Impact Planning, Evaluation & Audience Research

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Summative Evaluation:
Gallery of California History

Prepared for the
Oakland Museum of California
Oakland, CA

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EXECUTIVE SUMMARY

INTRODUCTION

The Oakland Museum of California (OMCA) contracted Randi Korn & Associates, Inc. (RK&A) to conduct a summative evaluation of the reinstallation of the Gallery of California History (History Gallery). Timing and tracking observations were used to examine visitors' experiences in the reinstalled History Gallery. A total of 108 observations were collected in February and March 2011.

> **The findings presented here are among the most salient. Please read the body of the report for a more comprehensive presentation of findings.**

DESCRIPTION OF VISITORS

Data collectors reported approximate demographics for all observed visitors.

- 62 percent of visitors are female.
- 41 percent of visitors are between 35 and 54 years old.
- 53 percent of visitors were in adult-only groups, 28 percent were in groups of adults and children, and 19 percent were alone.
- Visitors with children were often visiting with elementary-age children or younger; 40 percent were with children less than 5 years old, 33 percent were with children 5 to 8 years, and 43 percent were with children 9 to 11 years.

OVERALL VISITATION TO THE HISTORY GALLERY

- Median time spent in the History Gallery was 34 minutes 11 seconds.
- Of the 100 content areas available, visitors stopped at a median of 23.

VISITATION TO SECTIONS

There are 18 sections in the History Gallery.

- The most visited section was the "Entry" section (76 percent). The least visited section was the "California Literacy Lounge" (9 percent).
- Visitors spent the most time at the section "Spaniards Claim This Land" (3 minutes 55 seconds). Visitors spent the least time at the section "Seeking the Good Life" (42 seconds).

VISITATION TO CONTENT AREAS

There are 100 content areas in the History Gallery.

- ♦ The most stopped at content area was "20. What the Spaniards Brought with Them" (59 percent). The least stopped at content area was "94. Mystery Things (bee smoker)" (5 percent).

- ♦ Visitors spent the most time at the content area "71. Animation Studio" (3 minutes 50 seconds). Visitors spent the least time at the section "Sketching Out the Suburbs" (9 seconds).

VISITOR BEHAVIORS

- ♦ 71 percent of visitors discussed gallery content in the History Gallery.

- ♦ 58 percent used activities.

- ♦ 57 percent used audio or visual components.

- ♦ 40 percent of visitors used the seating.

- ♦ 23 percent interacted with staff.

- ♦ 13 percent used the label books.

- ♦ Of the audio/visual components in the section "Before the People Came," the audio/visual component at "7. Coastal Rainforest" was most used (21 percent), while the audio/visual component at "11. Low Desert" was least used (7 percent).

- ♦ Of the audio/visual components in the section "Before the People Came," visitors spent the most time at the audio/visual component at "8. Rocky Coast" (8 minutes 51 seconds), while visitors spent the least time at the audio/visual component "7. Coastal Rainforest" (57 seconds).

- ♦ Use of seating, label books, activities, audio or visual components and discussion of gallery content positively affected time spent in the History Gallery overall.

DISCUSSION

INTRODUCTION

Timing and tracking observations indicate that the reinstalled Gallery of California History (History Gallery) at the Oakland Museum of California (OMCA) was well received by visitors. In the following discussion, we identify significant findings based upon our knowledge of visitors' behaviors in OMCA's Gallery of California Art (Art Gallery) as well as visitors' behaviors in other museum exhibitions.

HISTORY GALLERY AND ART GALLERY VISITORS ARE ALIKE

The observed demographic characteristics of History Gallery visitors are much like Art Gallery visitors (RK&A, 2010), suggesting that OMCA's audience is not segmented by the Museum's various disciplines; visitors who go to the art gallery also visit the history gallery. Two-thirds of History Gallery visitors are female, about one-quarter are between 35 and 44 years of age, and more than one-half are in adult-only groups.

TIME SPENT IN THE HISTORY GALLERY IS HIGH

While visitors spent slightly less time in the History Gallery as compared to the Art Gallery (median time = 34 minutes versus median time = 43 minutes), the amount of time spent in the History Gallery was considerable (RK&A, 2010). In fact, time spent in the History Gallery was almost twice as long as the generally accepted visitor-saturation point[1] (Serrell, 1998). As OMCA staff intended, seating contributed to visitors' long stay times. Further, content areas with activities, audio or visual components, or label books doubled visitors' stay time in the History Gallery.

THE HISTORY GALLERY IS WIDELY USED

One of the most surprising findings is the extent to which the History Gallery was used, especially when considering the large size of the exhibition. As expected, sections and content areas near the beginning of the exhibition tended to have the greatest attraction power; sections and content areas near the end of the exhibition still boasted healthy attraction power, although it was less pronounced. Moreover, dwell time was quite consistent throughout the History Gallery; six of the 12 greatest dwell times were at content areas in the latter half of the History Gallery. This is an extraordinary finding because it demonstrates that OMCA is presenting compelling content and design that combats fatigue and saturation.

