



Circulation Design to Enhance the Visitor Experience

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One key management objective common to virtually all public gardens, as well as to all other leisure venues that are intended to attract and entertain visitors, is to make the visitors' experiences as comfortable and enjoyable as possible within the physical and financial limitations of the institution. But reaching this goal takes considerably more than just developing and maintaining a spectacular garden presentation—it is also important to ensure that visitors' expectations are met in some of the more basic aspects of their visits such as comfort, convenience, way finding, and amenities. It is crucial for managers and planners to understand that visitors tend to judge the overall quality of their visit as a composite of their individual experiences starting with their arrival experience and ending with their departure experience. Any problems or annoyances experienced by visitors in seemingly minor areas can serve to offset an otherwise positive experience. Lack of attention to these details by management can result in loss of future attendance caused by reduced repeat visitation as well as reduced positive word-of-mouth recommendations and increased negative word-of-mouth reports from current visitors. The following points provide some key issues and suggestions from our planning experience that should be considered by all managers and planners of public gardens who are concerned about delivering excellent visitor experiences and maintaining favorable attendance levels in future years.

Set the stage for the visitor

The entry complex is one of the most important garden areas for visitors. The entry is where visitors segue from their day-to-day world into the world

of the public gardens and where they form their first (and last) impressions of the gardens. The design and layout of the entry complex ideally should enhance this sense of transition. Often, an introductory “Wow!” exhibit can be an effective tool for building a visitor's sense of anticipation, but such exhibits must be planned carefully. The entry is also the most critical location for visitor orientation, amenities (information, restrooms, and other visitor services), and a wide variety of visitor activities that the entry complex should be designed to support. Another important consideration is the need to encourage human interactions—the entry complex is the best opportunity to let visitors know that your garden staff is friendly and approachable by providing a warm welcome from a friendly employee.

It's a jungle out there! Provide “appropriate” way finding.

Getting visitors to read signs and brochures will always be an uphill battle. Because the flora and other sensory attractions are too distracting to visitors, way finding information should be kept as simple as possible. If you are fortunate to have some highly visible landmarks within your garden, use them as way finding icons—these are absolutely the best ways to orient visitors. Where this is not possible, signage and maps become more critical.

The key is to provide the essential information at the key way finding decision points, but to avoid information overload. Use consistent and easy-to-understand terminology (multilingual, where needed), international symbols, iconic symbols, and colors to facilitate visitors' abilities to visually locate signs and understand way finding information. The development of an effective way finding package requires the

ability to put oneself in the shoes of an uninformed and bewildered visitor; for example, difficulty in finding bathrooms when needed is a common problem at many locations. If possible, the garden design should make way finding easy, although this goal should be effectively balanced and integrated with the need to maintain a sense of discovery. Capital budgets for new projects should provide an allocation for way finding information, including a provision for post-opening sign changes to respond to unforeseen way finding problems. The major benefits of an effective way finding program include minimization of visitor anxieties about feeling lost and reduced visitor fatigue caused by excessive walking distances.

Avoid the “Pig in the Python” and other congestion problems

Circulation choke points and other congestion problems are created whenever attendance levels on busy days exceed the visitor throughput capacity of the most restrictive public areas of the gardens. In some cases, these choke points exacerbate congestion problems by creating clumps of visitors (the pig) that move through the gardens path network (the python) en masse. Such congestion problems can often be mitigated through the implementation of specific measures to identify and eliminate the choke points. Although there are a wide variety of problems and solutions, some general rules of thumb regarding congestion issues include:

- For congestion problems that occur on only a few days each year, operational and staffing measures may be more cost-effective than permanent modifications.
- Congestion problems that occur on a regular basis should be studied for

potential permanent cost-effective solutions.

- A major challenge (and opportunity) in solving congestion problems is to persuade visitors to spend more time at less-used public areas—possibly by developing compelling new exhibits that will attract visitors to these areas.
- In rare cases where the visitation volume exceeds the throughput capacity of a major exhibit, it may be necessary to implement controlled access to avoid excessive congestion. In these cases, effective design of the control system can go a long way towards allaying visitor dissatisfaction that would otherwise occur. Normally, such a control system would take the form of a structured wait line (queue area); timed ticketing and reservation systems are other, albeit more costly, solutions.
- Where appropriate, planning and design for one-directional visitor travel through a capacity-constrained exhibit area can be an effective tool for minimizing congestion.

The other side of this coin is the absence of crowds on high attendance days, which may be a desirable scenario for some gardens and for visitors seeking quiet and solitude. However, a nominal level of social interaction between visitors is desirable, and low utilization of gardens by visitors on busy days may point to other problems and opportunities, such as the potential value of adding new interesting exhibits to increase both attendance levels and visitor stay time.

