Visitor Opinions about Security Measures in Smithsonian Museums

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Smithsonian Institution

Office of Policy and Analysis

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Study Background

Following the September 11, 2001, terrorist attacks on the World Trade Center and the Pentagon, the Smithsonian Institution created a Security Initiatives Committee (SIC), under the leadership of the Office of Protection Services (OPS), to assess security vulnerability and examine measures to reduce vulnerability across the Institution.

As an immediate step to reduce vulnerability, OPS began hand inspections of bags carried by visitors and staff entering Smithsonian buildings. Staff inspections stopped in January 2002, but inspections of visitors' bags continued. The Institution received Federal funding for FY 2002 and FY 2003 that can be used to upgrade security by hiring additional protection officers and installing magnetometers (to detect metal items such as guns and knives) and x-ray scanners (to inspect bags and packages) at museum entrances. OPS and SIC proposed conducting a pilot test of electronic security measures (magnetometers and x-ray) before taking the serious step of installing the electronic devices at all facilities, especially since such a rollout would require major physical changes to museum facilities. As a result, magnetometers and x-ray units were temporarily installed at the National Air and Space Museum (NASM) on March 18, 2002.

SIC raised the issue of the effect of visitor security checks, especially electronic checks, on visitors' experiences and Smithsonian visitation. OPS proposed that the Office of Policy and Analysis (OP&A) manage a survey of visitors' reactions and opinions regarding the electronic security measures during the pilot test.

This report of the survey results is one of numerous pieces of information that can be considered in evaluating whether electronic security measures should be permanently installed at some or all Smithsonian museums.

Summary of Findings

The survey of visitor opinions about security procedures at Smithsonian museums demonstrated that:

- Visitors felt that inspections of visitor bags increased their feelings of safety.
- Visitors preferred electronic inspections to hand inspections of their bags.
- Visitor enjoyment of Smithsonian museums and visit satisfaction were not substantially reduced by electronic and hand searches.
- NASM visitors, after installation of electronic security measures, experienced longer average waiting times to enter the museum than visitors at other museums.
- The length of waiting time at a museum entrance strongly impacted visit enjoyment especially when the time period exceeded 15 minutes.
- A small percentage of Smithsonian visitors waited more than 15 minutes and, therefore, security (hand or electronic) appeared to have had a minimal impact on visitors' agendas.
- Security measures did not discourage visitors from visiting other Smithsonian museums.
- Visitors felt that the electronic security procedures at NASM and hand inspections at other museums could be managed better. Some suggested that electronic measures should replace hand searches at other Smithsonian museums.
- The challenge associated with negative visitor reactions to the electronic security measures at NASM is principally a logistics challenge about how to handle large numbers of visitors on peak visitation dates.
- Based on the survey responses, either stopping security inspections or continuing security inspections would have approximately the same, small effect on Smithsonian visitation; that is, very few visitors said they would not come in both of these cases.

The survey does not allow an assessment of the full range of possible effects of security measures on visitors' agendas. For example, did some potential visitors decide to not visit the Smithsonian because of security measures? Such visitors were not included in the surveys since they were not visiting Smithsonian museums. Have security measures substantially increased wait times to enter museum so that visitors now spend time waiting in line rather than visiting another museum, seeing an IMAX film, eating, or shopping in museum stores? Have the electronic measures increased wait times more than hand searches? These questions were not addressed in these self-administered survey questionnaires.

Study Methodology

The survey project was designed to assess the impact of the pilot test at NASM in the context of hand searches at NASM and other Smithsonian museums. OP&A, with the cooperation of SIC and OPS, designed a two-page, self-administered questionnaire probing visitors' experiences with, and opinions about, security searches.[1]

The goal of this research design was to compare visitor opinions of security at NASM using hand bag searches with electronic searches, as well as comparing opinions at NASM with opinions of visitors at two large museums (National Museum of Natural History (NMNH) and National Museum of American History (NMAH)) and two art museums (Arthur M. Sackler /Freer Gallery of Art (AMSG/FGA) and the Hirshhorn Museum (HMSG)). Two surveys of visitors were administered by trained interviewers from Olchak Market Research. The first survey was fielded between March 9 and March 16—when all searches were done by hand and visitation was not especially high. The second survey was fielded between April 1 and April 7—when NASM had electronic scanners and visitation was traditionally high. Visitors were intercepted, using OP&A sample selection procedures, and asked to complete the two-page questionnaire as they exited NASM and the other museums. Overall, 2329 visitors completed the first survey for a cooperation rate of 79%, while 2406 visitors completed the second survey for a cooperation rate of 85%.