CONTENT AREAS ARE APPEALING TO A WIDE RANGE OF VISITORS

Interestingly, age and group composition factored minimally into visitors' content area and section visitation, dwell time, and behaviors in the History Gallery, and furthermore, no gender relationships

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[1] Readers should note that the History Gallery is one of the largest exhibitions that RK&A has evaluated; however, Serrell states that visitors tend to spend a maximum of about 20 minutes in an exhibition regardless of its size. That is, 20 minutes seems to be visitors' point of saturation or fatigue.

emerged. These results suggest that the variety of components in the History Gallery successfully cater to a broad range of visitors with diverse interests and needs, whether they are gender, age, or group-related. One of the greatest indicators of its wide appeal is that visitors with and without children spent the same amount of time in the History Gallery despite the fact that visitors with children used the activities more than visitors without children. Use of activities often contributes to increased dwell times, and therefore, we can hypothesize that there were plenty of other compelling aspects in the content areas for visitors without children.

ASPECTS TO CONSIDER REMEDIATING

Audio/visual components in the section "Before the Others Came" had great holding power, but fewer than one-fifth of visitors used each of the components. Because the area with the audio/visual components is relatively small and the components are close together, it is likely that visitors bypassed the audio/visual components when other visitors were using them. Since the audio/visual components seemed to provide compelling experiences, as indicated by the long dwell times, OMCA may consider how to provide more visitors access to the components, such as by increasing the space between components.

California Literacy Lounge was visited by about one-tenth of visitors and the dwell time was relatively low, with a median time of 1 minute 15 seconds. This is not atypical for a reading or resource area, however. For instance, timing and tracking observations in the Dallas Museum of Art's Center for Creative Connections (C3) showed that about one-tenth of visitors stopped at the resource area Learning Links, and the median time spent in the area was 42 seconds (RK&A, 2008). Nevertheless, OMCA may consider adding prompts, images, or questions for exploration to encourage visitors to use this area.

Also, about one-tenth of visitors used the label books in the History Gallery. But, data shows that the few visitors who used the label books spent twice as much time in the History Gallery as visitors who did not use the label books. Since the label books contribute to extended History Gallery experiences, OMCA may consider how to make the label books more visible to visitors, since currently they are not prominently placed.

REFERENCES

Serrell, B. (1998). *Paying Attention: Visitors and Museum Exhibitions.* Washington, D.C., American Association of Museums.

Randi Korn & Associates, Inc. (2008). *Summative Evaluation of the Center for Creative Connections (C3) and 'Materials & Meanings' Exhibition.* Unpublished manuscript. Dallas, TX: Dallas Museum of Art.

Randi Korn & Associates, Inc. (2010). *Summative Evaluation: Art Gallery.* Unpublished manuscript. Oakland, CA: Oakland Museum of California.

INTRODUCTION

This report presents the findings from a summative evaluation of the Gallery of California History (History Gallery) conducted by Randi Korn & Associates, Inc. (RK&A) for the Oakland Museum of California (OMCA). The evaluation examines visitors' experiences in the reinstalled History Gallery and will inform OMCA staff members' ongoing remediation efforts.

Specifically, the evaluation explores:

- Time spent in the History Gallery as a whole, at sections, and at specific exhibits (i.e., determine holding time);

- Stops made as a whole, at sections, and at specific exhibits (i.e., determine attraction power);

- Behaviors in the exhibition;

- Correlations between demographics and behaviors;

METHODOLOGY

Observational data provide an objective and quantitative account of how visitors behave and react to exhibition components. Timing and tracking observations are particularly useful because they document visitor behaviors in a standardized manner, which can be analyzed statistically. Timing and tracking data can indicate exhibit components visited, the range of visitor behaviors, as well as the time spent in the exhibition and at specific exhibit components.

RK&A conducted timing and tracking observations in the History Gallery on various Thursdays, Fridays, Saturdays, and Sundays in February and March 2011. Trained data collectors observed 108 visitors 18 years and older who were selected using a continuous random sampling method. In accordance with this method, the data collector imagined a line at the entrance to the History Gallery and selected the first eligible visitor to cross this imaginary line. Once the visitor crossed the imaginary line, the data collector started his/her stopwatch and unobtrusively followed the selected visitor through the exhibition, recording the exhibits used, noting interactions, and logging total time spent in the History Gallery (see Appendix A for the timing and tracking form). When the visitor completed his or her visit to the History Gallery, the data collector returned to the entrance to await the next eligible visitor to cross the imaginary line.

ANALYSIS

Timing and tracking observation data are quantitative and were analyzed using SPSS 12.0.1 for Windows, a statistical package for personal computers. The objectives of the study as well as our professional experience were used to inform the analyses run, which include descriptive and inferential methods. Appendix B contains a list of all statistical analyses run.

DESCRIPTIVE STATISTICS

Frequency distributions were calculated for all variables, including visitor characteristics, total number of stops in the exhibition, total time spent in the exhibition, and behaviors. Summary statistics were also

calculated for some variables, including total number of stops and total time spent in the exhibition; summary statistics include the range, median (50th percentile, the data point at which half the responses fall above and half fall below) [2], mean (average), and standard deviation (spread of scores: "±").