Develop an effective path network

Pedestrian paths function very much like roads and highways for vehicular traffic and, like roads and highways, should be designed specifically to accommodate the types and volumes of traffic that occur on busy days. Major pedestrian thoroughfares with large traffic volume should be designed at about a three-foot width per 1,000 hourly pedestrians per hour. The minimum width for major paths should be about eight feet, to enable two-abreast pedestrian traffic in two directions. Moderate volume paths should be designed with a width of six feet, to provide a sufficient level of convenience when visitor groups cross paths in opposite directions. To enable groups to walk two



Entry Lobby at San Francisco Conservatory of Flowers

abreast and allow for single-file crossing of groups in opposite directions, the minimum path width for most low-volume pathways should be roughly four feet. Additional pathway width may be needed to accommodate other traffic modes (trams, bicycles, etc.) or other functions (rest, viewing, interpretation, cross-traffic, etc.). Although care should be taken to ensure that the path network does not become too complex or confusing, bypass path segments can be effective elements to alleviate congestion in busy areas and/or enable visitors to manage their time and tailor their visits. Major path intersections are also key visitor decision points and should be designed for clear and easy way finding.

Overall, the path network should be developed with as few decision points as possible, but with a sufficient number to enable visitors to tailor their visit to their individual preferences and time constraints.

Admissions control

The admissions area normally consists of a ticket sales area and access control point for the garden, which may be separate or combined functions. Not only does the admissions operation serve as a revenue source; it is often an ideal opportunity to ensure that visitors are welcomed to the gardens by a friendly employee. In addition to generating revenues, the admissions price



Excessive congestion at this venue led to major modifications to improve circulation patterns.

sets the visitors' expectations for their garden experiences, and thus should be commensurate with the quality and variety of experiences that are provided at the garden. Some people even have the perception that if it is free, it isn't worth seeing.

If your institution is blessed (or cursed, depending on your point of view) with wait lines at the admissions control point on peak days, it is important to manage the crowds with a well-designed queue area, unless these wait lines can be reduced or eliminated by increasing the admissions capacity of your garden. Based on our experience, acceptable levels of visitor satisfaction can be maintained as long as wait lines can be kept under 10 minutes on most busy days and under 20 minutes on peak days. If wait times exceed these guidelines, advanced reservations and timed ticketing systems represent feasible, but more complex, solutions.

Visitor amenities

Along with the basic amenities of rest areas, water, and bathrooms, visitors also appreciate other conveniences such as food service, gift shops, and lockers, all of which need to be sized and configured appropriately for the attendance levels on busy days and located at the most effective locations within the garden. For example, a useful planning standard for bathrooms calls for seven women's bathroom fixtures and five men's fixtures (including sinks)

per 1,000 on-site visitors. Bathrooms should be located to provide convenient access to visitors throughout the garden site. The gift shop should be an integral part of the entry complex, ideally with good visibility and accessibility to visitors as they exit.

Interpretive experiences

At any leisure venue, visitor attention span can be negatively impacted if the exhibit and resource presentation formats appear to be uniform throughout the site. As much as possible, provide a variety and diversity of experiences. Whenever possible, break up long stretches of exhibit and resource viewing areas with interactive exhibits, audio/visual presentations, and other types of exhibits that are thematically differentiated from the primary visitor experience. Behind-the-scenes tours are a very popular approach to varying the visitors' experiences. Interpretation should not be confined to a single department; rather it should be the responsibility of the entire staff, all of whom are integral to the visitor experience.

School & tour groups

Accommodating school and tour groups is a significant challenge to effective circulation design. As much as possible, the size and configuration of public areas and visitor facilities should consider the arrivals of the largest groups on days with high group arrivals. For example, restroom sizing

limited, it might be useful to implement a group reservation system.

Identifying and resolving problem areas

To ensure that the visitor experience is optimized, new public gardens need to address circulation and visitor amenities in the development stage. Existing gardens need to see improving the visitor experience as an ongoing objective. Whether new or well established, all gardens need to identify and prioritize problem areas using a variety of approaches, including: staff assessment of informal visitor comments, solicited member comments, visitor exit surveys, study and analysis of visitation patterns, and "garden tune-up" walk-throughs by an operations expert. Often, some inexpensive solutions can be identified and implemented quickly with valuable results. More extensive solutions requiring major physical modifications may need to be incorporated into a planned future capital project. In some cases, the proposed solution and projected impact on improving the visitor experience and increasing gate revenues can provide a persuasive "selling point" to boards or funders.

The Glacier Effect

There is an apt parable about an unfortunate Neanderthal family who did not notice the nearby glacier creeping up and eventually engulfing them. The glacier represents competing leisure venues and the message here to public gardens is that lack of adequate attention to the visitor experience will likely result in a gradual decline in visitation and eventual extinction. Conversely, ongoing emphasis on improving the visitor experience will result not only in satisfied visitors, but also in sustained or improved visitation levels and gate revenues. We encourage public garden managers to conduct a periodic assessment of their existing facilities and planned future modifications to ensure that the visitors' experiences are continually maintained at the highest quality level possible. **TPG**

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Bronx Zoo's Gorilla Rainforest experience is enhanced by interactive touch screen exhibits

for the entry complex is often driven by the surges created by the simultaneous arrival of several buses. The development of designated gathering areas for groups near the entry complex is often a good approach to managing boisterous school groups. If facilities are