

Experiments to Improve Wayfinding at the Minnesota History Center

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Introduction

“The new Minnesota History Center in St. Paul is a building so heroic in scale that only metaphor seems to communicate its daunting presence,” wrote an architectural reviewer when the History Center opened in the fall of 1992 (Millett, 1992). The 427,000-square-foot monumental structure presents a formidable challenge to the visitor.

There are two entrances, but 90% of visitors enter through the door closest to the parking lot, which in many ways seems like a back door. Then they must negotiate a long entrance hallway, “a barrel-like vaulted corridor,” past a restaurant and stores, through a rotunda, and then make their way up from the first level by stairs or elevator to the museum exhibits on the third level. Moreover, about 30% of the visitors are headed elsewhere in the building. The information desk is located on the opposite side of the rotunda, and its design was intended to tastefully blend into the architecture of the building. From the “silo-like” rotunda there is a view upward to the second and third levels (Millett, 1992).

After two years of using the building, we had solved some basic wayfinding issues, primarily through signs. But we realized that visitors were mostly on their own without much direction from us. Therefore, we wanted to answer a number of questions through visitor evaluation:

- How are different user groups finding out how to go where they want to go? How can we improve this?
- Are all History Center visitors aware that there are exhibits in the building?
- What kind of information do museum visitors need and want? Where?
- What do first-time visitors need compared to repeat visitors?
- Are people frustrated, lost, perplexed, or worn out by looking for things and/or the spatial configuration of the building?

General findings about visitor orientation which needed to be taken into account were:

- Visitors tend to blame themselves instead of the building when they are frustrated, lost, or perplexed while trying to find their way around.
- People are often unable to identify the wayfinding cues they use.
- People tend to wander in museums rather than seek specific destinations, so that it is difficult to *measure* the experience of wayfinding.

Research Design

Based on these findings and experience with wayfinding, we decided that this study would be more effective if it *emphasized visitors' actual behavior and experience*, rather than only investigating their conscious perceptions of wayfinding, and more effective *if we experimented with different types of wayfinding cues* (potential solutions) rather than just describing what exists now and how people use the existing cues.

Therefore, we set up a research project to investigate wayfinding with three different sets of cues (signs, graphics, etc.). We decided to focus on the entrance from the parking lot. These three conditions were defined as:

Baseline — the same signs which had been available to visitors before this study, including a “welcome wagon,” staffed by volunteers about half of the time, and arrow signs with basic destination information in the rotunda and on the 2nd and 3rd floors.

Exhibit Trail — a new set of four signs with graphics consisting of (1) a welcome sign in the entrance hall, with a map holder and text saying “Museum exhibits — level 3;” (2) another sign in the rotunda telling visitors about the Great Hall (the architects’ name for the space) and directing them to turn right; (3) a sign in the hallway to the right of the Great Hall describing a “first exhibit,” two pairs of shoes in a vitrine, and again directing visitors to the 3rd floor exhibits; and (4) a sign at the top of the stairs on level 3 telling people they had arrived at the exhibits.

Footsteps — a different set of new signs and graphics, installed on days when the Exhibit Trail signs were not present, and consisting of a path of yellow acrylic footprints on the floor (leading from the entrance hallway through the Great Hall, turning toward the right to the stairs and elevators), a freestanding sign in the entrance hallway announcing “Exhibits Are On 3rd Level,” and an ongoing slide show in the lobby of the elevators, showing images of people in the exhibits.

The Exhibit Trail strategy was designed as a “trail of crumbs” not only giving visitors information about which way to go at critical decision points, but also introducing the museum experience through visual cues and objects. The Footsteps strategy used pictures of people in the exhibits having fun on the sign right inside the entrance, repeated with additional images projected on a 5' x 7' screen near the stairs and elevators, to which the visitor was directed by yellow footprints on the rotunda floor. The Exhibit Trail relied more heavily on verbal information, while the Footsteps strategy relied on nonverbal cues.