INFERENTIAL STATISTICS

Inferential statistics were used to examine the relationship among variables. A 0.01 level of significance was employed to preclude findings of little practical significance.[3]

To examine the relationship between two categorical variables, cross-tabulation tables were computed to show the joint frequency distribution of the variables, and the chi-square statistic (X^2) was used to test the significance of the relationship. For example, "stop at content areas" (yes or no) was tested against "group composition" to determine whether content area stops were related to whether visitors were with children.

To test for differences in the medians of two or more groups, the nonparametric Kruskal-Wallis (K-W) test was performed.[4] For example, "total time in the exhibition" was compared by "group composition" to determine whether time spent in the exhibition was related to whether visitors were with children.

REPORTING METHOD

Data are reported in tables with explanatory text. Percentages within tables may not always equal 100 owing to rounding. Findings within each topic are presented in descending order, starting with the most-frequently occurring.

> **SECTIONS OF THE REPORT:**
>
> 1. Exhibition Description
> 2. Timing and Tracking Observations

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[2] Medians rather than means are reported in the timing and tracking section of this document because, as is typical, the number of exhibits used and the time spent by visitors were distributed unevenly across the range. For example, whereas most visitors spent a short to moderate time in the exhibition, a few spent an unusually long time. When the distribution of scores is extremely asymmetrical (i.e., "lopsided"), the mean is affected by the extreme scores and, consequently, falls further away from the distribution's central area. In such cases, the median is a better indicator of the distribution's central area because it is not sensitive to the values of scores above and below it—only to the number of such scores.

[3] When the level of significance is set to $p = 0.01$, any finding that exists at a probability (p-value) ≤ 0.01 is "significant." When a finding (such as a relationship between two variables) has a p-value of 0.01, there is a 99 percent probability that the finding exists; that is, in 99 out of 100 cases, the finding is correct. Conversely, there is a 1 percent probability that the finding would not exist; in other words, in 1 out of 100 cases, the finding appears by chance.

[4] The Kruskal-Wallis (K-W) test is a nonparametric statistical method for testing the equality of population medians of two or more groups. Nonparametric statistical methods do not assume that the underlying distribution of a variable is "normal" with a symmetric bell-shape, so they are appropriate for testing variables with asymmetric distributions such as "total time in the exhibition." The K-W test is analogous to a One-way Analysis of Variance, with the scores replaced by their ranks. The K-W test statistic H has approximately a chi-square distribution.

EXHIBITION DESCRIPTION

The Gallery of California History (History Gallery) opened in May 2010. According to the Oakland Museum of California (OMCA) Web site, "The new gallery is based on the theme of Coming to California—an idea that evokes not only the arrivals and departures of people throughout human history and their interactions with the inhabitants already here, but also the notion of coming to terms with the influence of California on our individual and collective identities."[5]

The History Gallery is organized chronologically, and it explores themes including Native American culture, the Gold Rush, and Hollywood boom. In the timing and tracking form, RK&A identified 100 content areas[6]; see the timing and tracking form in Appendix A for a list of content areas. RK&A also identified 18 distinct sections, which are:

- Entry
- Before the Other People Came
- Spaniards Claim This Land
- Esto es Mexico
- Coming for Gold
- Coming for Land
- The Railroad Brings People
- Cornucopia
- San Francisco: Glorious City of the West
- Seeking the Good Life
- Trying to Escape the Depression
- Off to War
- Hollywood Land/Creative Hollywood
- Building Modern California
- Forces of Change
- Section 14
- History Hangout
- California Literacy Lounge

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[5] Retrieved March 31, 2011 at http://museumca.org/exhibit/gallery-california-history.
[6] In this report, we use the word "exhibit" to identify *observable* subsections of the exhibition.

PRINCIPAL FINDINGS

INTRODUCTION

Timing and tracking observations were collected in the Gallery of California History (History Gallery) at the Oakland Museum of California (OMCA). Trained data collectors conducted 108 unobtrusive observations of adult visitors (18 years or older).

DATA COLLECTION CONDITIONS

Observations were conducted in February and March 2011 (21 percent and 79 percent, respectively) (see Table 1). Most observations were conducted during weekend days (75 percent). The crowding in the Gallery was generally low or moderate (45 percent and 42 percent, respectively).

TABLE 1

DATA COLLECTION CONDITIONS

MONTH (n = 108)	%
February	21
March	79
DAY OF THE WEEK (n = 108)	**%**
Weekend day	75
Weekday regular	19
Weekday evening	6
LEVEL OF CROWDING (n = 108)	**%**
Low	45
Moderate	42
High	13

DESCRIPTION OF VISITORS[7]

As shown in Table 2, almost two-thirds of observed visitors were female (62 percent). Visitors ranged in age, although the largest percentage, almost one-quarter of visitors, were between 35 and 44 years of age (23 percent).