Prior to analysis, the survey data were weighted using visit counts at the time and site of intercepts. This weighting produces a sample data set that is representative of visitation at each site. That is, questionnaires from museums and time periods with high visitation have proportionately greater impacts on

[1] The Office of Policy and Analysis wishes to thank the nearly 5000 visitors who shared their experiences by completing survey questionnaires. OP&A also wishes to thank the Smithsonian Office of Protection Services and the Security Initiatives Committee who provided invaluable assistance in preparing and conducting the surveys. Within OP&A, the entire staff provided valuable contributions in reviewing and pretesting draft questionnaires. Abigail Sharbaugh managed field operations and the scanning of questionnaires with assistance from Kerry DiGiacomo. OP&A interns Sofia Paulik and Ioana Pop assisted with the coding of open-ended questions and scanning. David Karns conducted the data analysis and wrote the report. Olchak Market Research provided a capable staff of interviewers to distribute questionnaires and collect sample characteristics.

survey statistics than questionnaires from lower visitation museums and time periods.

As a self-administered survey, the questionnaires were not designed to obtain in-depth information about Smithsonian visit agendas nor in-depth reactions. Such issues are better dealt with through longer, personal interviews conducted by interviewers.

Another issue that may affect visitor reactions to security measures is weather. Extremely hot or cold or rainy weather may make visitors less accepting of extended waits at museum entrances. The weather was generally mild during the two survey periods except for a few showers. Therefore, we were not able to test the hypothesis that inclement weather makes visitors less accepting of security checks.

Findings

A majority of Smithsonian museum visitors entered with bags that require inspection although half were not aware that inspections were being conducted.

About three-quarters of museum visitors enter museums carrying a bag or accompanying another visitor with a bag (See Table 1). OPS officers, therefore, present the first impression of the Smithsonian that a visitor experiences. Whether an officer is operating an electronic device or looking into a visitor's bag, OPS officers play a significantly more important role in visitors' experiences than before September 11. Nearly half of the visitors said that they were not aware that the Smithsonian was conducting security checks, even though some survey respondents had visited a Smithsonian museum earlier (See Table 2).

Visitors expected longer waits in the second survey when visitation was higher. Actual wait time was shorter than expected.

On average visitors expected a short wait when they arrived at museums in March. With heaver visitation in April, average expectations increased at all museums, but especially at NASM (See Table 3). In fact, an average visitor who expected to wait three minutes to enter the Big Three museums actually waited only one minute during the March survey. Art museum visitors were even more fortunate with 66 percent reporting no wait at all. April visitors

both expected a longer wait and, as they predicted, they had a longer wait. However, the reported waits were still short, except at NASM where the waiting time increased substantially. Only one-fifth of NASM visitors (18%) reported more than a 15-minute wait in the April survey (See Table 4).

More than nine out of ten visitors felt that their wait time was reasonable during the hand searches. Only three-quarters of NASM visitors fully agreed that their wait time was reasonable during the electronic search period (See Table 5a). Visitors' perceptions of the reasonableness of wait times were correlated with the length of the actual wait. Only 45 percent of visitors who waited 15 minutes or more agreed that their wait time was reasonable compared to more than 90 percent of those with waits less than five minutes (See Table 5b). In general, a wait of less than five minutes was universally acceptable with a slight degrading of acceptability between five and ten minutes. Longer waits were less acceptable.

Small percentages of visitors felt that their wait in line was difficult because of a physical or health condition (See Tables 6a and 6b). These difficulties were higher for visitors who waited longer or were elderly.

Security checks make the visitors' experience less enjoyable, but the reduction is more strongly connected to the length of the waiting time.

NASM visitors were twice as likely to agree that security checks made their visit experience less enjoyable during the electronic pilot test, while the effect of hand checks at the other large museums remained more stable between March and April (See Table 7a). The art museums showed a smaller increase than NASM. In comparison, the percentage of visitors feeling less enjoyment is lowest for waits less than five minutes (8%); it increases slightly up to ten minutes (12%) and increases more rapidly after ten minutes (17% for ten to 15 minutes and 22% for 15 minutes or more).

Visitors were also asked to rate their satisfaction with their overall visit experience in the museum. Installation of electronic security measures at NASM had no effect on overall visit satisfaction (See Table 8).

Security checks made visitors feel safer.

Large majorities of visitors in each of the survey locations indicated that the

Smithsonian visitor security checks made them feel safer, whether the mode of checking was hand or electronic searches (See Table 9a). At NASM, the level of feeling safer increased from 71 percent to 76 percent after the installation of magnetometers and x-ray units. Nevertheless, approximately one visitor in ten disagreed that security measures made them feel safer.

Nine out of ten visitors said that they would return for visits if security measures were terminated. Security checks would not make visitors tell friends to avoid a specific museum. Security checks would not make visitors less likely to return for another visit.

One in ten visitors disagreed with the statement that they would still visit even if security checks were ended (8% to 10%). More than four out of five visitors indicated that they would still visit even if security measures were stopped (See Table 10a). Their responses were not related to the length of their wait.