On the exhibit level, the 3rd floor, there are two long, two-story high concourses that come together in an L at the stairway, so that the visitors coming up the stairs, as most of them do, face an L-shaped wall and must choose a direction. There are three exhibit galleries, two of them are accessible from one concourse only. We augmented arrow signposts giving the names and directions of individual exhibits with visual images of the exhibits. These were located on the stairway landing between the 2nd and 3rd levels, at the head of each concourse, and at a decision point within the one gallery accessible from both concourses. We placed a floor plan of the exhibit galleries in the concourse nearest the elevators most used by visitors. We also moved an existing kiosk to the head of the second concourse and posted information about daily gallery programs and upcoming museum special events. These additional orientation cues on the 3rd floor were in place during both the experimental conditions, but not the baseline.

In addition, we decided we wanted to evaluate the baseline and test conditions during both busy and non-busy times. Our hypothesis was that visitors need wayfinding cues less during busy times because they follow other people more.

Research Methods and Samples of Visitors

The evaluation took place during December 1994 and January 1995 in order to take advantage of the high visitation and a broad cross-section of visitors during the holiday week between Christmas and New Year's.

Exit interviews were conducted with 585 visitors. This includes people who saw the exhibits as well as others who were only using the Research Center, eating in the cafe, etc., so this sample represented everyone who uses the building in some way.

Another sample of interviews was done with 581 visitors in the *third floor exhibit* areas, representing people who were there to see the exhibits. Interviewers talked with people in a variety of locations throughout many of the exhibits. In both sets of interviews, we categorized visitor groups as “all new,” “all repeat,” or “mixed new and repeat.”

Observations of 832 visitors entering the building give information about wayfinding behavior such as stopping to look around or to ask for

directions at the information desk, as well as how long it took people to find their way to the stairs or elevators.

Research Findings

About the use of the building:

- When entering the building, most visitors stop at least once to look around and figure out where to go; some stop more than once (the lowest average number of stops occurred during the Footsteps experiment in non-busy times).
- Approximately 60% of first-time visitors (or visitor groups containing a first-time visitor as well as repeat visitors) spent 2 hours or more in the building; repeat visitors tended to spend less time, partly explained by the fact that they were less likely to be visiting the exhibits (e.g., some were only using the restaurant or the Research Center).
- An overwhelming majority of visitors leave the building knowing that there are 3 public floors and that exhibits are on the 3rd floor.

About the visitor audience:

- Although the History Center has a research program to describe and monitor its audience, it was helpful to know that about one-third of the visitor groups were “all new” (no one in the group had visited the building before), one-third were “all repeat” (all had been before), and one-third were “mixed” (some had visited before, some had not).
- Only about two-thirds of the visitors came to see the exhibits; the others were coming to use the Research Center, the restaurant, and the stores.
- Over half of the holiday week visitors were families with children, compared to about one-third during January (including weekends), but the age profiles were similar for both periods.

About the use of signs and graphics:

- About 90% of visitors say they used some signs to find their way in the building, but only half of the visitors who reached the third floor (exhibit level) said that signs were especially useful to them.
- About half (48%) of the first-time visitors interviewed during the Baseline period thought that more signs were needed to help people find their way; this dropped to 39% during the Exhibit Trail experiment, and 19% during the Footsteps experiment.

- The “arrow” signs on the stair landings and on the 3rd floor were most memorable.
- Two-thirds of new visitors and nearly half of the mixed groups picked up maps, but only about half of the people who picked up a map actually used it. Visitors who used the building during the Footsteps experiment were the least likely to pick up a map or to use one.

About visitor interests and preferences:

- When they’re leaving, visitors are most interested in information about future opportunities such as upcoming exhibits and other historic sites to visit. They are much less interested in information about membership or renting the building for business or social occasions.
- When shown four choices for additional signs, directional arrow signs were preferred by more than three-fourths of visitors as most helpful, and over 50% chose an “Exhibits are on the 3rd level” sign (they were allowed two choices; the other options were an Exhibit Trail sign, and a historical character full-size photo ‘cut-out’ holding a sign with a list of current exhibits.)

The ***strengths*** of the existing wayfinding and orientation include:

- The main entrance hallway is linear and people have no trouble following it to the Great Hall.
- People are aware of the restaurant and museum stores because they pass by them and look into them on their way in to the building.
- The arrow signs are used and understood by visitors.
- Staff and/or volunteers at the welcome wagon and information desk are readily available to answer questions and give people advice about using the building.
- People have more than one way to reach the 3rd floor.

