VISITOR ORIENTATION TO BOTANICAL GARDENS AND ARBORETA

By

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# TABLE OF CONTENTS

| LIST OF FIGURES | vii |
| INTRODUCTION | 1 |

## Chapter

### I. VISITOR ORIENTATION
- Definitions ........................................... 3
- Orientation as an Institutional Concern .... 9
- REFERENCES CITED ..................................... 15

### II. THE ROLE OF VISITOR ORIENTATION
- The Museum Visit Experience ................. 16
- Orientation Objectives .......................... 24
- Opportunities for Visitor Orientation .... 33
  - Off-site Orientation ......................... 33
  - Approach and Entrance ....................... 36
  - Initial Orientation ......................... 44
  - Purpose and Functions ........................ 44
  - Location and Design .......................... 45
  - Information ..................................... 47
  - Communication Media for Initial Orientation .... 49
- Ongoing Orientation ............................. 51
- Hand-held Maps .................................... 51
- You-are-here Maps ............................... 57
- Signage ............................................ 58
- Design of Grounds and Circulation .......... 63
- Interpretive Materials ......................... 69
- Site attendants ................................... 70
- Exit Orientation .................................. 71
- Take-home Information .......................... 73
- Orientation for Special Audiences ......... 74
- REFERENCES CITED ................................. 76
### III. RECOMMENDATIONS AND CONCLUSIONS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning for Orientation</td>
<td>80</td>
</tr>
<tr>
<td>Implementing Effective Orientation</td>
<td>80</td>
</tr>
<tr>
<td>Off-site Orientation</td>
<td>83</td>
</tr>
<tr>
<td>Approach and Entrance</td>
<td>83</td>
</tr>
<tr>
<td>Initial Orientation</td>
<td>84</td>
</tr>
<tr>
<td>Functions and design</td>
<td>85</td>
</tr>
<tr>
<td>Information and Services</td>
<td>85</td>
</tr>
<tr>
<td>Ongoing Orientation</td>
<td>86</td>
</tr>
<tr>
<td>Exit Features</td>
<td>87</td>
</tr>
<tr>
<td>Take-home Information</td>
<td>88</td>
</tr>
<tr>
<td>Communication Media</td>
<td>89</td>
</tr>
<tr>
<td>Slide Programs</td>
<td>90</td>
</tr>
<tr>
<td>Film</td>
<td>91</td>
</tr>
<tr>
<td>Personal</td>
<td>91</td>
</tr>
<tr>
<td>Hand-held maps</td>
<td>91</td>
</tr>
<tr>
<td>You-are-here maps</td>
<td>92</td>
</tr>
<tr>
<td>Orientation signs</td>
<td>93</td>
</tr>
<tr>
<td>Information boards and kiosks</td>
<td>94</td>
</tr>
<tr>
<td>Interpretive materials</td>
<td>94</td>
</tr>
<tr>
<td>Overall Considerations</td>
<td>95</td>
</tr>
<tr>
<td>Evaluating Orientation</td>
<td>95</td>
</tr>
<tr>
<td>Costs and Benefits of Visitor Orientation</td>
<td>98</td>
</tr>
</tbody>
</table>

### BIBLIOGRAPHY

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>102</td>
</tr>
</tbody>
</table>

### APPENDIX

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>in pocket</td>
</tr>
</tbody>
</table>
LIST OF FIGURES

Figure 1  Approach to Colonial Williamsburg. . . 37

Figure 2  Chicago Botanic Garden Orientation Sign. . . . . . . . . . . . . . . . 60

Figure 3  Morton Arboretum Regulatory Sign. . . 62
INTRODUCTION

This thesis focuses on the subject of visitor orientation, a topic that has not been adequately addressed by botanical gardens and arboreta. Effective orientation can improve visitor experiences within gardens, and enable gardens to satisfy the needs of larger and more diverse audiences. Visitor orientation can enhance institutional goals, such as interpretation and site preservation, while providing greater public service. Orientation programs can also reinforce the public image of an institution as a vital resource to visitors and the community.

Gardens need not cater solely to the desires of their audience, by radically changing their goals and priorities to satisfy visitors. They can, however, modify their sites to provide a more enriching experience for visitors without compromising their primary missions. Through orientation, gardens can help visitors appreciate their sites and the concepts they represent. Visitor orientation can make collections and programs more
physically and intellectually accessible, and create greater interest and motivation on the part of the visitor to take advantage of opportunities available. In addition, the process of orientation planning and evaluation can foster greater staff sensitivity to the needs and perceptions of visitors.

The following thesis examines existing literature concerning visitor experiences and behavior in museum settings, as they relate to the role of orientation. Orientation objectives and system components are discussed with examples from sites visited during this study. These include outdoor history museums, national parks, public gardens and a theme park. Recommendations are presented for public gardens, to improve visitor experiences through orientation.
CHAPTER I
VISITOR ORIENTATION

Definitions

Many of the issues, ideas and terminology used in this thesis relate specifically to museums and museum literature. The following section is designed to provide an introduction to the paper and to the ideas presented in it.

The subject of this thesis is orientation, more specifically, how visitors are, or should be, oriented to a public garden. According to a dictionary definition (McKechnie 1983), orientation is "familiarization with and adaptation to a situation or environment; specifically, in psychology, interpretation of the environment as to time, space, objects, and persons." In a museum setting, visitor orientation consists of providing specific information to help people understand both the physical and conceptual features of the environment. According to Lakota (1976), this
information should include "1) what the exhibit is about, 2) what it has to do with them, 3) how it is organized, and 4) what they can expect to learn from it." Although he was referring to exhibits, his approach can be applied to entire institutions.

Visitor orientation should strive to make visitors more self-sufficient. It should provide information to help them develop reasonable expectations and goals, and make informed decisions about how to best accomplish them. Orientation should serve as a support system for a visitor's physical and psychological experiences in the garden.

There are many facets of orientation. Dailey and Mandel (1974) describe orientation in several ways, including its scope and location. The scope of orientation may include the total institution, a collection or a single object. Orientation information may be located before, during or after a visitor's actual encounter.

An institution may wish to orient visitors to some or all of the following: physical, conceptual or temporal features, visitor services and
institutional resources. Physical orientation is the most obvious type of support offered by museums. This consists of wayfinding information - what the museum contains, where displays are located, how they are organized, and how to reach them.

Conceptual orientation goes beyond what the museum physically contains, to what it represents, introducing visitors to its themes, purposes, collections and research. Conceptual orientation prepares visitors for greater understanding and learning by suggesting ways to mentally organize new information which builds upon previous knowledge and experience. In addition, conceptual orientation can be used to increase visitor interest and motivation, so that they will more fully utilize the institution's resources.

Orientation to temporal features of museums includes providing information about visit scheduling, and planning assistance to help visitors get maximum benefit from the time they have available. Temporal orientation can also mean adjusting visitors conceptually to a particular time period in history, as is done by many living history museums.
Orientation to resources and services is designed to maximize visitors' physiological comfort and access to the museum. This involves conveying factual information about the institution, services and resources available, where to obtain further information and what is expected of visitors during their stay.

The communication process in museums is comprised of both orientation and interpretation. As discussed above, orientation provides an introduction to the museum environment, and a physical and conceptual support system. The purpose of interpretation is to create meaning from the institution's collections. Tilden (1967) defines interpretation as

> an educational activity which aims to reveal meanings and relationships through the use of original objects, by firsthand experience, and by illustrative media, rather than simply to communicate factual information.

Effective orientation can facilitate interpretation in many ways. An orientation system can provide a site overview, helping visitors understand the total institution while seeing one
part at a time. It can also suggest ways to mentally organize interpretive information. Orientation programs can help relate a museum's topics to the interests of visitors, making the interpretation more personally significant. Orientation can also facilitate interpretation by reducing sources of visitor anxiety and fatigue, both mental and physical. These factors constitute environmental noises that can interfere with communication processes, making individuals less receptive to information (Bernardo 1972). Finally, orientation can make displays more physically accessible, and increase visitor use of the museum's interpretive resources.

The museum field represents many disciplines, including botanical gardens and arboreta. It may be helpful to consider museums as "exhibition-type facilities," a term used by the journal of Visitor Behavior. In the following discussions, generic terms such as site and institution are used whenever possible. The term public garden is used to represent botanical gardens, arboreta, historic gardens, parks and other publicly accessed garden settings. Although this paper is designed to serve
public gardens, the information presented is not limited to them, and many of the ideas and recommendations can be applied to other museum settings.

Collection, exhibit and object are terms used to describe types of museum displays. In this report, the term display is used to represent all of these, and includes such things as garden areas, landscape features and regions within gardens.

What is a public garden, and what experience does it offer visitors? Many of the functions served by public gardens are common to other types of museums. Like all museums, public gardens maintain collections, allow public access and present a type of public service, usually in the form of an educational mission. They differ from traditional museums in that their collections are comprised of living objects, similar to those of zoos and aquaria. Because of their dynamic nature, they can be expected to change both seasonally and over extended periods of time. Like other museums, gardens provide a setting for recreation and social interaction. Garden display areas may be designed with an aesthetic rather than educational focus. In
addition, some gardens have historic significance, and maintain historical collections or displays.

Burston (1980) lists five general purposes served by public gardens: plant collections, research, education, recreation and conservation. How do these purposes affect visitors to public gardens? Loomis (1977) describes four distinct benefits: aesthetic experience, psychological relaxation, social interactions and informal learning. Each garden will offer a different experience depending upon the combination of these factors. Visitor orientation can help to enhance all of these components.