TABLE 2

DEMOGRAPHIC CHARACTERISTICS OF OBSERVED VISITORS

GENDER (*n* = 108)	%
Female	62
Male	38
APPROXIMATE AGE (*n* = 108)	**%**
18 – 24 years	11
25 – 34 years	15
35 – 44 years	23
45 – 54 years	18
55 – 64 years	17
65 years and older	17

More than one-half of visitors were visiting in adult-only groups (53 percent) (see Table 3). About one-quarter were visiting in a group of adults and children (28 percent), and one-fifth were alone (19 percent). Visitors with children were most often visiting with children under 11 years; 40 percent were visiting with children younger than 5 years old, 33 percent with children 5 to 8 years old, and 43 percent with children 9 to 11 years old.

TABLE 3

DESCRIPTION OF VISIT GROUP

GROUP COMPOSITION (*n* = 108)	%
Adults only	53
Adults and children	28
Alone	19
AGE OF CHILDREN IN VISIT GROUP (*n* = 30)	**%**
0 – 5 years (preschool/toddler)	40
5 – 8 years (younger elementary school)	33
9 – 11 years (older elementary school)	43

[7] Visitors were unobtrusively observed, and thus, all data in this section is based upon data collectors' observations and approximations. For instance, visitors were not asked their age, but rather, data collectors approximated visitors' age.

12 – 14 years (middle school)	13
15 – 17 years (high school)	7

OVERALL VISITATION

This section describes how long and how thoroughly visitors used the History Gallery (e.g., time spent and number of stops). Additionally, RK&A tested these findings by the observed visitors' gender, age, and group composition to explore differences by these factors.

TIME SPENT IN THE HISTORY GALLERY

Using a stopwatch, data collectors documented the amount of time visitors spent in the entire History Gallery. Time spent in the exhibition ranged from about 2 minutes to about 2 hours 25 minutes, with a median time of approximately 34 minutes (see Table 4). Additionally, about one-fifth of visitors spent over an hour in the History Gallery (21 percent).

TABLE 4

TIME SPENT IN THE HISTORY GALLERY

TIME SPENT (n = 108)	% OF VISITORS
Less than 20 minutes	27
20 – 40 minutes	31
40 – 60 minutes	21
More than 60 minutes	21
SUMMARY STATISTICS (n = 108)	**TIME SPENT (HOUR:MIN:SEC)**
Range	2:07 to 2:25:00
Median time	34:11
Mean time	36:37
Standard deviation (±)	25:13

SIGNIFICANT RELATIONSHIPS

When time spent visited was compared by gender, age, and group composition, no significant relationships emerged.

OMCA and RK&A identified 100 distinct content areas in the History Gallery, and RK&A documented stops at these content areas.[8] For this evaluation, a "stop" was defined as a visitor standing for three seconds or longer in front of a content area.

Overall, visitors stopped at between one and 64 content areas (see Table 5). The median number of content areas stopped at is 23, which is about one-quarter of the available content areas. Twelve percent of visitors stopped at 51 content areas or more; that is, they stopped at more than one-half of the available content areas.

TABLE 5

NUMBER OF CONTENT AREA STOPS IN THE HISTORY GALLERY

NUMBER OF CONTENT AREA STOPS (n = 108)	% OF VISITORS
1 – 10	19
11 – 20	25
21 – 30	25
31 – 40	8
41 – 50	11
51 or more	12
SUMMARY STATISTICS (n = 108)	**NUMBER OF CONTENT AREAS**
Range	1 – 64
Median number	23
Mean number	26.1
Standard deviation (±)	16.39

SIGNIFICANT RELATIONSHIPS

When number of content area stops was compared by gender, age, and group composition, no significant relationships emerged.

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[8] In this report, we use the word "content areas" to identify *observable* subsections in the exhibition identified by OMCA and RK&A.

VISITATION TO SECTIONS OF THE HISTORY GALLERY

This section describes how long and how thoroughly visitors used the 18 sections of the History Gallery. RK&A tested these findings by visitors' gender, approximate age, and group composition to explore any differences by these factors.

SECTIONS VISITED

The most visited sections are "Entry" (76 percent), "Spaniards Claim This Land" (75 percent), and "Before the Other People Came" (74 percent) (see Table 6). The least visited section is "California Literacy Lounge" (9 percent).

TABLE 6

PERCENTAGE OF VISITORS WHO VISITED SECTIONS OF THE HISTORY GALLERY

SECTION (n = 108)	% OF VISITORS WHO STOPPED
Entry	76
Spaniards Claim This Land	75
Before the Other People Came	74
Coming for Gold	70
Hollywood Land/Creative Hollywood	64
Building Modern California	58
Seeking the Good Life	57
Coming for Land	56
San Francisco: Glorious City of the West	55
Esto Es Mexico	52
Forces of Change	51
Off to War	46
History Hangout	45
Trying to Escape the Depression	44
The Railroad Brings People	41
Cornucopia	41
Section 14	32
California Literacy Lounge	9

SIGNIFICANT RELATIONSHIPS

For sections visited by more than 20 visitors, RK&A tested whether gender, age, and group composition factored into visitation. There are two significant findings:

- Young adults (18-34 years) and older adults (55 years or older) are more likely than are middle-aged adults (35-54 years) to visit the section "Coming for Land" (61 percent and 72 percent, respectively, versus 39 percent) (see Table 7, next page).