The most significant ***problems*** indicated by the study were:

- One-third of the visitors ask staff for directions. This level of uncertainty about the building adds pressure to staffing needs, and often reduces the staff role to one of explaining routine directions.
- Although about 90% of visitors said they used some signs to find their way around, only half of the visitors who reached the 3rd floor said that signs were especially helpful to them (equally true for first-time and repeat visitors).

- Half of the people in the Baseline condition said that more signs were needed — suggesting they were feeling the need for more or better information.
- The “Great Hall” is a term for wayfinding, but even by the end of their visit only 28% of new visitors know what this term refers to, and only about 40% of repeat visitors know it. Also, two exhibit titles were found to be similarly problematic in recognizability.

Some *improvements* discovered in this study are:

- The footprints-and-slide-show experiment simplified the patterns of visitor behavior on the first floor. Visitors made fewer stops for wayfinding, spent less time finding the stairs or elevators, were less likely to use a map (reflecting less perceived need for directions), and less likely to ask staff for directions.
- The series of Exhibit Trail markers also changed visitors’ behavior. More visitors picked up a map at the first marker, although this did not mean more people used a map. There were more people stopping the the Great Hall, at the second Trail marker, and there was a slight increase in the percentage of visitors who knew what the Great Hall was. There were more people stopping in the elevator lobby to the right of the Great Hall, where the third marker and exhibit case were, although this led to only a slight increase in elevator use.

Recommendations for Improving Wayfinding

The footprints on the floor (combined with the “Exhibits are on 3rd Level” sign at the entrance and the slide show) led to a reduced number of wayfinding stops, a shorter amount of time spent trying to figure out where to go, a substantial reduction in the proportion of visitors who thought more signs were needed, and reduced use of handout maps.

The Exhibit Trail experiment, although interesting as an interpretive experience, produced few differences compared to the Baseline condition. Visitors spent the same amount of time before heading up to another floor, the same proportion used a handout map, and the same percentage asked staff for directions. However, more people stopped in the rotunda (Great Hall) and the elevator lobby because of the trail markers there. They were less likely than Baseline visitors to ask for directions, in a similar proportion to the Footsteps condition.

Despite its success, a footprint trail is not a complete wayfinding system. It clearly helps people figure out where they can go, and does it in a way which gives visitors confidence about using the building. This experiment also told us that visual and spatial clues are much more effective than signs that have to be read because the visitors can assimilate the information much more quickly and it is the kind of information they are

looking for when trying to find their way. To consider what else could be done to supplement this positive finding from the research, each principal space was considered in light of the findings.

A Clear Starting Point

The Entrance Hall needs a clear starting point which is obvious and visible far down the hall, and which feels welcoming and easy to use. The welcome wagon is a positive solution, but a staffed counter can only serve a few people at a time and in very busy periods cannot serve most visitors. The welcome wagon name may not be well understood by visitors, either. It could be misinterpreted as for first-time visitors only, an admission desk, etc. We need to consider a friendly but clearer name such as “START HERE” or “ASK ME ABOUT EXHIBITS.”

The sign telling visitors immediately where the exhibits are and giving a *visual preview of the museum experience* was very important for cueing exhibit-seeking visitors right off the bat. However, considering the pressure for various kinds of information to be displayed “right out front,” it's important to keep in mind that a clear starting point is difficult to communicate if there's a series of signs, kiosks, placards, etc. running along the entrance hall like billboards on a highway. Yet there is a tendency to do exactly this, i.e., every program, meeting, lecture, class, service, etc. putting out a sign and/or brochure near the entrance. This is a poor choice because it seems as though there is no clear beginning, no priority of information, and probably too much information to absorb, so people skip it all.

To fulfill the criterion of a *clear starting point*, whatever is created should welcome people to the History Center, attract them to notice this starting point, be extremely easy to “use” or refer to, and let people know that there's lots to do here, especially in the exhibits. It should not require people to stand in line to use it, and should be effective as a psychological starting point for people who simply notice it as they pass by. Decorations should complement rather than compete with it.

Clear Names for Spaces and Exhibits

Names for spaces should be self-evident to the visitor. Exhibit names should give a sense of the content and/or the nature of the experience. Internal jargon should be avoided, and names should be tested with visitors.