Orientation as an Institutional Concern

Why should public gardens and other museums be concerned with the subject of visitor orientation? First of all, American museums have been evolving during the last few decades. Museums have re-defined their role in lifelong learning, and are capitalizing on their position in individual's leisure time choices (Ehrlich 1985). More energy is being directed toward increasing the size and diversity of their visiting audience, and toward obtaining more
public financial support. To justify this and to be successful in public service, museums must first examine what benefits they offer to their visitors or community, and whether they are providing these effectively. Questions that need to be asked of gardens include: Are they fulfilling their mission of public service? Are visitors being enriched by the experience? Are existing programs designed so that they do not limit institutional access by significant groups within the population? Are people using the institution's resources to their maximum capacity, and in the way they are intended? A conscientious approach to visitor orientation can help ensure positive answers to these questions.

What unique characteristics of public gardens need to be addressed by visitor orientation? First, visitors can arrive with misconceptions that need to be corrected. These may include confusion regarding the purpose of the garden, the significance of its collections and expected visitor behavior. Gardens are often large outdoor settings, with widely distributed displays and random circulation patterns. Therefore, the opportunities for visitor fatigue are great, and they need to be addressed. In addition,
since displays change seasonally, visitors need to be informed what areas are especially interesting. Many gardens have not been developed in a cohesive way, and they may lack a common theme. Visitor orientation can help to convey cohesiveness. Also, due to their outdoor setting and long-distance views, displays may visually compete with each other in terms of visitor interest. Orientation programs can help direct visitors within the garden.

Another common characteristic of public gardens seems to be the lack of visitor research and interest in providing appropriate orientation. Much of the background material for this thesis has come from other museum disciplines, specifically outdoor history museums, which have more thoroughly analyzed the experience offered to visitors. Why is there a lack of interest and research in public gardens regarding orientation? One reason may be a perceived lack of value of visitor orientation on the part of garden staff. In addition, garden staff believe that they already have an accurate understanding of their visitors, and any research in that area would waste time and money. A related problem is that the staff of many gardens believe
that the experience they offer to visitors is obvious, and should therefore require no explanation or orientation. Many garden staff members, like those of some art museums, believe that providing extensive orientation and interpretation will interfere with visitors' personal aesthetic experiences. Another belief is that imposing signs, labels and other artificial media will compete with attractive garden design. Many public gardens do not charge admission fees and may, therefore, feel less responsible to provide extensive or comprehensive services to visitors. There is also a fear that orientation will create a rather programmed visitor experience, instead of allowing for individual interests.

Visitor orientation needs to receive more attention in public gardens, and more visitor research should be undertaken. Sharing visitor research conducted by public gardens can benefit both the individual institutions and the profession. One of the advantages of not-for-profit status, is that institutions are not often in direct competition with one another. Visitor research can and should be shared with those in related disciplines. The
belief that every institution is so different that there is little benefit in sharing information is not true. For instance, research conducted recently by Bitgood and Benefield (1986) showed that characteristics of visits and visitors to twenty different zoos displayed a great deal of similarity. This may be equally true for gardens. Cohen (1974) lists the following questions which relate to orientation:

1) How do you find good solutions for directional cuing and helping visitors make decisions?
2) What types of interpretive or conceptual orientation work well?
3) How can you get visitors to ask the right questions?
4) Can a method for evaluation of orientation needs and effectiveness be developed and standardized for use by other museums, and for comparative data?
5) What media convey messages best? And, how do people respond to the possible media variants?
6) What orientation techniques would break down cultural tendencies and assumptions, making various classes receptive to and interested in the museum?
7) How does the museum organize its staff for good orientation and interpretive planning?

These questions represent types of information that could effectively be exchanged within the field, providing information relevant to many public gardens.
Public gardens have great potential to satisfy the leisure choices of a variety of visitors, and to provide enriching visitor experiences. By assessing the characteristics of an institution and its audience, orientation programs can be developed to help institutions meet their goals and provide better experiences for visitors. Sensitizing staff to visitor needs is a first step to greater visitor satisfaction and institutional accountability in terms of public service.
REFERENCES CITED


CHAPTER II
THE ROLE OF VISITOR ORIENTATION

The Museum Visit Experience

In order for public gardens to provide effective orientation, they must first understand the relationship that exists between visitors and their particular site. Although this relationship will differ between institutions, there are many common characteristics. The "museum experience" has been explained and analyzed by many authors, including Wolf (1986), who defines it as "... how the visitor uses the environment - the information, the objects, the interpretations - to enrich his/her own existence." This illustrates the idea that the museum experience depends upon three variables which need to be considered for each site: 1) the museum setting, 2) the visitor and 3) the way in which these two entities interact.

Museum settings provide an environment for many opportunities including: cultural enrichment,
aesthetic appreciation, scholarly work, education, recreation, entertainment, enjoyment, relaxation, and social interaction. These are very general components of museum settings that impact visitors. Each is present in varying degrees at every museum, and each visitor will perceive the site and its opportunities differently. To some extent, these components are static, having been established by institutional mission, policy, history and how visitors have traditionally used the site. However, the value placed upon various components by an institution may not be the same as that perceived by its visitors (Rosenfeld 1979). In other words, the reasons visitors use and enjoy a site may be totally unrelated to its stated purposes. In addition, the dynamic nature of the setting will cause these components to change over time. Therefore it is important to assess the setting periodically as the visitor profiles and the setting components change, in order to make sure that the needs assumed in the planning process are still viable.

Spacial features of a museum environment, especially a public garden, are much like those of a city. Lynch (1960) describes five key elements of
cities: "paths, nodes, landmarks, edges, and districts." It may be helpful to examine these components as they apply to orientation within a public garden. Paths are used by visitors to get from one area to another. Visitors may choose the most convenient path, one which appears most interesting or one indicated by visual cues such as signage or nearby display areas. Nodes, or intersections, within a garden are places of congregation and decision-making, locations where physical orientation is useful. Landmarks can take many forms, and aid visitors in orienting themselves within the garden setting. Edges are recognizable boundaries around the entire garden or areas within it. Districts, or regions, are smaller identifiable areas within the garden. These may be display areas or groups of exhibits, and can function to enhance both physical and conceptual orientation by acting as landmarks and grouping related exhibits.

As learning environments, museums differ from other educational sites in that they are usually informal, relatively unstructured and self-directed. In addition, they are often multi-disciplinary and incorporate three-dimensional objects for teaching.
The educational experience is primarily a visual one. Settings such as gardens may also have unique characteristics resulting from their particular missions.

The second major component of the museum experience is the audience. It is important to understand the segments of an institution's audience or potential audience, and their characteristics, in order to satisfy their special needs and interests. A museum audience can exhibit a great deal of diversity—in backgrounds, visiting habits, personal agendas, expectations and patterns of site use.

The reasons people visit museums are important to understand, as are their initial perceptions and expectations of the experience. One commonly studied factor is the difference between frequent, infrequent and non-visitors. Marilyn Hood (1983) found a high correlation between individuals' visiting histories, their criteria for use of leisure time and whether they perceived museums as able to satisfy these criteria.

Visitors to public gardens include field
professionals, teachers, students, amateur gardeners and visitors with general recreational needs (Burston 1980). The last category may represent a large percentage of public garden visitation. The individuals in this category may have little more in common beyond their physical presence in gardens. In general, visitors come to public gardens with their own agendas for a visit. These can range from simply wandering around, to developing aesthetic appreciation for landscape design, to researching specific plants or collections. Many people use an excursion to a museum or garden primarily as an opportunity for family or group social interaction.

Visitors also differ greatly with age, previous museum experiences, interest, motivation, education, time available and physical ability. Some segments of an institution's audience will have special needs. These special audiences include groups such as foreign visitors, especially those possessing limited familiarity with the English language. Special audiences also include individuals with physical limitations in such areas as hearing, vision, mobility and mental capacity.

Understanding audience characteristics is
critical for orientation planning. Screven (1986) states that:

Poor knowledge of the public results in overestimating or underestimating knowledge, attitudes, interests and expectation; in overloading visitors with information of the wrong kind; and in inappropriate illustrations and copy. The result: visitors do not or cannot learn; they become intimidated, confused, bored, or overwhelmed and, in general, are less likely to approach the exhibit or give the time necessary to benefit from their experience. These reactions reduce confidence and may produce fatigue, physical stress, and tendencies to avoid the situation and topic in the future.

Screven goes on to say that museums should strive to provide positive experiences and that the first step towards accomplishing this is better knowledge of their audiences.

Audiences also differ in the way they interact with the museum environment. Wolf and Tymitz (1978) categorize visitors based upon these behavioral differences. Their classification includes: the "commuter," who is just passing through an area to get somewhere else, the "nomad," who is wandering without any specific direction, the "cafeteria type," who picks and chooses areas of interest, and the "V.I.P.," the Very Interested Person, who is more receptive to the subject matter
and is likely to stay longer. In their study, commuters and nomads were the most numerous visitors, followed by cafeteria types. V.I.P. types were the least prevalent. Each of these groups interacts differently with the environment - in behavior, interest, level of awareness and understanding.

People also differ regarding how they process information about their environment. Loomis (1987) explains that wayfinding ability is based upon both internal and external cues. Internal cues will be different for each person, as they are dependent upon individual "cognitive maps" developed from past experience and exposure to similar sites. In order to be effective, an orientation system must enhance this mapping ability, and consider individual differences.