- Visitors with children are more likely than are those without children to visit "Section 14" (53 percent versus 24 percent) (see Table 8, next page).

TABLE 7

PERCENTAGE OF VISITORS WHO VISITED SECTIONS BY AGE

| | | AGE | | | |
| | | 18-34 | 35-54 | 55+ | TOTAL |
SECTION	*n*	%	%	%	%
Coming for Land[1]	108	61	39	72	56

[1]$\chi^2 = 9.453$; $p = .009$ (Chi-square)

TABLE 8

PERCENTAGE OF VISITORS WHO VISITED SECTIONS BY GROUP COMPOSITION

| | | GROUP COMPOSITION | | |
| | | WITH CHILDREN | NO CHILDREN | TOTAL |
SECTION	*n*	%	%	%
Section 14[1]	108	53	24	32

[1]$\chi^2 = 8.304$; $p = .004$ (Chi-square)

Visitors spent the most time at "Spaniards Claim This Land" (3 minutes, 55 seconds) and "Hollywood Land/Creative Hollywood" (3 minutes, 12 seconds) (see Table 9). Visitors spent the least time at "Section 14" (54 seconds) and "Seeking the Good Life" (42 seconds).

TABLE 9

TIME SPENT AT SECTIONS OF THE HISTORY GALLERY

SECTION	NUMBER OF VISITORS WHO STOPPED	MEDIAN TIME (MIN:SEC)
Spaniards Claim This Land	80	3:55
Hollywood Land/Creative Hollywood	69	3:12
History Hangout	49	2:37
Forces of Change	55	2:35
Coming for Gold	76	2:33
San Francisco: Glorious City of the West	59	1:55
Building Modern California	63	1:49
Before the Other People Came	80	1:36
The Railroad Brings People	44	1:35
Esto Es Mexico	56	1:34
Coming for Land	60	1:28
California Literacy Lounge	10	1:15
Trying to Escape the Depression	47	1:09
Off to War	50	1:08
Entry	82	1:07
Cornucopia	44	1:05
Section 14	35	0:54
Seeking the Good Life	61	0:42

SIGNIFICANT RELATIONSHIPS

When time spent at sections was compared by gender, age, and group composition, no significant relationships emerged.

VISITATION TO CONTENT AREAS

This section describes the percentage of visitors who stopped at the individual content areas as well as the time spent at content areas. Additionally, RK&A tested these findings by gender, approximate age, and group composition to explore any differences by these factors.

CONTENT AREAS STOPPED AT

RK&A calculated the percentage of visitors who attended each of the content areas. We have reported only the most and least stopped at content areas below. Refer to Appendix C for the number of visitors who stopped at each of the 100 content areas.

Table 10 shows the 10 most stopped at content areas, all of which were attended by at least 42 percent of visitors. "20. What the Spaniards Brought with Them" was the most attended content area (69 percent), closely followed by "16. Distant Travelers" (58 percent).

TABLE 10

MOST STOPPED AT CONTENT AREAS (MOST ATTRACTION POWER)

CONTENT AREA	% OF VISITORS WHO STOPPED
20. What the Spaniards Brought with Them	59
16. Distant Travelers	58
21. Voyages of Discovery	50
14. Basket Wall	48
35. People Made a Home in Gold Country	48
18. Cross in the Ground	45
4. Coming to California map activity	44
32. Miner's Store/Struggling to Survive	44
15. Cultures Meet Object Theater	43
36. Agricultural Communities	42

Table 11 (next page) shows the 10 least stopped at content areas, all of which were attended by 11 percent of visitors or fewer. "94. Mystery Things (bee smoker)" was the least stopped at content area (5 percent), closely followed by "93. Mystery Things (heckle)" (6 percent).

TABLE 11

LEAST STOPPED AT CONTENT AREAS (LEAST ATTRACTION POWER)

CONTENT AREA	% OF VISITORS WHO STOPPED
94. Mystery Things (bee smoker)	5
93. Mystery Things (heckle)	6
3. Behind the Scenes Photos	7
63. Off to War Introduction	7
95. Mystery Things (ticker tape fire alarm)	7
62. No Longer Wanted	9
100. California Literacy Lounge	9
58. One Out of Five Out of Work Introduction	10
81. Military Industrial Complex	10
88. What Thing Doesn't Belong (cutlery)	11

SIGNIFICANT RELATIONSHIPS

For content areas visited by more than 20 visitors, RK&A tested whether gender, age, and group composition factored into the percentage of visitors who stopped. There are two significant findings:

- ♦ Older adults (55 years or older) are more likely than are middle-aged adults (35-54 years) to stop at "40. Taking Native Peoples' Land" (44 percent versus 14 percent) (see Table 12).

- ♦ Visitors with children are more likely than are visitors without children to stop at "61. How Do You Fix a Broken System" (40 percent versus 10 percent) (see Table 13).