Fewer than one visitor in twenty agreed that security checks would make them tell friends to avoid a museum (See Table 11a). Installation of electronic measures at NASM did not increase greatly the likelihood of "bad word-of-mouth." However, visitors who experienced long waits were substantially more likely to recommend avoidance of a museum (15% for visitors who waited more than 15 minutes).

Fewer than one visitor in twenty indicated that security checks would make it less likely that they would return for another visit, although again longer waits were associated with a decreased likelihood of making a return visit—10 percent for those who waited more than 15 minutes (See Tables 12a and 12b).

Electronic and hand searches are perceived as comparable in effectiveness. Electronic visitor checks are perceived as less intrusive than hand searches and are preferred over hand searches.

There was no clear pattern, across the survey locations and time periods, that visitors felt that either electronic or hand searches are more effective in reducing the possibility of threats from other visitors, although the percentage of NASM visitors who agreed that hand searches are more effective decreased by ten percent (See Table 13). However, approximately one-half of visitors felt that hand searches were more intrusive. (See Table 14). After electronic searches were installed, sixty percent of NASM visitors felt that hand searches

were more intrusive. Again, NASM visitors who experienced electronic checks were the strongest advocates of electronic searches being less intrusive.

Visitors were asked in the April survey whether they preferred hand searches of their bags or electronic measures. NASM visitors supported electronic measures by a five-to-one ratio (48% compared to 10% for hand searches). Preferences were more balanced at NMAH and NMNH (See Table 15).

Security checks had a minimal effect on visit agendas.

Visitors who were intercepted at Smithsonian museums during this survey did not change their visit agendas to the extent of not visiting a specific museum because of security checks (See Table 16a). Only two visitors in the March survey and ten visitors in the April survey said that they would not visit a specific museum because of security checks at that museum.

The management of security checks can be improved with better staffing and logistics to handle peak visitation periods and conducting more thorough hand searches. It can also be improved, in the opinions of some visitors, by installing electronic security measures.

Approximately one visitor in five surveyed said that security checks at the Smithsonian museums could be improved. Fewer visitors at the art museums suggested improvements while more visitors suggested improvements in the managing of security at NMNM and NMAH (See Table 17a). The frequency of suggestions was much higher among visitors who spent more than 10 minutes waiting to enter a museum.

When visitors offered improvements in museums with hand searches, the most common suggestion was to adopt electronic security measures—magnetometers, x-ray scanners, or both. A second common suggestion was to conduct more thorough searches.

Visitors who experienced the electronic searches at NASM felt that the organization of the process was the principal problem and that security checks could be improved by increasing the number of officers and scanning stations as well as managing the wait and searching process better. Better organization was also a common suggestion at the other museums during the heavier

visitation at the time of the April survey.

Less than one percent of visitors—five percent of the 20 percent who suggested an improvement—objected to security checks strongly enough to suggest eliminating the checks.

Demographic characteristics of survey respondents

The demographic characteristics of the survey respondents show substantial differences between museums and between the two survey time periods (See Tables 19 to 24). These differences reflect differences between audiences at different museums as well as the effect of increased visitation to Washington during the traditional spring vacation period.

Appendix A
Survey Results

Table 1
Aware that the museums have security checks for entering visitors by interview site and survey wave

	NASM		NMNH & NMAH		HMSG & AMSG/FGA	
	Before	After	Before	After	Before	After
Response	(%)	(%)	(%)	(%)	(%)	(%)
No	47	54	51	43	47	46
Yes	53	46	49	57	53	54
Total	100	100	100	100	100	100

Note: Responses are restricted to first-time visitors and visitors who last visited before September 11, 2001.

Table 2
Visitor or someone with the visitor had a backpack, handbag, shopping bag, or other bag by interview site and survey wave

	NASM		NMNH & NMAH		HMSG & AMSG/FGA	
	Before	After	Before	After	Before	After
Response	(%)	(%)	(%)	(%)	(%)	(%)
No	30	25	23	23	27	19
Yes	70	75	77	77	73	81
Total	100	100	100	100	100	100

Table 3
Expected wait at the entrance to this building by interview site and survey wave

	NASM		NMNH & NMAH		HMSG & AMSG/FGA	
	Before	After	Before	After	Before	After
Expected wait time	(%)	(%)	(%)	(%)	(%)	(%)
No wait	44	24	41	34	58	41
1 to 5 minutes	26	13	28	15	28	22
5 to 10 minutes	20	24	20	26	11	21
10 to 15 minutes	6	22	7	17	3	7
15 minutes or longer	4	17	4	9	0	8
Total	100	100	100	100	100	100
Maximum expected wait	70	60	30	91	15	60
Mean expected wait	3	8	3	5	1	4
Median expected wait	1	5	1	5	0	2
Standard Deviation	5	9	6	9	2	4

Table 4
Actual wait at the entrance to this building by interview site and survey wave