In addition to interest level and perceptions of the environment, visitor interactions and receptiveness to information can be affected by physiological conditions such as thirst, hunger, fatigue and state of mind. These are often influential factors and must be addressed before the visitor can have any significant positive interaction with the museum.
There are many other characteristics of museum settings that directly impact visitor behavior. These include: crowds, cost, accessibility, weather, design, visitor facilities, information systems, content of collections and staff attitudes.

A garden needs to be aware of the special characteristics of its physical setting and audience, and understand how these variables affect visitor behavior. For instance, common visitor behavior indicates that exhibits located in perimeter areas will always be utilized less by the public than those more centrally located. Information like this is helpful for building an effective and useful orientation program and for maximizing resource use by the public.

The evaluation process is very important to determine both the need for visitor orientation and the effectiveness of orientation programs. Although not a museum, EPCOT Center continually assesses the experience it offers visitors. Its four institutional themes - safety, show, courtesy and capacity - appropriately reflect both the high level
of annual visitation and the priority placed on visitor service and satisfaction (Emmer 1987).

**Orientation Objectives**

Once the characteristics of the visitor experience are understood, it is possible to develop orientation objectives to enhance visitor use, understanding and enrichment in public gardens. The following section details what orientation objectives should include, and how these objectives can be implemented.

Wilbur (1977) explains that, since the institution setting will be unfamiliar to many visitors, it is an institution's duty to accept the responsibilities of a host, and to provide for the needs of its visitors. A welcoming atmosphere will help visitors feel comfortable and at ease, enable them to seek out needed information and proceed with their visit. Although public gardens may be less intimidating to visitors than other types of museum environments, it is important to recognize that inherent characteristics of gardens may cause feelings of fear and uncertainty in some visitors. Kaplan (1976) explains that the fear of becoming lost
is a major concern of visitors, and even the possibility of becoming lost is enough to create anxiety. She suggests that by developing transitional experiences for visitors, institutions can help them adjust and reduce feelings of anxiety.

Orientation should provide an introduction and overview of the institution, to give visitors a perspective of the entire site. Ehrlich (1985) describes this step as establishing a "reference vocabulary of ideas, facts, and hypotheses," sensitizing visitors to the subjects represented in the museum and making the site less intimidating. This overview can include such information as size, purpose, organization, visit options, historical background, scientific significance, current research and future projects.

Any orientation program should instill in visitors the vital nature of an institution and its role in the community, both scientific and local. There is nothing less inspiring to visitors than an initial impression of institutional stagnation and a passive, static nature. Vitality can be conveyed through staff, programs and written materials. For
instance, it may be effective to describe work of the institution, such as scientific research, that is not immediately evident in collections or existing interpretation. The dynamic nature of an institution can also be demonstrated through changing exhibits and special programs. This approach not only makes the visit at hand more interesting and meaningful, but will encourage subsequent visitation and greater awareness of the purposes and work of the institution.

Initial orientation also needs to provide background information. It should help visitors develop mental frameworks of the site, both conceptual and physical. These types of "advance organizers (Bitgood 1987)" help people assimilate, process and understand new information. Conceptual organizers provide a framework for visitors, helping them unify and relate subject matter presented, and can facilitate greater learning (Royal Ontario Museum 1976). Conceptual organizers include themes or storylines which lend coherence and relevance to concepts, and provide a basis for interpretation. Conceptual themes can also be useful in educating staff about the institution's purpose, and for
communicating to non-visiting audience segments.

Developing an effective theme is a complex process. It should serve as a slogan for the institution, but should not be too general or too limiting (Royal Ontario Museum 1976). It is often possible to maintain several themes, which relate to different purposes or areas within the institution.

An individual's garden visit will be most meaningful when the information presented to them is personally significant. Ehrlich (1985) describes several methods of developing this significance, including creating "cognitive bridges" which introduce new information to visitors by relating it to previously acquired knowledge and experience. If information is presented in a way that builds upon familiar concepts, visitors will feel less intimidated by the site, and may respond more quickly and with greater interest. Concepts in botanical gardens might be introduced by relating them to basic biology, techniques of observation, environmental conservation or by likening the experience and collections to zoos. Communication methods must be flexible, in order to adapt to different levels of audience knowledge, and it may be necessary to convey
the same concepts using several different approaches.

A common characteristic of many visitors to museums is the lack of a specific, focused purpose for coming (Dailey and Mandel 1974). Ehrlich (1985) suggests that orientation programs can help by providing visitors with a "subliminal agenda," reflecting the resources and programs of the museum. This agenda will help visitors develop their own goals considering their time and interest. This type of orientation is especially important for sites that require a change in typical visitor behavior. Ehrlich (1985) describes such a condition at Plimoth Plantation, where visitor experiences and learning depend upon interaction with staff members. Orientation programs focus on confidence building to encourage active participation and dialogue with costumed interpreters.

In addition to general conceptual information, orientation programs need to communicate specific information about wayfinding, collections, visit options, seasonal highlights and special events. This information is especially important for visitors who are unfamiliar with the museum's discipline and terminology. Titles and descriptions
used by staff are not likely to be as meaningful to uninitiated visitors. Brief descriptions of displays can be very enlightening when they are included in orientation materials.

Visitors often have a limited amount of time allocated for a visit. In large sites where displays are numerous and widely distributed, it is helpful to provide visitors with a simple game plan including time guidelines to follow if they choose (Wilbur 1977). This is done effectively on Chicago Botanic Garden's map. Since a garden's attractions can change considerably from season to season, it is also helpful to provide visitors with seasonal highlights and special events.

Orientation programs need to include applicable rules, regulations and restrictions that visitors are expected to follow. Safety concerns should be covered in initial orientation, and reinforced throughout the site wherever appropriate. The National Park Service orientation programs convey several main messages to visitors, including environmental appreciation, preservation, and safety (Tilden 1967). Messages are more successful if they are made personally relevant. A lesson may be
learned from research conducted by Bitgood et al. (1988) regarding controlling feeding of animals by zoo visitors. They found that "do not feed" signs which included a reason for not feeding animals were more effective than simple directive signs. This suggests that visitor regulations designed to counteract common behavior will be more effective if they include an explanation. Hayward (1988) described this effect in an example from an armory museum in Worcester Massachusetts. The need to protect collection objects from human touch was demonstrated at the beginning of the visit by displaying an unprotected helmet, and the obvious damage which resulted. This illustration showed visitors the consequences of their behavior. Hayward also mentioned a similar example, more applicable to gardens, regarding the reduction of foot traffic through a meadow. Although directive signs and fences had not worked, a sign that simply stated 'this meadow needs to rest' successfully curtailed pedestrian traffic.

Orientation is not only important for first-time visitors, but for repeat visitors as well. For those returning on subsequent visits, institutions
can reinforce main themes and emphasize visit options available. Such visit options may include more detailed information or peripheral exhibits not often seen by first-time visitors. The design of such levels of experience should be based upon how visitors use the site and what types and information they would find most rewarding.

The need for providing different experiences depends upon the actual or desired level of repeat visitation. A comparison can be made between EPCOT Center and Plimoth Plantation. EPCOT Center has a very high level of both repeat visitation and extended visits. This is encouraged by providing a wide range of activities and opportunities available, as well as ongoing changes and expansion of the site. Visitors are assured of a different experience each time they visit. Plimoth Plantation has very little repeat visitation due to its narrow focus and small size. Instead of developing a variety of experiences, they emphasize a thorough, significant first-time experience.

Through greater awareness of visitor's orientation needs, an institution can minimize sources of "museum fatigue (Royal Ontario Museum
This condition results in visitors becoming tired, bored and less interested in the museum and its exhibits and programs. Museum fatigue can be caused by repetitive displays and communication methods, lack of physical and conceptual orientation, and physiological discomfort from exhaustion, heat and noise. The Royal Ontario Museum suggests how orientation programs can compensate for these factors and reduce fatigue. Recommendations include creating diversity in exhibit content and appearance, reducing crowding and circulation problems, and providing resting places and other amenities throughout the site.

In general, visitors who feel that their presence is valued by an institution will be more receptive to the experiences it has to offer. Demonstrating the importance of visitors through comprehensive orientation programs will allow visitors to more freely interact with the institution, be more responsive to museum presentations and be more respectful of its resources (Dailey and Mandel 1974).
Opportunities for Visitor Orientation

The following section outlines various opportunities for providing visitor orientation within a museum setting. The examples listed comprise several related disciplines, such as public gardens, national parks, outdoor history museums and a theme park. It should be noted that the approaches discussed here are site specific, and need to be considered within the context of each institution's budget, mission, audience, annual visitation, etcetera. The various functions of orientation are discussed in the locations where they are most commonly found. This does not mean that these functions could not be effectively accommodated elsewhere within the site.

Off-Site Orientation

Off-site orientation takes several forms. At one extreme, it can include any information obtained by the public without actually entering the site. At the other extreme, it can refer to promotional activities and pre-visit preparation consciously provided by the institution. In general, off-site orientation refers to publicity and promotion,
including paid advertising, public relations materials and media releases, designed to provide a range of information to the general public. This also includes preparatory programs given to groups or individuals before a visit.

Off-site orientation can function to attract potential visitors, direct them to the site, develop a public image, establish accurate expectations and prepare visitors for site use. Effective off-site orientation can be costly in terms of time and resources. Many of the sites visited have developed promotional brochures to distribute off-site. Longwood Gardens uses promotional brochures to encourage general visitation, and paid advertising to promote special events.

