Trip Planning Tool	Percentage of Visitor Groups Using Tool
Brochures	25.2%
Guidebooks	23.8%
Visit Williamsburg	23.0%
NPS Website	23.0%
Previous Visits	21.8%
Family and Friends	21.6%
Colonial Williamsburg	15.4%
None	15.4%
Other	14.2%
Historic Triangle Website	11.3%
Williamsburg Hotel and Motel Assoc.	3.3%

Data Table for Figure 7: Visitor source of information on shuttle service, N=551

Information Source	Percentage of Visitors Reporting Source
Saw Shuttle	41.4%
Staff at Visitor Sites	18.4%
Previous Visit	14.3%
Brochure	10.9%
Guidebook	9.4%
NPS Website	9.0%
Hotel	8.6%
Other	6.4%
Family or Friend	4.1%
Tourbook	3.4%

Data Table for Figure 8: Percentage of respondents citing theme (not willing to use shuttle, aware of service prior to visit) N = 230

Theme	Percentage of respondents citing theme
Personal Vehicle	32.2%
Attraction Characteristics	21.3%
Shuttle Schedule	20.0%
Local Visitor	9.1%
Group Characteristics	7.4%
Insufficient Information	4.8%
Other Mode	4.3%
Williamsburg	3.9%
Riding Later	3.9%
Free Parking	0.9%

Data Table for Figure 9: Percentage of respondents citing theme (willing to use shuttle), N = 114

Theme	Percentage of respondents citing theme
Ease of Use/Not having to Drive or Park	30.7%
Convenience	28.1%
Historical Interpretation/Ability to See Sites	15.8%
Cost/Congestion/Gas	14.9%
Other	9.6%
Didn't Know	9.6%
Navigational Concerns	5.3%
Group Characteristics	3.5%
Time	2.6%

Data Table for Figure 10: Percentage of respondents citing theme (not willing to use shuttle) N=57

Theme	Percentage of respondents citing theme
Car	43.9%
Time/Schedule/Travel Pace	26.3%
Site/Attraction Characteristics	17.5%
Mode-Walk/Bike/Ferry	5.3%
Group Characteristics	5.3%
Other	3.5%
Local	1.8%

Data Table for Figure 11: Frequency of open-ended response topic areas – respondents maybe willing to use shuttle, N=45

Topic Area	Percentage of respondents selecting topic area
Car	28.9%
Time/Schedule/Travel Pace	26.3%
Site/Attraction Characteristics	21.1%
Group Characteristics	15.8%
Other	7.9%
Local	5.3%
Convenience – Car	5.3%
No Traffic/Free Parking	5.3%
Convenience - Shuttle	2.6%

Data Table for Figure 12: Most frequent place of residence for visitor groups, 2009 and 2010

State	Rider Survey (2009)	Non-Rider Survey (2010)
Virginia	12.3%	33.6%
Pennsylvania	10.5%	6.5%
Maryland	7.9%	5.3%
New York	12.3%	5.1%
North Carolina	2.6%	4.7%
Florida	10.5%	4.0%

Data Table for Figure 13: Comparison of resource cited for shuttle awareness

Resource	Rider Survey (2009)	Non-Rider Survey (2010)
Saw shuttle or signs	15.7%	41.35%
Staff at visitor sites	31.3%	18.4%
Previous visit	11.9%	14.3%
Brochure or pamphlet	14.2%	10.9%
Visitor Guidebook	11.9%	9.4%
NPS website	2.2%	9.0%
Hotel	23.1%	8.7%
Family or friends	10.5%	4.1%
Other	5.2%	6.4%
Other website	8.2%	3.4%

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