	NASM		NMNH & NMAH		HMSG & AMSG/FGA	
	Before	After	Before	After	Before	After
Actual wait time	(%)	(%)	(%)	(%)	(%)	(%)
No wait	51	8	37	29	66	37
1 to 5 minutes	45	25	53	49	34	33
5 to 10 minutes	3	28	8	15	0	16
10 to 15 minutes	1	21	1	3	0	6
15 minutes or longer	0	18	0	4	0	8
Total	100	100	100	100	100	100
Maximum actual wait	60	50	62	35	5	30
Mean actual wait	1	8	1	3	0	3
Median actual wait	0	5	1	1	0	1
Standard Deviation	2	7	3	5	1	3

Table 5a
Actual waiting time was reasonable in this museum today by interview site and survey wave

	NASM		NMNH & NMAH		HMSG & AMSG/FGA	
	Before	After	Before	After	Before	After
Disagree/Agree	(%)	(%)	(%)	(%)	(%)	(%)
1=Disagree	0	4	1	2	0	1
2	0	2	0	0	0	1
3=Neither	2	4	3	3	4	4
4	2	12	4	5	1	4
5=Agree	95	78	91	90	95	90
Total	100	100	100	100	100	100

Table 5b
Actual waiting time was reasonable in this museum today by length of actual wait

	No wait	One to five Minutes	Six to ten Minutes	Ten to 15 Minutes	15 or more Minutes
Disagree/Agree	(%)	(%)	(%)	(%)	(%)
1=Disagree	0	0	0	6	17
2	0	0	1	2	6
3=Neither	3	1	3	6	13
4	2	4	10	15	19
5=Agree	95	94	85	71	45
Total	100	100	100	100	100

Table 6a
Waiting in line was difficult for visitor by interview site and survey wave

	NASM		NMNH & NMAH		HMSG & AMSG/FGA	
	Before	After	Before	After	Before	After
Disagree/Agree	(%)	(%)	(%)	(%)	(%)	(%)
1=Disagree	71	63	73	69	68	72
2	1	6	2	2	1	3
3=Neither	21	20	18	20	23	20
4	1	5	1	3	1	3
5=Agree	5	6	5	6	6	3
Total	100	100	100	100	100	100

Table 6b
Waiting in line was difficult for visitor by length of actual wait

	No wait	One to five Minutes	Six to ten Minutes	Ten to 15 Minutes	15 or more Minutes
Disagree/Agree	(%)	(%)	(%)	(%)	(%)
1=Disagree	68	75	64	60	48
2	1	3	6	7	5
3=Neither	24	16	21	20	27
4	2	2	3	7	7
5=Agree	6	4	6	6	13
Total	100	100	100	100	100

Table 7a
Visitor security checks made visit less enjoyable by interview site and survey wave

	NASM		NMNH & NMAH		HMSG & AMSG/FGA	
	Before	After	Before	After	Before	After
Disagree/Agree	(%)	(%)	(%)	(%)	(%)	(%)
1=Disagree	75	64	74	66	75	73
2	3	8	5	4	4	5
3=Neither	14	15	12	20	14	13
4	2	6	4	4	2	5
5=Agree	5	7	5	6	5	5
Total	100	100	100	100	100	100

Table 7b
Visitor security checks made visit less enjoyable by length of actual wait

	No wait	One to five Minutes	Six to ten Minutes	Ten to 15 Minutes	15 or more Minutes
Disagree/Agree	(%)	(%)	(%)	(%)	(%)
1=Disagree	76	73	66	54	48
2	3	5	6	12	9
3=Neither	13	15	16	18	22
4	2	4	6	7	8
5=Agree	5	4	6	10	14
Total	100	100	100	100	100

Table 8a
Rating of visit satisfaction in this building by interview site and survey wave

	NASM		NMNH & NMAH		HMSG & AMSG/FGA	
	Before	After	Before	After	Before	After
Satisfaction with visit	(%)	(%)	(%)	(%)	(%)	(%)
10=Very satisfied	41	39	38	32	45	44
9	21	21	19	15	22	16
8	24	24	24	28	19	24
7	9	9	11	9	7	11
6	3	3	2	6	4	2
5	2	2	4	4	2	2
4	0	0	1	3	1	0
3	0	1	1	3	0	0
2	0	0	0	1	0	1
1=Very dissatisfied	0	0	0	0	0	0
Total	100	100	100	100	100	100
Mean rating	8.76	8.67	8.60	8.18	8.88	8.80
Median rating	9.00	9.00	9.00	8.00	9.00	9.00
Standard Deviation	1.28	1.41	1.99	2.30	0.90	0.99