Preparatory programs for groups can be effective, but time consuming for staff. For example, the National Park Service provides introductory programs to school children before visits to parks. This helps familiarize them with the park and the learning opportunities available. However, since it often requires a staff member to present, it is expensive and time-consuming for the Park Service to provide.
EPCOT Center takes a different approach to off-site orientation. The Disney organization invests a great deal of money and energy into national advertising, stressing the wide range of vacation opportunities it offers. EPCOT alone attracts over 11 million visitors annually (Emmer 1987), so advertising activities are directed at general promotion of tourism as well as distributing visitation throughout the year. The Disney organization also cooperates with tourism offices, the Chamber of Commerce, local businesses and other tourist attractions.

Other approaches to off-site orientation include use of preparatory materials sent to individuals or groups prior to a visit, as is done by Longwood Gardens. Training of non-staff group leaders is also considered off-site orientation. This can be done for special audiences such as school groups, so that their leaders can better prepare and guide their groups. For instance, Old Sturbridge Village works cooperatively with school teachers before they bring groups to the site (O'Connell and Alexander 1979). This approach helps in visit
planning, and ensures a more productive and interesting visit.

Approach and Entrance

The appearance of a garden's approach and entrance plays an important role in a visitor's first impressions. If effective, it will provide easy vehicular and pedestrian access, reduce initial frustration and convey a sense of welcome. The approach and entrance areas can impact both physical and conceptual orientation. A well designed approach and attractive entrance should build a positive institutional image. Design and signage can also indicate to visitors that they have arrived at their destination, and suggest where to go next.

It is necessary to assess the impact of entrance areas, and that of off-site areas encountered by visitors during their approach. Approach routes, signage, directions given in promotional materials and the appearance of the entrance and parking area all affect the way visitors feel when they arrive. Establishing a "recognition
factor (Wilbur 1977)" in approach signage, through use of a distinctive shape, color or logo, can help visitors locate the site (see figure #1).

Insert figure # 1

Figure 1  Approach to Colonial Williamsburg.

If there is an orientation center or suggested point of site entry, it should be conspicuous or well marked from the parking area and public transportation stops, as it is at Longwood Gardens, Colonial Williamsburg, Old Sturbridge Village and the Morton Arboretum. Restrictions on
visitor activity, hours and costs should be posted before any admission charge, so that visitors know what is expected of them. This is done at Chicago Botanic Gardens by displaying information on a sign located before the admission booth on the entrance drive.

The approach and entrance at EPCOT Center is very well planned. Highway signage begins miles away from the site, and the entrance routes consist of several multi-lane highways to accommodate large numbers of visitors. Signage along major approach routes is consistent, attractive and easily recognized. The parking areas are extensive, but are divided into regions so that visitors can easily locate their vehicles. Parking attendants ensure that parking is orderly. Shuttles provide transportation from perimeter areas to the admission area. Attendants on the shuttles emphasize location of vehicles and provide initial orientation to the overall site. Ticketing and admission areas are physically separated, to ease congestion and regulate crowds. Costs and regulations are conspicuously posted, and a guest relations office is available outside the admission area.
It should be noted that EPCOT Center maintains an additional fee for parking. This encourages visitors to use on-site transportation between the parks and hotels, and helps to offset the cost of maintaining parking facilities and services.

The approach and entrance at Chicago Botanic Garden has positive and negative attributes. Directions to the garden are well marked along the major approach route, but not along the secondary approach. Like many sites, admission is paid from visitor's vehicles before parking. This approach separates admission from other entrance functions and regulates visitor access. Entrance into the garden itself is not obvious from the parking area. The horticulture building located near the entrance serves as a visitor center, but its location and purpose are not obvious to visitors.

For sites with high levels of group visitation, it may be desirable to separate individual and group entrances. Longwood Gardens maintains a separate bus parking lot and entrance for group visitors. This eases congestion in both the parking area and visitor center. In addition, it
allows group visitors to receive a special orientation program relating to their visit.

The atmosphere created at the entrance is important to the visitor's impressions of the garden. This was most obvious at the Norfolk Botanical Garden. Although the approach and entrance road were well-marked and attractive, the factor which most influenced first impressions was the presence of an airport adjacent to the parking area and visitor center. The proximity of the airport loading area and runways provided both visual and acoustical disruption throughout the visit.

The character and image of the overall institution should be represented in the entrance area, as well as in the visitor center and throughout the site. Although it may be impossible to eliminate all external influences, identifying such disruptions is the first step toward minimizing them. For example, Colonial Williamsburg's visitor center is located away from the actual site, and transportation is provided by bus. Because of the historical atmosphere created by the exhibits, an adjacent visitor center and parking area would provide incongruity and disruption. In this case,
although the remote location of the visitor center makes it more difficult to access the site, disruption at the site is minimized and the visitor center's facilities are more extensive than would have been possible at an adjacent location. In addition, a major highway that would have run directly through the center of exhibit area has been routed underground, so not to disturb the nature of the site.

Other examples of reinforcing image can be seen in the following examples. Longwood Garden's entrance area and parking lot are attractively designed and reflect the ambience of the rest of the site. The area in front of the visitor center is replanted seasonally to provide a year-round display, and the parking lot is well landscaped with island plantings. In some areas of the parking lot, however, the landscaping provides such a thorough screen that it hinders visibility for pedestrians and vehicular traffic, and may jeopardize visitor safety. Plimoth Plantation's modern new visitor center creates an image that conflicts with the 1627 time period of the rest of the site (Hayward 1988). The Morton Arboretum uses its entrance to define what an

Sites where control of visitor access is not a concern may fail to give visitors adequate entrance orientation. Examples of this can be seen at the Independence National Historical Park and the Scott Arboretum. Both are characterized by difficult sites, lack of a coordinated orientation system for casual visitors, and confusion due to their association with a larger, more easily identified entity. Independence National Historical Park exists as an integral part of the city of Philadelphia, and the Scott Arboretum is a public garden located throughout the campus of Swarthmore College.

The Independence National Historical Park has some inherent problems with its approach and entrance areas. Its inner city location, lack of parking facilities and spread-out exhibit areas provide challenges for orientation. Its approach is adequately marked along major highways, but necessary signage is not prevalent nearer to the actual site. Since it has no centralized parking facilities or single point of entry, visitor access is fragmented.
Although no admission is charged, visit planning could be accomplished more effectively when visitors begin their tours at the visitor center. However, due to the city environment, this building is not conspicuous. Street banners provide some help in directing visitors to the center, but many visitors remain unaware of the visitor center's location and its resources.

The Scott Arboretum maintains some degree of centralized parking, but it is not obvious and it is remote from the arboretum building. Access to the campus and arboretum is not regulated and is distributed among various points of entry. The general campus signs do not include information about the arboretum, so visitors do not know that they have arrived at the proper location. Orientation information can be obtained from the arboretum building. However, the building is difficult for casual visitors to locate since no directional signage is provided from parking areas.

The extent of visitor facilities provided should reflect the level of visitation. In the examples described earlier, EPCOT Center represents the highest visitation, with 11 million annual
visitors. The Scott Arboretum represents the lowest number of visitors, with less than 10,000 annually. The presence of an admission fee is also a major variable which will dictate the need for controlling visitor access, and may effect the degree of orientation an institution wishes to provide.

**Initial Orientation**

Initial orientation may be accommodated in an orientation center or through kiosks and information boards located near entrances to the site. Orientation centers can serve many functions, providing a starting point and planning area for visitors. A central facility can also fulfill other functions and serve as a major link in a system of orientation and interpretation (Wilbur, 1977).

**Purpose and Functions.** Initial orientation can be most effectively conveyed through a special facility. A central orientation area can provide a transition space, separating the actual site from disruptions of the surrounding area, as is the case for Colonial Williamsburg. It can act as a starting place, providing essential information for a visit, such as at Plimoth Plantation where visitors are
introduced to the behavioral norms of the site. An orientation center can also control visitor access and serve as an admission area, as it does for Longwood Gardens and Old Sturbridge Village. It can also provide a central information area to be accessed at any time during a visit like the visitor centers at Independence National Historic Park, EPCOT Center and Chicago Botanic Garden, as well as those listed above.

Initial orientation can and should provide access to various visitor services such as rest rooms, telephones, seating, food service, sales areas, tours, etcetera. Areas for interpretation programs, exhibits and other multi-media programs can also be included in a visitor facility. Wilbur (1977) cautions, however, that an orientation center should "enhance the visitor's experience, not compete with what he has come to see." By trying to convey too much information through initial orientation, there is a danger of reducing the impact of the actual site.

**Location and Design.** The location of initial orientation often depends upon its purpose and the overall design of the site. It is best to provide
this type of information at the beginning of a visit. The National Park Service uses three different types of visitor centers to provide orientation. They refer to these as: entrance, exit and along the way (Clark, 1987). Each type of center serves information needs, but addresses visitor's needs in different ways depending on its location. Entrance-type visitors centers were observed at Longwood, Hagley and Old Sturbridge Village. Optional, or along the way, visitor centers were observed at Bok Tower Gardens, EPCOT Center, Morton Arboretum, Independence National Historical Park and Chicago Botanic Garden. Design features to reduce visitor frustration include the following: spacious surroundings that allow visitors to relax and rest; provisions to avoid congestion, such as separate individual and group entrances; and clearly marked functions so that visitors can locate desired services and information.