TABLE 12

PERCENTAGE OF VISITORS WHO STOPPED AT CONTENT AREAS BY AGE

| | | AGE | | | |
| | | 18-34 | 35-54 | 55+ | TOTAL |
CONTENT AREA	*n*	%	%	%	%
40. Taking Native Peoples' Land[1]	108	29	14	44	28

[1]$\chi^2 = 9.379$; $p = .009$ (Chi-square)

TABLE 13

PERCENTAGE OF VISITORS WHO STOPPED AT CONTENT AREAS BY GROUP COMPOSITION

| | | GROUP COMPOSITION | | |
| | | WITH CHILDREN | NO CHILDREN | TOTAL |
CONTENT AREA	*n*	%	%	%
61. How Do You Fix a Broken System[1]	108	40	10	32

[1]$\chi^2 = 8.886$; $p = .003$ (Chi-square)

TIME SPENT AT CONTENT AREAS

RK&A calculated the median time spent at each of the content areas.[9] Below, we have reported only the content areas with the longest and shortest time spent. Refer to Appendix C for the median time spent at each of the 100 content areas.

Table 14 shows the content areas with the longest dwell times. Visitors spent the most time at "71. Animation Studio" (median time = 3 minutes 50 seconds), followed by "85. We Were There" (median time = 3 minutes 5 seconds). Visitors also spent a significant amount of time at "75. Studio Screening Room" (median time = 2 minutes 59 seconds) and "72. Foley Stage" (median time = 2 minutes 16 seconds).

TABLE 14

CONTENT AREAS WITH THE LONGEST TIME SPENT (MOST HOLDING POWER)

EXHIBIT	NUMBER OF VISITORS WHO STOPPED	MEDIAN TIME (MIN:SEC)
71. Animation Studio	15	3:50
85. We Were There	38	3:05
75. Studio Screening Room	41	2:59
72. Foley Stage	16	2:16
32. Miner's Store/Struggling to Survive	48	1:43
43. Oakland Railroad	13	1:21
21. Voyages of Discovery	54	1:18
96. Sound of Things (play)	20	1:17
100. California Literacy Lounge	10	1:15
16. Distant Travelers	63	1:06

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[9] If a visitor returned to a content area at which s/he had previously stopped, this return was not counted as an additional stop, but the time spent was included in the total time spent at the component.

Table 15 shows the content areas with the shortest time spent. Visitors spent the least time at "55. Sketching Out the Suburbs" (median time = 9 seconds). Visitors also spent little time at "22. Viva la Independencia Introduction" (median time = 11 seconds) and "63. Off to War Introduction" (median time = 12 seconds).

TABLE 15

CONTENT AREAS WITH THE SHORTEST TIME SPENT (LEAST HOLDING POWER)

EXHIBIT	NUMBER OF VISITORS WHO STOPPED	MEDIAN TIME (MIN:SEC)
55. Sketching Out the Suburbs	16	0:09
22. Viva la Independencia Introduction	20	0:11
63. Off to War Introduction	8	0:12
29. Gold! Introduction	34	0:13
94. Mystery Things (bee smoker)	5	0:13
24. Los Ranchos	30	0:17
44. Fighting the Railroad Companies	21	0:18
58. One Out of Five Out of Work Introduction	11	0:18
66. I Am an American	17	0:18
69. Creative Hollywood Introduction	20	0:18
99. Photography Things	14	0:18

SIGNIFICANT RELATIONSHIPS

For content areas visited by more than 20 visitors, RK&A tested whether gender, age, and group composition factored into time spent at content areas. There is one significant finding:

♦ Older adults (55 years or older) are likely to spend more time at "60. California or Bust" than are young adults (18-34 years) and middle-aged adults (35-54 years) (median time = 45 seconds versus 14 seconds and 23 seconds, respectively) (see Table 16).

TABLE 16

TIME SPENT AT CONTENT AREAS BY AGE

CONTENT AREA	n	AGE			
		18-34	35-54	55+	TOTAL
		MEDIAN TIME (MIN:SEC)	MEDIAN TIME (MIN:SEC)	MEDIAN TIME (MIN:SEC)	MEDIAN TIME (MIN:SEC)
60. California or Bust[1]	108	0:14	0:23	0:45	0:24

[1]$\chi^2 = 10.355$; $p = .006$ (Kruskal-Wallis test)

VISITOR BEHAVIORS

The following section describes visitors' behavior in the exhibition. While many specific behaviors were documented in the observation, this section focuses on some of the most prevalent behaviors as well as those of particular interest to OMCA. For a complete list of behavior frequencies by content area, see Appendix C.

FREQUENT BEHAVIORS BY SECTION

Three behaviors were observed by section: staff interaction, use of seating, and use of label books. More than one-third of visitors used seating in at least one section of the History Gallery (40 percent) (see Table 17). About one-quarter of visitors interacted with staff in at least one section (23 percent), and a few visitors used label books in at least one section (13 percent). Analysis shows that individual visitors normally exhibited each of these three behaviors in just one section while a few did so in two sections, but in no more than two sections.

TABLE 17

PERCENTAGE OF VISITORS WHO EXHIBITED SPECIFIC BEHAVIORS IN SECTIONS

BEHAVIOR	% OF VISITORS (n = 108)
Use of seating (possible at 11 sections)	40
Staff interaction (possible at 18 sections)	23
Use of label books (possible at 16 sections)	13

[1]Visitors used seating between 1 and 2 times in the History Gallery, with a median of 1 time.