Table 8b
Rating of visit satisfaction in this building by length of actual wait

Satisfaction with visit	No wait (%)	One to five Minutes (%)	Six to ten Minutes (%)	Ten to 15 Minutes (%)	15 or more Minutes (%)
10=Very satisfied	42	38	33	38	30
9	20	18	20	19	19
8	22	26	27	24	24
7	9	9	11	10	10
6	2	4	4	2	5
5	3	3	3	2	2
4	0	1	0	3	2
3	0	1	0	2	6
2	0	0	1	0	0
1=Very dissatisfied	0	0	0	0	0
Total	100	100	100	100	100
Mean rating	8.78	8.56	8.49	8.49	8.11
Median rating	9.00	9.00	9.00	9.00	8.00
Standard Deviation	1.31	1.64	1.58	1.76	1.96

Table 9a
Security checks made visitor feel safer by interview site and survey wave

	NASM		NMNH & NMAH		HMSG & AMSG/FGA	
	Before	After	Before	After	Before	After
Disagree/Agree	(%)	(%)	(%)	(%)	(%)	(%)
1=Disagree	7	7	9	8	10	7
2	2	3	6	3	1	2
3=Neither	19	14	17	20	25	25
4	14	18	14	15	12	18
5=Agree	57	58	54	54	51	48
Total	100	100	100	100	100	100

Table 9b
Security checks made visitor feel safer by length of actual wait

	No wait	One to five Minutes	Six to ten Minutes	Ten to 15 Minutes	15 or more Minutes
Disagree/Agree	(%)	(%)	(%)	(%)	(%)
1=Disagree	8	7	7	10	12
2	2	4	2	5	5
3=Neither	19	18	16	19	15
4	14	17	16	15	17
5=Agree	58	54	59	52	52
Total	100	100	100	100	100

Table 10a
Visitor would still visit museum if security checks were stopped by interview site and survey wave

	NASM		NMNH & NMAH		HMSG & AMSG/FGA	
	Before	After	Before	After	Before	After
Disagree/Agree	(%)	(%)	(%)	(%)	(%)	(%)
1=Disagree	6	5	7	8	7	8
2	2	3	3	3	2	2
3=Neither	10	9	10	8	11	8
4	12	15	12	8	7	13
5=Agree	70	68	69	73	73	69
Total	100	100	100	100	100	100

Table 10b
Visitor would still visit museum if security checks were stopped by length of actual wait

	No wait	One to five Minutes	Six to ten Minutes	Ten to 15 Minutes	15 or more Minutes
Disagree/Agree	(%)	(%)	(%)	(%)	(%)
1=Disagree	7	7	5	3	5
2	3	2	4	2	4
3=Neither	11	9	7	13	7
4	9	12	13	14	17
5=Agree	69	71	71	69	68
Total	100	100	100	100	100

Table 11a
Visitor would tell friends to avoid museum because of checks by interview site and survey wave

	NASM		NMNH & NMAH		HMSG & AMSG/FGA	
	Before	After	Before	After	Before	After
Disagree/Agree	(%)	(%)	(%)	(%)	(%)	(%)
1=Disagree	88	82	87	85	89	84
2	2	6	5	4	1	5
3=Neither	5	7	7	6	6	5
4	1	2	1	1	1	1
5=Agree	3	4	2	4	3	4
Total	100	100	100	100	100	100

Table 11b
Visitor would tell friends to avoid museum because of checks by length of actual wait

	No wait	One to five Minutes	Six to ten Minutes	Ten to 15 Minutes	15 or more Minutes
Disagree/Agree	(%)	(%)	(%)	(%)	(%)
1=Disagree	89	88	85	73	68
2	2	4	4	10	9
3=Neither	6	5	5	12	7
4	1	1	2	2	4
5=Agree	3	2	4	3	11
Total	100	100	100	100	100

Table 12a
Security checks made visitor less likely to make another visit by interview site and survey wave

	NASM		NMNH & NMAH		HMSG & AMSG/FGA	
	Before	After	Before	After	Before	After
Disagree/Agree	(%)	(%)	(%)	(%)	(%)	(%)
1=Disagree	88	81	89	83	90	86
2	2	6	4	3	3	4
3=Neither	6	7	5	8	5	7
4	1	2	1	2	1	1
5=Agree	3	4	1	3	2	3
Total	100	100	100	100	100	100

Table 12b
Security checks made visitor less likely to make another visit by length of actual wait

	No wait	One to five Minutes	Six to ten Minutes	Ten to 15 Minutes	15 or more Minutes
Disagree/Agree	(%)	(%)	(%)	(%)	(%)
1=Disagree	89	88	83	77	68
2	2	3	5	10	7
3=Neither	6	6	6	7	10
4	1	1	2	4	5
5=Agree	2	2	3	3	10
Total	100	100	100	100	100

Table 13
Hand searches are more effective than electronic searches by interview site and survey wave