Sites that do not consciously provide any orientation can only expect to satisfy very casual or very familiar visitors. Institutions that do not have actual facilities for an orientation center, can still convey necessary information through kiosks,
information boards, signs and maps strategically located at major points of entry or congregation. The National Park Service incorporates this type of orientation at many of its sites in the form of introductory panels at entrances, trail-head maps and wayside exhibits within the site. Large sites like EPCOT Center and Colonial Williamsburg provide secondary orientation centers staffed with attendants to provide additional visitor assistance within the site.

Information. The types of information needed by visitors may be dictated by the location of the orientation center within the site. The following considerations relate to orientation information needed at the beginning of a visit.

Information provided to visitors should include both conceptual and physical orientation. Conceptual information can include an introduction to theme or storyline and clarify the institution's purpose. This is evident at a number of the sites, including Colonial Williamsburg's "Williamsburg - The Story of a Patriot" film, and Plimoth Plantation's approach of taking visitors back in
time. The National Park Service identifies one or several themes for each site, and then builds all of its interpretive planning around them. Other approaches to conceptual orientation include providing a summary of the site's history, highlights and visit options, as is done in Longwood's multi-image slide show and in person at the Hagley Museum.

Special events, visit options such as tours or programs, and any pertinent regulations should be communicated to visitors at the beginning of their visit, to assist them in planning. Many institutions post this type of information on bulletin boards, brochures and handouts, special signs or other easily updated media.

Suggestions for how to best visit the site and basic necessary information can also be communicated to visitors through initial orientation or contained in hand-held maps or brochures. This type of information could take the form of a suggested visit plan, with accompanying time guidelines. Information should be as clear and uncomplicated as possible. The Chicago Botanic Garden provides time guidelines on their map for
visiting various garden areas. This information was originally conveyed using a rather complex system of logos and color codes. Visitors became confused, and did not use the system as it had been intended (Korn 1987). On a revised map, time guidelines and distances are effectively listed with brief descriptions of the garden areas.

Communication Media for Initial Orientation.
Communication in museums is often a multi-media process. This is effective because each medium has its strengths and weaknesses. In addition, individual differences in visitors will result in different levels of effectiveness for media used. Variety in communication methods can compensate for these differences as well as reducing repetitiveness which results in visitors becoming less receptive to new information (Loomis 1987). Cohen (1974) suggests that communication methods which require the least effort from visitors will be the most effective. However, measures of effectiveness should consider both the level of visitor use and retention of the information conveyed. It is important to consider the type, amount, level and organization of the information to be communicated when determining
which medium to use.

An orientation center often provides an opportunity to convey information in a variety of forms, including audio-visual programs, live presentations, brochures, hand-held or you-are-here maps, site diagrams, scale models, three-dimensional exhibits, attendants and signs. In general, conceptual orientation can be accomplished through slide and film programs, personal presentations, exhibits and interpretive materials. Expense and flexibility of the medium chosen should be considered. Film is often the most expensive and least flexible. Slide programs are less costly than film. Other options, such as site attendants and interpretive exhibits, can vary a great deal in cost.

Physical orientation is best conveyed through hand-held maps, you-are-here maps, site diagrams, scale models, attendants, signs and other methods such as touch-screen computers. Information regarding visit options, collection content and significance, how to visit and what to see can be provided using a combination of the above methods. Some information, especially specific details needed for decision-making, should be communicated
repeatedly in order for visitors to understand and remember it.

Initial orientation methods and information should coordinate with ongoing orientation. Initial orientation should convey necessary information, but not be overwhelming. Instead, it should give visitors enough information to proceed with their visit and make informed decisions based upon their own interest, energy and time available.

Ongoing Orientation

While experiencing the site, visitors will require reinforcement of certain information, since they cannot be expected to retain all of the information received during initial orientation. Ongoing orientation is necessary for wayfinding, but it can convey conceptual information as well. Common forms of ongoing orientation include hand-held maps; you-are-here maps; environmental cues such as circulation routes and design features; signs; interpretive materials; and themes.

Hand-held Maps. Hand-held maps are an essential part of any wayfinding system, and are expected by most visitors. They need to coordinate
with other elements of an orientation system, but should function independently. Hand-held maps are helpful to visitors, providing an overall site perspective and ongoing wayfinding assistance. In addition, they can contain various degrees of other information such as interpretation, institutional history, display highlights, hours, regulations and suggested circulation routes.

All of the sites visited provided hand-held maps. Most of the maps were easy to understand and follow. Effective features included: 1) a three dimensional perspective, 2) regions within the site, representing different display areas, 3) descriptive titles for display areas, located directly on the map (not connected by lines or through a key), 4) easily identified routes, 5) recognizable landmarks, 6) locations of visitor amenities, 7) additional information regarding site use, such as regulations, hours of operation and services available, and 8) easy to handle size and design. The use of color or shading enhanced readability. Additional information was kept brief, or organized in such a way that it did not interfere with the map itself. The use of symbols or logos on maps and signs were only
effective if they were easily recognized and understood by visitors.

The maps of Chicago Botanic Garden and EPCOT Center were designed for compact size and ease of use. Sites which try to include too much information and detail often develop maps that are cumbersome in size and hard to read.

The functions of maps differed among the sites, from solely providing wayfinding assistance to serving as interpretive or public relations brochures. Longwood Gardens' map is designed to be used primarily for wayfinding and, therefore, contains very little written information.

The maps of the National Park Service included the most information of all the sites visited. Their map-brochures are usually the single all-inclusive information source for their sites and serve an interpretive function as well. Although they include a great deal of text, the map and written material are organized to be used independently, and the text incorporates headlines and summaries so that information is easy to find.

For some sites, extensive information or
topographic area must be accommodated. EPCOT Center's map takes the form of an informational book, which includes maps, information and descriptions of attractions. Since the amount of information is vast, the book is separated into individual regions, including separate maps and information listings for each area. This approach allows a compact design, and limits the information seen by visitors to that needed for a particular region. Information is organized consistently for each section so that it is easy to find. Many other sites, including Longwood Gardens, the Morton Arboretum, Hagley Museum and Chicago Botanic Garden, incorporated more than one map, to provide additional details for confusing or heavily visited areas. In addition, some gardens maintain additional maps for visitors with special interests. For instance, the Morton Arboretum provides a more detailed map which incorporates a grid system for visitors wishing to locate specific plant specimens.

The way visitors use hand-held maps is an important factor in designing them effectively. For instance, the map of the Chicago Botanic Garden incorporates two views of the garden, one overall
site perspective and one expanded map of the main display area. The overall site map was not effectively used by visitors because it was located between two folded flaps of the brochure, which were exposed only when the brochure was partially open. This design proved to be ineffective because visitors usually proceeded to fully open the map, and use only the view inside (Korn 1987). This problem was recognized through visitor studies, and has been corrected by a new map design.

Since many people have difficulty understanding maps, good design is essential. A well designed map should include a three dimensional perspective, reference landmarks, proper scale and well defined display areas. A three dimensional, or depth perspective was used by many of the sites visited, including Colonial Williamsburg, EPCOT Center, Longwood Gardens and Chicago Botanic Garden. This provides more dimension to landmarks and landscape features, making them easier for visitors to recognize.

For many gardens, buildings and other structures will serve as landmarks, since they are easier to identify than topographical features.
People orient themselves with landmarks, and inclusion of them on a map will allow visitors to mentally place themselves within the site. For instance, the most significant landmark at Bok Tower Gardens is the carillon tower. This is prominently displayed on the map and provides an orienting device used by visitors. At EPCOT Center, the large geodesic dome can be seen from nearly every area of the site. This is especially significant because it represents the location of the central information area. For most sites, parking areas, entrances and visitor centers provide good landmarks because visitors are likely to be familiar with them. Some gardens, such as the Morton Arboretum, have extensive areas without many distinguishing landscape features. Instead, collection title signs (eg. oaks, Chinese collection, maple forest) serve as landmarks which correspond with visitors' maps.

Proper scale and well defined garden areas can help visitors get more information from maps. When display areas are widely distributed, realistic scale is necessary to help visitors develop a proper sense of distance and time involved in reaching them. By clearly identifying garden areas, they too can act
as landmarks. Key areas highlighted on maps should be reinforced with signs. This is done effectively by Morton Arboretum, EPCOT Center and Chicago Botanic Garden in the examples discussed previously. In addition to highlighting areas, it is helpful to emphasize major access routes. Colonial Williamsburg uses its main street to orient visitors. Exhibit areas north of the street are labeled right-side up on the map, and areas south of the street are labeled right-side down. The staff feels that this approach is effective. However, the author found it very confusing.

**You-are-here Maps.** You-are-here, or on-site maps, provide a function which combines hand-held maps and signs. Nearly all of the sites visited incorporated on-site maps. Often placed at key intersections, these are used by visitors to confirm their locations, make decisions about which direction to proceed or act in place of hand-held maps. Longwood Gardens displays one of these maps outside the entrance to its visitor center, allowing visitors to examine the property before purchasing their tickets. It also helps them gain a clearer idea of the size and extent of the display areas.
Institutions such as the Scott Arboretum, which have no centralized orientation facility or methods to guarantee that interested visitors are provided with maps, could use on-site maps to aid casual visitors and provide orientation assistance.

Placement of you-are-here maps should take into account the following criteria from Levine (1984): 1) the map must provide a you-are-here symbol and at least one recognizable feature of the surrounding area, 2) arrangement and placement should be aligned forward-up with the terrain, 3) adequate redundancy of orientation cues should be incorporated. These cues include signs and distinctive landmarks, providing several points of correspondence between the map and the surrounding environment.