[2]Visitors interacted with staff between 1 and 2 times in the History Gallery, with a median of 1 time.

[3]Visitors used label books between 1 and 2 times in the History Gallery, with a median of 1 time.

SIGNIFICANT RELATIONSHIPS

RK&A tested whether gender, age, group composition, and total time spent in the History Gallery factored into behaviors in sections. There are two significant findings:

- Visitors who used the seating are likely to spend more time in the History Gallery than are visitors who did not (median time = 42 minutes 44 seconds versus 30 minutes 43 seconds) (see Table 18).

- Visitors who used the label books are likely to spend more time in the History Gallery than are visitors who did not (median time = 58 minutes 43 seconds versus 32 minutes 33 seconds) (see Table 19, next page).

TABLE 18

TIME SPENT IN THE HISTORY GALLERY BY USE OF SEATING

		USE OF SEATING		
		YES	NO	TOTAL
TIME SPENT	n	MEDIAN TIME (MIN:SEC)	MEDIAN TIME (MIN:SEC)	MEDIAN TIME (MIN:SEC)

		USE OF LABEL BOOKS		

		YES	NO	TOTAL
TIME SPENT	*n*	MEDIAN TIME (MIN:SEC)	MEDIAN TIME (MIN:SEC)	MEDIAN TIME (MIN:SEC)
Time Spent in the History Gallery[1]	108	42:44	30:43	34:11

[1]$\chi^2 = 6.899; p = .009$ (Kruskal-Wallis test)

		USE OF LABEL BOOKS		

		YES	NO	TOTAL
TIME SPENT	*n*	MEDIAN TIME (MIN:SEC)	MEDIAN TIME (MIN:SEC)	MEDIAN TIME (MIN:SEC)
Time Spent in the History Gallery[1]	108	58:43	32:33	34:11

[1]$\chi^2 = 6.606; p = .010$ (Kruskal-Wallis test)

FREQUENT BEHAVIORS BY CONTENT AREAS

Three behaviors were observed in content areas: discussion of content areas, use of activities, and use of audio or visual components. Almost three-quarters of visitors discussed content at least once in the History Gallery (71 percent) (see Table 20). More than one-half of visitors used activities (58 percent), and more than one-half used audio or visual components (57 percent).

TABLE 20

PERCENTAGE OF VISITORS WHO EXHIBITED SPECIFIC BEHAVIORS IN CONTENT AREAS

BEHAVIOR	% OF VISITORS (*n* = 108)
Discussion of gallery content (possible at 100 content areas)[1]	71
Use of activities (possible at 17 content areas)[2]	58
Use of audio or visual components (possible at 17 content areas)[3]	57

[1]Visitors discussed gallery content between 1 and 28 times in the History Gallery, with a median of 7 times.

[2]Visitors used activities between 1 and 9 times in the History Gallery, with a median of 2 times.

[3]Visitors used audio or visual components between 1 and 8 times in the History Gallery, with a median of 2 times.

SIGNIFICANT RELATIONSHIPS

RK&A tested whether gender, age, group composition, and total time spent in the History Gallery factored into visitors' behaviors at exhibits. There are two significant findings:

- Visitors with children are more likely than are visitors without children to discuss gallery content (93 percent versus 63 percent) (see Table 21, next page).

- Visitors with children are more likely than are visitors without children to use activities (80 percent versus 50 percent) (see Table 21, next page).

- Visitors who discussed gallery content are likely to spend more time in the History Gallery than are visitors who did not (median time = 41 minutes 6 seconds versus 18 minutes 56 seconds) (see Table 22, next page).

- Visitors who used activities are likely to spend more time in the History Gallery than are visitors who did not (median time = 41 minutes 58 seconds versus 21 minutes 26 seconds) (see Table 23, next page).

♦ Visitors who used the audio or visual components are likely to spend more time in the History Gallery than are visitors who did not (median time = 46 minutes 35 seconds versus 23 minutes 7 seconds) (see Table 24, next page).

TABLE 21

PERCENTAGE OF VISITORS WHO EXHIBITED SPECIFIC BEHAVIORS IN CONTENT AREAS BY GROUP COMPOSITION

| | | GROUP COMPOSITION | | |
| | | WITH CHILDREN | NO CHILDREN | TOTAL |
BEHAVIOR	*n*	%	%	%
Discussion of gallery content[1]	108	93	63	71
Use of activities[2]	108	80	50	58

[1]$\chi^2 = 9.857$; $p = .002$ (Chi-square)
[2]$\chi^2 = 8.023$; $p = .005$ (Chi-square)

TABLE 22

TIME SPENT IN THE HISTORY GALLERY BY DISCUSSION OF GALLERY CONTENT

| | | DISCUSSION OF GALLERY CONTENT | | |
| | | YES | NO | TOTAL |
TIME SPENT	*n*	MEDIAN TIME (MIN:SEC)	MEDIAN TIME (MIN:SEC)	MEDIAN TIME (MIN:SEC)
Time Spent in the History Gallery[1]	108	41:06	18:56	34:11