	NASM		NMNH & NMAH		HMSG & AMSG/FGA	
	Before	After	Before	After	Before	After
Disagree/Agree	(%)	(%)	(%)	(%)	(%)	(%)
1=Disagree	20	26	22	22	21	22
2	6	7	8	4	6	9
3=Neither	38	41	36	36	42	41
4	6	7	5	10	9	7
5=Agree	30	19	29	28	22	20
Total	100	100	100	100	100	100

Table 14
Hand searches are more intrusive than electronic searches by interview site and survey wave

	NASM		NMNH & NMAH		HMSG & AMSG/FGA	
	Before	After	Before	After	Before	After
Disagree/Agree	(%)	(%)	(%)	(%)	(%)	(%)
1=Disagree	17	9	21	26	18	16
2	3	3	4	4	4	5
3=Neither	30	27	26	28	35	29
4	13	14	15	12	12	18
5=Agree	36	47	32	30	31	33
Total	100	100	100	100	100	100

Table 15
Hand searches are preferable to electronic searches by interview site and survey wave

	NASM		NMNH & NMAH		HMSG & AMSG/FGA	
	Before	After	Before	After	Before	After
Disagree/Agree	(%)	(%)	(%)	(%)	(%)	(%)
1=Disagree	na	40	na	19	na	28
2	na	8	na	4	na	10
3=Neither	na	41	na	49	na	46
4	na	3	na	6	na	3
5=Agree	na	7	na	22	na	14
Total	na	100	na	100	na	100

Table 16a
Visitor will not visit a specific museum because of security checks by interview site and survey wave

	NASM		NMNH & NMAH		HMSG & AMSG/FGA	
	Before	After	Before	After	Before	After
Response	(%)	(%)	(%)	(%)	(%)	(%)
No	100	99	100	98	99	99
Yes	0	1	0	2	1	1
Total	100	100	100	100	100	100

Note: One visitor mentioned NASM and one mentioned another museum in the first survey. Seven visitors mentioned NASM, two visitors mentioned another museum, and one visitor mentioned both in the second wave.

Table 16b
Visitor will not visit a specific museum because of security checks by length of actual wait

	No wait	One to five Minutes	Six to ten Minutes	Ten to 15 Minutes	15 or more Minutes
Response	(%)	(%)	(%)	(%)	(%)
No	99	99	99	98	98
Yes	1	1	1	2	2
Total	100	100	100	100	100

Table 17a
Security checks can be improved by interview site and survey wave

	NASM		NMNH & NMAH		HMSG & AMSG/FGA	
	Before	After	Before	After	Before	After
Response	(%)	(%)	(%)	(%)	(%)	(%)
No	78	80	75	73	85	83
Yes	22	20	25	27	15	17
Total	100	100	100	100	100	100

Table 17b
Security checks can be improved by length of actual wait

Response	No wait (%)	One to five Minutes (%)	Six to ten Minutes (%)	Ten to 15 Minutes (%)	15 or more Minutes (%)
No	80	76	79	71	70
Yes	20	24	21	29	30
Total	100	100	100	100	100

Table 18
Suggested security check improvements by interview site and survey wave

	NASM		NMNH & NMAH		HMSG & AMSG/FGA	
Response	Before (%)	After (%)	Before (%)	After (%)	Before (%)	After (%)
X-ray	8	1	8	1	7	7
Metal detectors	25	1	11	14	17	4
Electronic/scanners	19	1	15	12	19	15
Only hand searches	1	2	0	0	3	0
More thorough/increased searches	21	11	28	20	27	17
More guards/stations for searches	7	22	8	8	0	6
Guard/staff presentation	3	4	8	9	9	5
Have no searches, excessive, meaningless	4	2	6	0	5	0
Improve organization of the process (comfort, waiting, information/signage, org.of lines)	2	45	4	26	7	27
Hand and electronic (all types) searches	4	1	2	5	0	6
Multiple types of electronic searches	2	0	2	3	6	1
Other (including profiling, dogs)	4	9	5	2	1	8
Multiple modes/responses	1	0	4	2	0	3
Total	100	100	100	100	100	100

Table 19
Last visit to museum building by interview site and survey wave

	NASM		NMNH & NMAH		HMSG & AMSG/FGA	
	Before	After	Before	After	Before	After
Last visit to museum	(%)	(%)	(%)	(%)	(%)	(%)
Never, this is my first visit	39	41	36	37	49	45
Visited since the September 11 attacks	11	7	11	8	15	9
Some time before the September 11 attacks	50	52	53	54	36	46
Total	100	100	100	100	100	100

Table 20
Residence by interview site and survey wave

	NASM		NMNH & NMAH		HMSG & AMSG/FGA	
	Before	After	Before	After	Before	After
Residence	(%)	(%)	(%)	(%)	(%)	(%)
Washington, DC	6	4	5	4	8	5
Maryland Suburbs	9	8	14	11	16	11
Virginia Suburbs	9	9	17	13	13	9
Other US State	63	72	58	67	51	64
A country outside the United States	13	8	6	5	13	12
Total	100	100	100	100	100	100