**Signage.** There are many different types of signs that relate to visitor orientation. These include directional, title, regulatory and interpretive. Each will be considered separately below.

The most obvious type of orientation signs are directional. These are very helpful for on-site
orientation and wayfinding. Even if the institution provides a map, directional signs are necessary at decision points for reinforcement, especially for people who have difficulty reading maps or prefer to stroll the grounds without a planned route. Directional signs are especially important at intersections and congregation points, and where routes are not visible on maps. It should be noted that the need for signs may be dictated by the effect of site design on visitor behavior. EPCOT Center, because of its easily understood circular design, has very few directional signs.
Signs used should be conspicuously placed and attractively designed. The signs at Chicago Botanic Garden are a good example of this (see figure #2).

Insert figure # 2

Figure 2  Chicago Botanic Garden Orientation Sign.

In general, good design is critical, as is attention to consistency, graphics, size and appearance. Effective examples included large, easy-to-read type, arrows which point away from the text, and conspicuous placement and color.

Many of the sites visited, including Chicago Botanic Garden, the Morton Arboretum and Longwood
Gardens, have developed their own specifications for consistent signage. The National Park Service has a sign specification handbook which ensures consistency of sign design and placement for its many sites.

Title signs are those used to identify structures, areas and routes. These function in visitor recognition and reinforce maps and brochures. The descriptive value of titles used should be considered. Institutions often name areas and buildings for significant people or collections represented. These titles may not be indicative of the area or understandable to the visiting public. If a commemorative or scientific name is used, it is helpful to include a sub-heading or explanation to provide clarity. For instance, the visitor center at Bok Tower Gardens was referred to as both the "Old Cracker House" and the "Visitor Center." The first name, by itself, would not have adequately indicated its function.

Regulatory signage can include both general information, such as hours of operation, and specific information regarding visitor conduct and site use. Visitor safety and proper site use are often critical issues for sites with heavy visitation. Site
regulations need to be conspicuously posted if they are expected to be obeyed. The Morton Arboretum distinguishes its regulatory signs from other orientation signs by a red circle in the center. This provides a recognition factor which helps visitors understand the purpose of signs even from a distance (see figure #3).

Figure 3  Morton Arboretum Regulatory Sign.

The National Park Service has developed standards for safety signs, to ensure easy recognition and understanding. In addition, many of
their safety signs include graphics to provide better message comprehension, especially important for visitors unable to read English. Regulation signs will be most effective if they are located where they directly applicable.

Interpretive signage, although differing in its primary purpose, can also be considered orientational. Providing summaries, headlines and titles can help visitors physically determine where they are, and provide conceptual information.

Design of Grounds and Circulation. The design of a public garden's grounds can both facilitate and hinder visitor orientation. Design factors which affect visitor behavior must be first identified and analyzed as to their impact before developing effective orientation aids for visitors. Many of today's public gardens were originally developed for other purposes, such as private residences. Some gardens have been developed around landscape design principles, besides those of maximizing visitor access and circulation. If the latter was the case, many gardens would look more like shopping malls and theme parks, which cater primarily to effective circulation and maximum use.
Thus, public gardens often have to adapt their sites in order to accommodate large numbers of visitors. The National Park Service has similar concerns, because most of their sites were developed around natural or historic resources.

A comparison of design can be noted between Chicago Botanic Garden and EPCOT Center. Chicago Botanic Garden's design is attractive and incorporates much variety in its garden areas. For the most part, individual areas are widely distributed and screened from one another, providing solitude and reducing visual competition. Pathways do not follow a formal system, rather, they are designed to provide variety and interest as visitors stroll through the garden. Although aesthetically attractive, this design is difficult for visitors to comprehend and to clearly represent on a map. In contrast, the design used for EPCOT Center is circular; similar to that used by many theme parks today. It provides ease of accessibility, long distance views and a standard circulation pattern. The entire complex takes the form of a large figure eight. In this way, visitors can proceed around the perimeter with an understanding of the total site,
and without worrying that they have missed significant areas.

In addition to a site's design, it is important to understand how visitors are functioning within it. This is often assessed through visitor behavior studies, which can be designed to examine common circulation patterns and problems, site use or misuse, maintenance problems resulting from overuse, attendance levels in display areas and impact of design features on visitor behavior.

Besides adapting orientation systems to work with an established design, design can be used or modified to enhance visitor orientation, both physically and conceptually. For instance, knowledge of visitor use patterns can suggest the best placement for new display areas. Landscape features can help direct circulation flow and reinforce themes. For example, EPCOT Center effectively uses landscape architecture to illustrate themes. In the World Showcase area, landscape materials and techniques reflect the country represented. Enhancing themes through horticulture is also done at zoos by incorporating plants appropriate to particular animal exhibits.
Paths within a garden are also important design features which affect orientation and circulation. Pathway design needs to relate to the particular garden area, the level of use and other practical considerations such as vehicular access. Pathways should be designed for durability, easy visitor access, adequate visitor flow and ease of maintenance. Most of the sites visited maintained a range of paths, accommodating light to heavy visitor use.

Circulation within a site should not be a forced sequence, as this will compete with natural behavioral tendencies (Lakota 1976). It should allow free-choice experiences, but choices available should be easy to find and follow. For example, the Chicago Botanic Garden incorporates numerous garden areas which are described and indicated by their map and signs. This allows visitors to choose the type and order of the areas they wish to visit.

In some situations this free-choice approach may not be possible or desirable due to other institutional priorities, such as efficiency, crowding and visitor safety. For example, the
collections of the Morton Arboretum are primarily reached by car. One-way roads are used for easy vehicular circulation, with parking areas provided at strategic locations. Even though circulation is sequential and one-directional, the arboretum does provide a selection of routes, varying by distance and plant collections included. Another example of controlled circulation is seen at Longwood Gardens. For the most part, visitors are allowed to freely choose areas to visit and the order in which to do so. However, in the conservatory area where visitation is heavy, crowding often becomes a problem. Maps and signs, therefore, suggest a one-way circulation route which encompasses most of the indoor areas and reduces congestion.

Much research has been done on factors which affect visitor behavior in museum settings. Circulation patterns can be influenced by visual factors such as quality and content of exhibits. Traditional behavior patterns resulting from social and environmental cues (e.g. right turn preference and attraction power of exhibits based upon proximity to an entrance or exit) also impact visitor behavior (Falk et al. 1985).
Visitor circulation is affected by many variables, including those described by Shettel-Neuber and O'Reilly (1983): personal preferences and attitudes; physiological factors such as thirst and fatigue; and habits developed in similar settings. Circulation choices are also a function of immediate environmental conditions such as crowding, interest level of exhibits and sensory competition. Bitgood (1987) describes these phenomena and how they affect the attractiveness and holding power of museum exhibits. For instance, crowds can both attract and repel visitors. A small crowd may represent something worthwhile to see, whereas excessive crowding discourages most visitors. For many gardens, excessive crowding is not a primary concern. It is a concern at EPCOT Center, however, and they effectively deal with it by designing for very large crowds. Attractions are designed for effective visitor flow. Waiting lines move quickly, so visitors do not remain stationary for long. Circulation within crowded attractions is one-way, so that visitors never need to backtrack.

Factors which affect circulation patterns must be recognized in order to develop an effective
orientation system. In addition to those listed above, these include visual environmental cues created by the proximity of display areas, long distance views, obvious pathways and existing orientation aids. Visitors may prefer to have a general circulation route suggested by the institution, especially if they have limited time and are unfamiliar with the site's organization and layout. Shettel-Neuber and O'Reilly (1983) suggest designing a recommended route that takes into account existing circulation patterns. In this way, the recommended pattern will compliment rather than compete with the natural tendencies of visitors.

Interpretive Materials. Interpretive materials can also provide orientation aids, by including headlines, summaries, descriptions and ongoing themes. Some sites like Longwood Gardens and the Morton Arboretum provide supplementary self-guiding or special interest tour booklets. Interpretive materials can also include such things as detailed brochures, taped programs and guided tours. If an organization uses supplementary material for interpretation, it should be designed to reinforce existing orientation. Easy reading and
quick reference are also important features.

**Site attendants.** Informed staff can be very helpful for answering visitors' questions and providing individualized information; however, they can be expensive to maintain. Most of the institutions visited provided information attendants only in reception areas. Others, like EPCOT Center and Colonial Williamsburg, had attendants available throughout the site.

Any staff member in contact with the public is likely to serve as an information source at some time. The more informed and familiar staff are at all levels of the organization, the more helpful they can be to visitors. Staff knowledge and attitudes can affect visitors' perceptions of the institution. The emphasis on this human factor was most apparent at EPCOT Center, where extensive training of all staff members includes guest relations and the importance of maximizing visitors' well-being.

Another staffing concern for many gardens is that the majority of visitations take place on weekends and holidays, a time when most administrative and garden staff are not working.
Longwood Gardens compensates for this by providing a supplementary information area within the garden, which is staffed during times of heaviest visitation.

Exit Orientation

The characteristics of a site's exit are as important as its entrance, because they convey lasting impressions of the institution and visitors' experiences there. Although the exit area of many gardens will be the same as the entrance, visitor use is likely to differ, and other information and services will be important. A seating area is desirable for individuals to relax and gather to prepare for their departure. Gift shops can provide a service to visitors wishing to purchase souvenirs. The quality and selection of merchandise should reflect the institution's purpose. Norfolk Botanical Garden's gift shop has a tourist-like appearance, which reflected poorly on the institution. This was noted by the author as well as in a visitor survey of the institution (Krindle 1978). Visitor amenities such as clean and abundant rest rooms and drinking fountains are also important. The end of a visit is a good time to provide summaries of the visitor's experience and encourage repeat visitation. Many
institutions use this opportunity to solicit contributions and memberships. Visitors who have a high level of interest in the subject matter encountered will desire further information. This information, or at least sources for it should be made available to visitors. Analyzing the most currently asked questions and comments will help anticipate visitors' needs.