The Rotunda

This space should offer a brief experience of the impressive architecture, including the *awareness that there are public floors above*, and then provide a *clear direction of movement* to the right toward the elevators and stairs. The rotunda could also be an effective experience as people exit — offering a place to gather, browse the stores, and again experience the architecture.

Something needs to suggest a direction here, to contrast with the round space which is basically non-directional. Otherwise, one-third of people go over to the information desk to ask routine questions.

The four-story view up toward the dome represents a good opportunity to give people the idea that there are things to see upstairs. Some decorative visual cues about a museum experience could be helpful as you look up.

The information desk is a valuable feature of this space, but the staff there will be a better resource for the History Center and the visitors if they get a chance to do more than answer routine questions about directions. It's also very plain and blends in with the architecture. What would make it appear as part of a *museum*?

The Elevator Lobby

This space has the potential to *bring the museum down to the first floor*, as was done during the experiments with a case containing objects or a slide show. In other words, it should feel like it's a point of arrival — that you're on the grand trail to the museum and this space finally gives you a sense of what it will be like. Even visitors taking the stairs will stop at an appealing experience here. It should offer a preview of exhibits with artifacts, freestanding exhibit panels, or large visual images. It should create an exhibit-like ambiance — lively, possibly interactive, non-uniform lighting, etc. The space should have a title, either repeating "The Minnesota History Center," or a new title. An obvious and explicit connection with the 3rd floor should be made, through titles, directionals, and other signs.

Third Floor Exhibits Orientation

When people arrive at the third floor by stairs or elevator, it is unclear where to go. Where are the exhibits? The architecture dominates, and other visitor studies we have done indicate that many visitors feel there is a lot of "empty space." There are, on the other hand, only a few options, so visitors do find their way fairly easily. Wandering isn't necessarily bad, but "public space" on the 3rd floor isn't fulfilling its potential for welcoming visitors and promoting a feeling of a dynamic exhibit floor. It would be helpful to have a *greater sense of "welcome" and a clearer effort to communicate a museum ambiance*.

A more obvious sense of exhibitry in the spaces, at a scale which is more like "human scale" than the monumental architecture would help. There could be a series of kiosks like the existing one (with a weathervane theme) serving as pedestals or frames for display cases for objects or platforms for simple interactives. This would provide a repetition of forms from the east concourse to the west concourse. An area of comfortable furniture would create a restful and relaxing ambiance, and welcome people to stay. More distinctive entryways to the exhibit galleries would provide valuable visual information for the visitor. The arrow signposts with visual information about the exhibits along with their names and life-size cut-outs

of costumed interpreters pointing to exhibit entrances (and perhaps also schedules of exhibit programs) would assist visitors in decision-making and perhaps reduce random wandering. You-are-here floorplans of the exhibit galleries with names of specific exhibits in the concourses would provide another level of information.

Exit Experience

The Entrance Hall also has a role in orientation as visitors leave the building. There should be a *sense of closure* to the day's experience at the History Center, and also *encourage future behavior* (upcoming exhibits, programs, other historic sites, etc.) Too much information will undermine the entry experience by adding competing "clutter." However, it should be possible to integrate the objectives of the entry and exit experiences. For example: The space behind a starting point could be used to create a display for exiting visitors. The back(s) of an overhead sign(s) could be used for a parting message or series of messages for visitors as they leave. The back side of an initial Trail Marker or "Exhibits Are On 3rd Level" element could be used as a final element, such as "YOU ARE PART OF MINNESOTA HISTORY."

Eagerness to put up all kinds of information for exiting visitors should be tempered by (a) the knowledge that they are not interested in everything at this point, and (b) an understanding that the design of the entry experience should take precedence.

Implementation

As a result of this study, the Minnesota History Center is engaged in the process of conveying to the visitors from the time they approach the building the same kind of message about the museum experience that we have worked so hard to build into our exhibits: you are a part of history, history is fun, and we have something everyone will enjoy doing and seeing. Although most visitors are impressed with the architecture of the building, they also need to feel welcome, comfortable, and excited about their visit. Our challenge is to build this overall museum experience for the visitors while making it easy to find their way and make choices. We hope to do this within the next year and a half, assigning a team to this project just as we have assigned teams to develop exhibits.

Reference

- Millett, L. (1992). Making history: the Minnesota History Center strikes a heroic pose in St. Paul. *Architecture Minnesota*, 18(6), 26-31.