Table 21
Visitor is part of an organized tour by interview site and survey wave

	NASM		NMNH & NMAH		HMSG & AMSG/FGA	
	Before	After	Before	After	Before	After
Part of organized tour	(%)	(%)	(%)	(%)	(%)	(%)
No	93	92	90	91	96	94
Yes	7	8	10	9	4	6
Total	100	100	100	100	100	100

Table 22
Visit group composition by interview site and survey wave

	NASM		NMNH & NMAH		HMSG & AMSG/FGA	
	Before	After	Before	After	Before	After
Visit group	(%)	(%)	(%)	(%)	(%)	(%)
No one, I am alone	18	10	22	14	38	22
One other adult	37	28	34	37	40	28
Several adults	16	9	14	16	6	9
Adult(s) with child(ren)/teen(s)	24	46	23	28	11	37
Group of 2 or more teens	4	5	7	5	4	5
Total	100	100	100	100	100	100

Table 23
Visitor's age category by interview site and survey wave

	NASM		NMNH & NMAH		HMSG & AMSG/FGA	
	Before	After	Before	After	Before	After
Age cohort	(%)	(%)	(%)	(%)	(%)	(%)
Gen N	24	14	24	16	26	11
Gen X	23	20	22	15	21	18
Trailing-Edge Boomers	29	39	28	31	18	35
Leading-Edge Boomers	15	16	18	20	18	21
Postwar	9	10	8	18	15	15
World War II	0	0	0	0	1	0
Depression	0	0	0	0	0	0
Total	100	100	100	100	100	100
Mean age	38	40	38	42	39	43
Median age	38	41	39	43	38	43

Note: Responses restricted to visitors 12 years old and older. Age cohorts are based on American generational cohorts defined by Geoffrey E. Meredith, Charles D. Schewe with Janice Karlovich in Defining Markets/Defining Moments (2002). The birth ranges are: Gen N (1977-); Gen X (1966-1976); Trailing-Edge Boomers (1955-1965); Leading-Edge Boomers (1946-1954); Postwar (1928-1945); World War II (1922-1927); and Depression (1912-1921).

Table 24
Visitor gender by interview site and survey wave

	NASM		NMNH & NMAH		HMSG & AMSG/FGA	
	Before	After	Before	After	Before	After
Gender	(%)	(%)	(%)	(%)	(%)	(%)
Female	40	42	50	47	49	51
Male	60	58	50	53	51	49
Total	100	100	100	100	100	100

Appendix B
Survey Questionnaires

1819173415

Office Use Only:	session	ID	q4a	q4b

March Survey

Security Checks and Visitor Experiences

Thank you for visiting the Smithsonian today. Please take a few minutes to answer these questions.

THESE QUESTIONS ARE ABOUT YOUR EXPERIENCES IN *THIS BUILDING TODAY.*

1. How satisfying was your experience in THIS MUSEUM building today? (Mark only ONE box)

Totally Satisfying ... Totally Dissatisfying

10	9	8	7	6	5	4	3	2	1	0
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

2. Before you got to the Smithsonian today, did you know that the museums have security checks for entering visitors? ☐ No ☐ Yes

3. Did you (or someone with you) have a backpack, handbag, shopping bag, or other bag when you entered THIS BUILDING? ☐ No ☐ Yes

4. Regarding your waiting time to enter THIS BUILDING...

   a. How long did you EXPECT to wait at the entrance? _____ minutes

   b. How long did you ACTUALLY wait at the entrance? _____ minutes

5. Regarding your experience at THIS BUILDING TODAY, do you agree or disagree with the following statements. (Mark only ONE box for each statement.)

	Agree		Neither		Disagree
a. My waiting time was reasonable.	☐	☐	☐	☐	☐
b. Waiting in line was difficult for me (or someone with me) because of age or a health condition.	☐	☐	☐	☐	☐
c. The visitor security checks made my visit less enjoyable.	☐	☐	☐	☐	☐
d. I felt safer because of visitor security checks in this building.	☐	☐	☐	☐	☐
e. I would still visit this building if entering visitor security checks were stopped.	☐	☐	☐	☐	☐
f. I would tell friends to avoid this building because of the visitor security checks.	☐	☐	☐	☐	☐
g. The visitor security checks make me less likely to return for another visit.	☐	☐	☐	☐	☐

PLEASE CONTINUE ONTO THE NEXT PAGE...

2882173416

q7yes q8sug state age

6. Comparing electronic searches used in airports (x-ray machines and metal detectors) with hand searches of visitor bags by museum guards, do you agree or disagree with the following statements.