EPCOT Center has the most thoroughly designed and staffed exit. Informed staff in the parking lot and on shuttles anticipates visitor concerns, including what to do if they have lost their keys or if their car failed to start. In addition, operating hours for the following day are posted for those planning to return, as well as clearly marked directions to all major highways.

Information regarding dining, lodging and other local attractions is often provided at exits. Longwood Gardens and Independence National Historical Park maintain tourism desks in their lobbies near the exit. The National Aquarium of Baltimore and Independence National Historical Park have touch-screen computers with similar information. Separating site information from tourist information
not only reduces the demand on staff, but also provides more thorough, individualized assistance for visitors.

Take-home Information

Take-home information represents a final opportunity to orient visitors. Take-home information can be in many forms, including maps and brochures visitors accumulate during their visit, as well as material consciously provided at the actual exit. Many of the institutions visited provide sources for additional information, membership and promotional brochures as take-home materials. Some materials, such as souvenir books, can be provided at cost. This helps off-set the cost of production and ensures that only interested people will pick them up. A valid concern of many institutions is that materials handed out for free will be discarded.

Like off-site orientation, take-home information is expensive but can result in greater awareness and understanding of the institution, targeted use of promotional materials and increased word-of-mouth advertising.
Orientation for Special Audiences

The audiences and potential audiences of American museums include segments with special needs. These special audiences include those with mental and physical limitations and visitors with limited familiarity with the English language. All of the sites visited provide some degree of wheelchair access by incorporating ramps, wide paths and doorways, and minimized grades. For some, such as Longwood Gardens and Chicago Botanic Garden, this access includes the majority of display areas. Chicago Botanic Garden also maintains a demonstration garden for the disabled, which is designed for both the physically disabled, and for those working with disabled people.

Accommodations for mental disabilities, and for visitors with limited sight and hearing abilities were not as obvious. Independence National Historic Park provides a hands-on, three-dimensional model of its site outside its visitor center. This provides orientation not only to those with limited sight, but many other visitors as well.

EPCOT Center publishes a special orientation
booklet for disabled guests. They allow leader dogs and provide complimentary tape cassettes and players for the sight impaired. Personal translator units, which amplify the audio for some of their attractions, are provided for the hearing impaired. Personal translator units are also available to translate into Spanish, French and German. EPCOT Center's booklet includes lists of attractions that will accommodate wheelchairs, and suggests a route which provides the easiest access.

Many of the other sites made some provision for foreign visitors, depending upon demand. For instance, Longwood Gardens provides its maps in seven foreign languages, including French, German, Japanese, Italian and Spanish.
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CHAPTER III
RECOMMENDATIONS AND CONCLUSIONS

Visitor orientation is similar to other institutional functions, in that it requires conscientious planning, implementation and evaluation in order to be effective. The need for orientation and the methods employed will be different for each site, because they depend on many factors. This chapter provides recommendations which should benefit most sites, and improve the quality of visitor orientation at public gardens. In addition, a discussion of the overall costs and benefits of providing effective visitor orientation is included for consideration.

Planning for Orientation

Any institution that exists, at least in part, to provide some sort of visitor experience needs to include visitor services in its long-range or master plans. Successful planning includes 1) thorough understanding of both the audience and the
site, 2) developing well-defined goals and objectives which consider both institutional resources and priorities, and 3) establishing measures and methods by which to evaluate effectiveness.

Analysis of existing conditions is the first step in planning for orientation. Existing conditions refer to an institution's audience, its site characteristics, and the specific opportunities and challenges these factors present. Audience characteristics include demographic factors such as age, sex, education, income, visiting group type and number of previous visits. Other characteristics are also important to understand, as they will affect the way a visitor interacts with the site. These include motivations and interests, leisure values, perceptions and expectations of experience, learning characteristics, visiting patterns and familiarity with this or similar sites.

The characteristics of special audiences should also be examined, so that the site can be made more accessible and rewarding. Determination of the types of special audiences that exist in the visiting audience or community is a necessary first step. Next, their needs must be studied in order to make
effective site modifications to better serve them.

Visitor research can be helpful in analyzing visitor characteristics. Marketing studies identify characteristics of both visitors and non-visitors, and can provide an understanding of why visitors attend the garden. Visitor studies provide background information about actual visitors, as well as how they function within the site. Surveys and questionnaires can request specific information about visitors backgrounds. Other methods, such as observation, tracking and interviewing may be employed to determine how visitors actually interact with the site. For more information about visitor research, consult the bibliography.

Site characteristics must also be analyzed. These include such things as mission, design, display content and organization, circulation patterns, communication messages and methods, and existing visitor orientation challenges. This type of information can be obtained through an inventory of site characteristics, discussions with staff and administrators and an examination of the institution's history. Staff that are in close contact with the public can be very informative,
especially in identifying orientation problems.

Goals for orientation should be based upon the opportunities and challenges presented by the audience and the site. These goals should include detailed objectives which take into account existing characteristics, as well as the institution's priorities and resources. In addition, objectives should anticipate future changes and provide plans for accommodating them. The planning process should establish quantitative goals and methods by which to measure success. A system for measuring effectiveness will be further discussed in the section titled "evaluation."

**Implementing Effective Orientation**

**Off-site Orientation**

Off-site orientation includes all information, perceptions and images the public has of the institution before they arrive. Off-site orientation, both formal and informal, can be very effective. This information should present an accurate image of the institution that will encourage people to visit. Public relations materials should be descriptive but not overwhelming.
They should highlight positive attributes of the site, and provide reasons to visit. Any promotional information should be expected to function independently, and needs to include address, telephone number and directions to the institution. Promotional activities can often be enhanced by working cooperatively with municipal organizations, tourism offices, local tourist services, and other cultural attractions.

There are many options for off-site orientation, from low cost to high. Off-site efforts should be considered as part of a comprehensive institutional approach to visitor orientation. Investment in off-site orientation can result in increased attendance and more accurate perceptions of the institution by visitors.

**Approach and Entrance**

The entrance to a garden should be well marked along all major approaches. This includes highway routes and public transportation stops. Consistent signage (e.g. color, graphics, typeface) will create a recognition factor and appear more attractive. The design of the actual entrance area
should convey a sense of welcome, institutional quality and concern for visitors. It should be consistent in design and atmosphere with the rest of the site. Parking facilities need to reflect the level of visitation. Entrance to the garden area or orientation center should be conspicuous or well marked with directional signs. If possible, the entrance area should reduce disruptions such as noise or activity that will detract from the visitor's experience within the garden. If bus groups are common, separate parking and entrance facilities will reduce congestion in the parking lot and orientation area.

Initial Orientation

Functions and design. A central area for orientation is most desirable, but when this is not possible, various functions of an orientation center can be accommodated in other ways. When provided, it should serve as a transition area for visitors to help them adjust to the site and prepare for their visit. It should also provide a home base for visitors during their stay, serving as a orienting landmark and a place to go for further information. It can also be used to centralize various garden
functions and visitor services, as well as to control visitor access.

**Information and Services.** Initial orientation at a visitor center should include physical and conceptual information, as well as visitor services. Information and facilities in the orientation center should be easy to locate. Physical orientation should provide visitors with a site overview to help them understand the size, scope and layout of the garden. Methods of conveying physical orientation include site diagrams or models, information attendants, audio-visual presentations, maps, directional signs and suggested routes.

Conceptual orientation should convey the purposes of the garden and its themes. It should provide an introduction to the site and its organization, history, contents, special events, highlights and visit options. Rules and regulations should be communicated clearly, and a visit plan can be suggested, including time guidelines. Any other basic information necessary to begin a visit should be provided at this time. Methods of conveying conceptual information include film or slide programs, orientation exhibits, written publications,
verbal presentations, information boards and interpretive materials.

Visitor amenities should be adequately provided and easy to locate. These include rest rooms, drinking fountains, telephones, seating and an area protected from the weather. Areas should be attractive and clean, and should accommodate the level of visitation. Other services may include dining, gift shop or sales area, local tourist information, security, lost and found and other visitor services.

Ongoing Orientation

Orientation needed by visitors within sites is primarily physical, but can be conceptual as well. Information should be communicated using a variety of media, which provide necessary redundancy and reinforcement. Communication media and information should be clear and concise since visitors will be busy experiencing the site, and need to find information quickly. Hand-held maps are an essential part of a wayfinding support system. These can be reinforced through you-are-here maps and diagrams. Signs play a primary role at decision points and will
affect directional choices. Signs also provide reinforcement for maps and act as visual landmarks.

Physical features of the environment, such as design, circulation patterns, vistas and other visual influences have an effect on visitor orientation and can provide strong behavioral cues. Understanding the effect of these features is important, as they may alter visitors' route choices and affect general physical orientation. Existing and desired circulation patterns need to be considered. These are important for identifying areas of high and low visitor use. If altering circulation patterns is desired, it may be accomplished by providing signs and other visual cues. Sequential patterns of use are difficult to create and maintain. It is more effective to build upon common patterns of circulation than to expect visitors to act against their natural tendencies of free exploration.