[1]$\chi^2 = 21.958$; $p = .000$ (Kruskal-Wallis test)

TABLE 23

TIME SPENT IN THE HISTORY GALLERY BY USE OF ACTIVITIES

| | | USE OF ACTIVITIES | | |
| | | YES | NO | TOTAL |
TIME SPENT	*n*	MEDIAN TIME (MIN:SEC)	MEDIAN TIME (MIN:SEC)	MEDIAN TIME (MIN:SEC)
Time Spent in the History Gallery[1]	108	41:58	21:26	34:11

[1]$\chi^2 = 12.639$; $p = .000$ (Kruskal-Wallis test)

TABLE 24

TIME SPENT IN THE HISTORY GALLERY BY USE OF AUDIO OR VISUAL COMPONENTS

| | | USE OF AUDIO OR VISUAL COMPONENTS | | |
| | | YES | NO | TOTAL |
TIME SPENT	*n*	MEDIAN TIME (MIN:SEC)	MEDIAN TIME (MIN:SEC)	MEDIAN TIME (MIN:SEC)
Time Spent in the History Gallery[1]	108	46:35	23:07	34:11

USE OF AUDIO / VISUAL COMPONENTS

OMCA staff were particularly interested in the use of the seven audio/ visual components in the section Before the People Came, so RK&A observed use of audio/visual components as well as time spent at these components. RK&A calculated the percentage of visitors who used audio/visual components based upon the number of visitors who stopped at the content areas at which audio/visual components were available.

The greatest percentage of visitors used the audio/visual component at "7. Coastal Rainforest" (21 percent) (see Table 25). The smallest percentage of visitors used the audio/visual component at "11. Low Desert" (7 percent) and "8. Rocky Coast" (9 percent).

TABLE 25

PERCENTAGE OF VISITORS WHO USED AUDIO/VISUAL COMPONENTS

CONTENT AREAS WITH AUDIO/VISUAL COMPONENTS	NUMBER OF VISITORS WHO STOPPED	% OF VISITORS WHO USED A/V
7. Coastal Rainforest	44	21
13. High Desert and Plateau	34	15
12. Central Valley and Foothills	32	13
10. Colorado River	26	12
9. Sandy Beach Coast	40	10
8. Rocky Coast	34	9
11. Low Desert	28	7

However, visitors spent the most time at "8. Rocky Coast" (8 minutes 51 seconds), followed by "9. Sandy Beach Coast" (6 minutes 32 seconds) and "12. Central Valley and Foothills" (6 minutes 14 seconds) (see Table 26). Visitors spent the least time at "7. Coastal Rainforest" (57 seconds).

TABLE 26

TIME SPENT AT AUDIO/VISUAL COMPONENTS

CONTENT AREAS WITH AUDIO/VISUAL COMPONENTS	NUMBER OF VISITORS WHO USED A/V	MEDIAN TIME (MIN:SEC)
8. Rocky Coast	3	8:51
9. Sandy Beach Coast	4	6:32
12. Central Valley and Foothills	4	6:14
10. Colorado River	3	3:04
11. Low Desert	2	2:31
13. High Desert and Plateau	5	2:04
7. Coastal Rainforest	9	0:57

APPENDICES

APPENDIX A: TIMING AND TRACKING OBSERVATION FORM

REMOVED FOR PROPRIETARY PURPOSES

APPENDIX B: TIMING AND TRACKING STATISTICS

DESCRIPTIVE STATISTICS

FREQUENCY DISTRIBUTION

Month (February, March)
Day of the week (weekday, weekend day)
Level of crowding (few, moderate, crowded)
Gender (male, female)
Age (18-24, 25-34, 35-44, 45-54, 55-64, 65+)
Group composition (alone, adults only, adults and children)
Age of Children (0-5 yrs., 5-8 yrs., 9-11 yrs., 12-14 yrs., 15+ yrs.)
Number of content areas attended
Time spent in the History Gallery
Number of sections attended
Individual exhibits attended
Overall behaviors

SUMMARY STATISTICS

RANGE, MEDIAN, MEAN, AND STANDARD DEVIATION

Number of content areas attended
Time spent in the History Gallery
Number of sections attended
Time spent at sections
Time spent at content areas
Time spent at A/V components

INFERENTIAL STATISTICS

CROSSTABS

Sections visited by 20 visitors or more Content areas stopped at by 20 visitors or more	by	Gender (male, female) Age (18-34, 35-54, 55+) Group composition (with or without children)
Behaviors	by	Gender (male, female) Age (18-34, 35-54, 55+) Group composition (with or without children) Time Spent in the History Gallery

INFERENTIAL STATISTICS

ANOVAS AND KRUSKAL-WALLIS TEST

Number of sections visited Number of content area stops Time spent in the History Gallery Time spent at sections visited by 20 visitors or more Time spent at content areas stopped at by 20 visitors or more	by	Gender (male, female) Age (18-34, 35-54, 55+) Group composition (with or without children)

APPENDIX C: VISITOR BEHAVIORS FOR EACH EXHIBIT (BY SECTION)

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