	Agree		Neither		Disagree
a. Hand searches are MORE EFFECTIVE than electronic searches.	☐	☐	☐	☐	☐
b. Hand searches are MORE INTRUSIVE than electronic searches.	☐	☐	☐	☐	☐

7. Will you NOT visit a particular Smithsonian museum ON THIS TRIP because of visitor security checks there?

☐ No ☐ Yes ==> Which museum(s) is that? _____

8. In your opinion, could we improve checks of entering visitors at THIS BUILDING?

☐ No ☐ Yes ==> What do you suggest? _____

_____

9. Finally, a little background ..... (Please mark the appropriate boxes)

a. I last visited THIS BUILDING ....
- ☐ Never, this is my first visit
- ☐ Since the September 11 attacks
- ☐ Some time before the September 11 attacks

b. I live in .....
- ☐ Washington, DC
- ☐ Maryland suburbs
- ☐ Virginia suburbs
- ☐ Other U.S. state (including rest of MD and VA): _____
- ☐ A country outside the United States

c. I am at the Smithsonian with a tour organized group. ..... ☐ No ☐ Yes

d. I am visiting this building with ...
- ☐ No one, I am alone
- ☐ One other adult
- ☐ Several adults
- ☐ Adult(s) with child(ren)/teen(s)
- ☐ Group of 2 or more teens

e. I am ..... _____ years old

f. I am ..... ☐ Female ☐ Male

THANK YOU FOR YOUR ASSISTANCE

1819173415

Office Use Only: session ID q4a q4b

April Survey

Security Checks and Visitor Experiences

Thank you for visiting the Smithsonian today. Please take a few minutes to answer these questions.

THESE QUESTIONS ARE ABOUT YOUR EXPERIENCES IN *THIS BUILDING TODAY.*

1. How satisfying was your experience in THIS MUSEUM building today? (Mark only ONE box)

Totally Satisfying										Totally Dissatisfying
10	9	8	7	6	5	4	3	2	1	0
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

2. Before you got to the Smithsonian today, did you know that the museums have security checks for entering visitors? ☐ No ☐ Yes

3. Did you (or someone with you) have a backpack, handbag, shopping bag, or other bag when you entered THIS BUILDING? ☐ No ☐ Yes

4. Regarding your waiting time to enter THIS BUILDING...

a. How long did you EXPECT to wait at the entrance? _____ minutes

b. How long did you ACTUALLY wait at the entrance? _____ minutes

5. Regarding your experience at THIS BUILDING TODAY, do you agree or disagree with the following statements. (Mark only ONE box for each statement.)

	Agree		Neither		Disagree
a. My waiting time was reasonable.	☐	☐	☐	☐	☐
b. Waiting in line was difficult for me (or someone with me) because of age or a health condition.	☐	☐	☐	☐	☐
c. The visitor security checks made my visit less enjoyable.	☐	☐	☐	☐	☐
d. I felt safer because of visitor security checks in this building.	☐	☐	☐	☐	☐
e. I would still visit this building if entering visitor security checks were stopped.	☐	☐	☐	☐	☐
f. I would tell friends to avoid this building because of the visitor security checks.	☐	☐	☐	☐	☐
g. The visitor security checks make me less likely to return for another visit.	☐	☐	☐	☐	☐

PLEASE CONTINUE ONTO THE NEXT PAGE...

2882173416

q7yes q8sug state age

6. Comparing electronic searches used in airports (x-ray machines and metal detectors) with hand searches of visitor bags by museum guards, do you agree or disagree with the following statements.

	Agree		Neither		Disagree
a. Hand searches are MORE EFFECTIVE than electronic searches.	☐	☐	☐	☐	☐
b. Hand searches are MORE INTRUSIVE than electronic searches.	☐	☐	☐	☐	☐
c. I prefer hand searches to electronic searches.	☐	☐	☐	☐	☐

7. Will you NOT visit a particular Smithsonian museum ON THIS TRIP because of visitor security checks there?

☐ No ☐ Yes ==> Which museum(s) is that? _____

8. In your opinion, could we improve checks of entering visitors at THIS BUILDING?

☐ No ☐ Yes ==> What do you suggest? _____

_____

9. Finally, a little background ..... (Please mark the appropriate boxes)

a. I last visited THIS BUILDING ....
- ☐ Never, this is my first visit
- ☐ Since the September 11 attacks
- ☐ Some time before the September 11 attacks

b. I live in .....
- ☐ Washington, DC
- ☐ Maryland suburbs
- ☐ Virginia suburbs
- ☐ Other U.S. state (including rest of MD and VA): _____
- ☐ A country outside the United States

c. I am at the Smithsonian with a tour organized group. ..... ☐ No ☐ Yes

d. I am visiting this building with ...
- ☐ No one, I am alone
- ☐ One other adult
- ☐ Several adults
- ☐ Adult(s) with child(ren)/teen(s)
- ☐ Group of 2 or more teens

e. I am ..... _____ years old

f. I am ..... ☐ Female ☐ Male

THANK YOU FOR YOUR ASSISTANCE