Exit Features

Last impressions are as important as first impressions. Many of the recommendations made for entrances remain true for exits, especially if both functions take place in the same area. However,
additional factors must be considered for the exit. It should be easy to locate and reach from the grounds of the garden. The exit area should provide access to further information about the site, its displays and subject matter. This may occur through a sales area or library. Exit areas are also key for distributing public relations materials. Care should be taken so that visitors do not leave feeling that the institution has failed to appreciate their visit. Exit areas and information distributed there should encourage positive feelings about the site and the visitor's experience there. This is an appropriate place to provide a summary of visitors' experiences, to reinforce a theme or institutional mission, and to create interest in returning. It may be desirable to provide information on area tourism such as lodging, dining and other local attractions. The vehicular exit from the site should be well marked and traffic congestion should be minimized. Directions to major highways should be obvious or well signed.

Take-home Information

Information taken home by visitors can effectively extend the garden experience, and serve a promotional function. Any materials dispensed to
visitors are likely to become take-home information. Therefore, all written materials should contain general information such as the institution's name, address, telephone number. Materials should reflect the quality of the institution, and the opportunities available to visitors. Take-home materials may be passed along to others and serve to promote the garden.

Institutions may consider developing specific materials for visitors to take-home, such as membership forms, requests for donations, program brochures and public relations materials. Since visitors are likely to pick up a number of brochures offered to them during their stay, the purpose of each should be clear. For some materials, it may be desirable to selectively limit their availability, through sales or requests. Considerations regarding take-home information should include: purpose, number to produce, types of information to include, broad or selective distribution, cost and benefits of each.

Communication Media

The type of communication media chosen to convey orientation messages depends upon several
variables including type of information, cost, and effectiveness of the medium. Each method should function in combination with others, but be effective independently as well.

**Slide Programs.** Slide programs are effective for providing conceptual information and visit highlights. Audio-visual programs help visitors visualize the site, what they can do in it, and create interest and motivation. Specific information provided is often not retained by visitors, so it has to be reinforced through other means. Slide programs are more flexible to changes and less expensive than film.

**Film.** Like slide programs, film is an excellent medium for conveying conceptual information, interest and visit options, but not for specific details. It can be entertaining and high quality. However, it is not adaptable to change and is expensive to produce.

**Personal.** Personal contact is effective in providing individualized information to visitors, including conceptual and physical orientation. Staff can respond to a wide range of questions and help
visitors plan visits based upon their time and interests. Staff can confirm information which visitors have gleaned from other sources. Personal contact can provide current information and special visit options. Staffed information areas can be expensive to maintain. Training of information staff is critical. Staff throughout the institution need to be trained to respond to visitor inquiries. However, not all visitors will be willing to question staff for information, so other media should be available.

Hand-held maps. Hand-held maps are essential for providing site overviews and wayfinding information. They can also contain conceptual information, regulations, and other information frequently requested by visitors. Maps should appear uncluttered and easy to read. Design should include a depth perspective, either through shaded relief or three-dimensional representations. Maps should also show salient landmarks that visitors will rely upon to orient themselves. Pathways and display areas should be easy to locate. If possible, area names should be located directly on the map, not connected by lines or through legends. Additional information
should be included in headline and summary form for easy reading. The use of logos on maps and signs should be restricted to symbols which are easily recognized by the general public.

Maps should be of high quality, and include some general information, as they often serve as souvenirs. Much of the information included may not be read during the visit, especially if it is hard to locate. Since some visitors have trouble reading maps, titles and areas which appear on the map should be reinforced with signs, so that they can serve as landmarks. Maps can be produced at varying degrees of cost. The better the design, the more effective the map will be.

You-are-here maps. Like hand-held maps, these are good for representing the entire site and for reinforcing other maps and signs. They are most effective when they are similar in design to hand-held maps. For you-are-here maps, it is essential that the map be placed so that it corresponds with the surrounding terrain, and the top of the map indicates forward.

Orientation signs. These are also essential
for wayfinding. They provide physical orientation, and their impact is immediate. They should coordinate with other visual representations of the site, such as maps, to provide reinforcement. Signs should be placed at decision points such as intersections, or where other strong visual cues may alter visitor circulation patterns. Signs should be consistent in design. It may be most effective to differentiate directional signs from interpretive or regulatory signs, so they can be easily identified. Lettering should be easy to read and large enough to be seen from a distance. Arrows are most effective when placed so that they point away from the text.

**Information boards and kiosks.** These are another method to convey conceptual and physical orientation. They can provide initial orientation if no visitor center is present. In addition, they can display frequently changed information such as seasonal highlights and special events. They can also be used within the garden as secondary orientation centers, to post and dispense informational materials.

**Interpretive materials.** Interpretive materials may contain orientation cues as well,
especially if titles are descriptive and information is listed using headlines and summaries. In addition, interpretive information may suggest effective routes or sequences for visitors to see displays.

**Overall Considerations**

Orientation is a process. Successful orientation should incorporate various communication methods directed at different audience levels. Orientation planning and evaluation should anticipate visitor needs for information. The system should be consistent and comprehensive, so that all facets compliment each other but be effective independently.

In public gardens' orientation programs, aesthetics and saliency concerns often appear to be in conflict. However, careful planning can provide materials that are attractive and effective, yet not so extensive that they appear cluttered and intrude on the visitor's experience. An orientation system should provide conceptual and wayfinding support for visitors, enabling them to more fully appreciate the site.

**Evaluating Orientation**
Evaluation is necessary to determine both the value and effectiveness of orientation, and to suggest ways to improve the communication system. Evaluation criteria should be based upon the institution's mission, and specific objectives developed in the planning process. Evaluation should consider a number of areas, including staff priorities, visitor perspectives, and institutional resources and goals. Visitor feedback is important for evaluating orientation, since they are the focus of the orientation process.

Staff, especially those in close contact with the public, can provide valuable resources for planning and evaluation of orientation programs. Encouraging input from staff at various levels of the institution will enhance cooperation, understanding and commitment to orientation programs. It will result in more comprehensive planning and better assessment of orientation methods. Staff can also provide specific information concerning visitor use and behavior within the site. Although staff feedback is a relatively informal method of evaluation, it can provide valuable information at a reasonable cost. Encouraging staff to observe
visitor orientation and suggest improvements will also foster greater awareness of visitor needs.

Evaluation can take many forms. Visitor research is a common method of evaluation. Two types of visitor research were discussed in the planning section above, marketing studies and visitor studies. Marketing studies provide information about both visitors and non-visitors. Visitor studies provide information about those actually using the site. For evaluation purposes, visitor studies are very helpful. In general, it is important to use a large, randomly selected group of visitors for evaluation. Information can be gathered through a combination of techniques such as observation, surveys, questionnaires, interviews and testing. Many creative methods have been developed by professionals in the museum field, and references are available which offer guidance in developing effective evaluation techniques. For more information about evaluation, consult the bibliography.

Another common form of evaluation is an analysis of costs and benefits. This technique, common to many commercial firms, uses measures that are primarily financial. Cultural institutions and
public service organizations can conduct similar analyses, which consider both financial and non-financial measures. This type of assessment is discussed in the following section.

Costs and Benefits of Visitor Orientation

Visitor orientation programs should be evaluated for economic considerations and by how they help the institution fulfill its mission. Cultural institutions exist to provide a form of public service, and should be judged by how effectively they provide it. An effective system of visitor orientation can help institutions meet these public service goals and can enhance other institutional programs such as public education or site conservation. The following discussion will consider the various costs and benefits of providing visitor orientation.

There are many costs involved in providing a thorough system of orientation. These include those of planning, implementation, maintenance and evaluation. Planning costs include staff time and training, use of consultants and other information sources, preliminary research, testing of methods and
audience surveys. Implementation costs are probably the largest concern for most institutions. These include production and maintenance of orientation methods such as maps, audio-visual programs, brochures and promotional literature. Signage can also be expensive, especially if it is designed to be durable and attractive. Provision of adequate visitor amenities throughout the site can also be costly. Staff costs are another consideration, not only for staffed information areas, but also the costs involved for training, updating and generally sensitizing staff to visitor concerns. Orientation methods and facilities will incur additional costs for maintenance. These costs should be considered in selection of methods and long-term budget forecasting.

There are often a range of available methods for providing orientation, from low cost to high. Orientation objectives often can be accomplished satisfactorily through alternative, less expensive methods. Long-range planning can help staff make decisions based upon long-term usefulness of orientation options, instead of initial cost. In this way, realistic costs can be evaluated and
The benefits of providing visitor orientation are many, both tangible and intangible. First, providing orientation will help an institution better fulfill its public service mission. Initially, orientation can result in greater visitor satisfaction, visitor experiences that are more enjoyable, better understood and more rewarding. Greater visitor satisfaction will result in more repeat visitation, greater levels of learning, better word-of-mouth publicity, enhanced community image, and overall positive public relations.

Conveying institutional concern for visitors and better visitor services may result in a greater willingness of visitors to pay admission fees, and foster greater respect for the site. Institutional concern for visitors may result in higher levels of donations and fund raising capability. Fulfilling the institution's mission, especially in areas of public education may increase the garden's access to other outside funding such as government and foundation grants.

Orientation planning can also ensure cost-
saving measures, such as long-term rather than short-term decisions, and more coordinated staff efforts and resource allocation. Cooperation with other local institutions and tourist services can further reduce costs while improving service to visitors. In addition, ensuring greater visitor safety and proper site usage will protect both the public and the site's resources.
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