

# A Pricing Strategy for the Kennedy Space Center Visitor Complex



## Introduction

The attraction and tourist entertainment market in Central Florida is both exciting and competitively intense. Attractions and/or exhibits removed from the central corridor South of Orlando must routinely do “extraordinary” efforts to effectively entice new and repeat visitation. Obviously, offerings are important, but the admissions structure must also be economically viable and competitive. The Kennedy Space Center Visitor Complex, under the management of Delaware North Parks Services, is expanding in an effort, to not only add enjoyment to the current NASA experience, but also to capture more of the tourist market. A critical step in this expanded process is admission ticket pricing. To this end, the author was retained to design a plan that would help determine an appropriate pricing strategy. This paper presents the results of 506 one-on-one interviews among visitors to the Complex during the latter part of August 1999.

Editorial Note:

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## Background

The Kennedy Space Center Visitor Complex, in corporation with NASA, has the mission to “To tell the NASA story and inspire all people to support the exploration of space.” To this effort, the Complex is composed of the following visitor enjoyments.

### Astronaut Encounter

Guests to Kennedy Space Center Visitor Complex have the opportunity to come face-to-face with a real astronaut every day of the year. This innovative program consists of question and answer sessions, mission briefings, video footage, space artifacts and personal stories of space travel as told by those who have lived it. Various astronauts from throughout space history are scheduled to appear including Mercury, Gemini, Apollo and Shuttle astronauts.

### Early Space Exploration

Located in an adjoining wing to the Dr. Kurt H. Debus Conference Facility is Early Space Exploration. This walk-through exhibit provides visitors with a comprehensive history of key missions that provided the foundation for the current space program. Highlights include Mercury Mission Control Room -- containing the actual Mercury Mission Control consoles and components from which all of America's first eight manned missions were monitored and authentic Mercury and Gemini capsules.

### Exploration in the New Millennium

Visitors are taken on a journey from the Vikings' discoveries of Greenland and Iceland to Mars Viking Lander, the first U.S. probe to land on another planet in 1976. Visitors have the opportunity to see and actually touch a piece of Mars, which fell to the Earth as a meteorite. Guests may also submit their names to fly in space on a future mission!

### International Space Station Center

The future is happening now at the Kennedy Space Center! Walk through full-scale mock-ups of space station modules and visit the viewing gallery, where you can see actual space station components being readied for flight.

### IMAX Theaters

Two different larger-than-life films take you on an awe-inspiring journey into space on screens over five stories tall! Dramatic footage, photographed in space by the astronauts, give each of the IMAX® films an exciting "you are there" feeling.

### Apollo/Saturn V Center

Featuring an actual 363-foot, 6.2 million pound Saturn V moon rocket, with a dramatic recreation of the first manned Apollo launch, and hands-on exhibits, the Apollo/Saturn V Center brings to life the U.S. space program's missions to the moon.

### LC39 Observation Gantry

Get a bird's-eye view of today's space adventures from this 60-foot observation tower, where you'll have an unobstructed view of the space shuttle launch pads. On the ground, film presentations and exhibits tell the amazing story of shuttle processing, from landing to launch.

### KSC Tour

Board an air-conditioned bus and observe first-hand the Apollo/Saturn V Center, the LC 39 Observation Gantry, and the International Space Station Center. Guided bus tours depart each day (except Christmas Day and certain launch days) beginning at 9:30 a.m., and leave continuously throughout the day, with the last bus leaving approximately four hours before closing.

### Cape Canaveral Tour

A specially trained guide will accompany you to the sites where Alan Shepard and John Glenn began America's Space Age. See Historic Mercury, Gemini and Apollo launch pads and bridge years of American space history.

### Launch Status Center

Catch up-to-the-minute live mission briefings presented every hour while surrounded by spectacular Shuttle models and educational displays. This is a great way to get a live, behind-the-scenes peek into what is happening on the ground at Kennedy Space Center as well as in outer space!

### Rocket Garden

See the rockets that launched astronauts and machines into space including a Mercury Redstone, similar to the one that carried Alan Shepard into space. Another special vehicle in the collection is an awe-inspiring Mercury Atlas identical to the rocket that carried John Glenn into space for America's first orbit.

### Space Shuttle Plaza

Imagine working aboard a real space shuttle and floating in space as you enter inside the space shuttle Explorer – a full-sized replica of a NASA shuttle orbiter. You'll see the Flight Deck, where astronauts fly the orbiter during actual launch and landings, and the Mid-deck, where shuttle crews work on experiments, sleep and eat.

### Astronaut Memorial

The names of the seventeen U.S. astronauts who gave their lives for space exploration are carved into the face of this polished black granite monument. The beautiful 60 ton structure tracks the movement of the sun through the sky, resulting in an effect that suspends the astronauts' names in the brilliantly reflected sky.

In addition to the above, there are ...

#### Dr. Kurt H. Debus Conference Facility

5,800 square feet of meeting and reception space! This state-of-the-art facility that overlooks the Rocket Garden seats approximately 400 people banquet style and 700 standing, with a full chef's kitchen, top-of-the-line audio/visual and computer equipment and an outdoor plaza.

#### Robo Scouts

"Starquester 2000," a whimsical, quick-witted cousin of the Mars Pathfinder, guides visitors through this walkthrough exhibit of NASA's past, present and future robotic space explorers. "Starquester 2000" lightheartedly interacts with other space probes like Viking Mars Lander and Hubble Telescope, to explain how robotic space exploration is paving the way for humans to follow.

#### KSC Wildlife Tour

A National Wildlife Refuge with more than 25 endangered species making it their home. Join a wildlife guide on a two hour tour that takes you deep into the Merritt Island National Wildlife Refuge.

#### Merritt Island Wildlife Exhibit

A walk-through experience recreating the distinct natural habitats found within the Merritt Island National Wildlife Refuge, surrounding the Kennedy Space Center. Learn about the inhabitants of the Refuge including Loggerhead turtles, manatees, black mice, scrub jays and indigo snakes.

#### Restaurants

Enjoy meals at the Lunch Pad and Orbit Restaurant. Or join us at Mila's Roadhouse for a table service restaurant reminiscent of those frequented by the early astronauts. Tour destination eateries provide lighter fare and numerous specialty concession stands. Carts are available for refreshments and are conveniently located around the facility.

#### Gift Shop

The Space Shop is the world's largest store devoted entirely to space memorabilia, gifts and collectibles. Over 8,000 space-related items entice space enthusiasts of all ages – from the first-time visitor to the serious collector.

## Methodology

This study was conducted among Kennedy Space Center visitors between the hours of 9:00 a.m. and 4:30 p.m. for the period August 16 through September 3, 1999. Each respondent was randomly selected based on a systematic sampling plan, with some direction for quota distribution needs, before entering the ticket booth area. Once agreeing to participate, the respondent was taken to a designated location for the one-on-one computer assisted interview. All effort was made to prevent the person from seeing the current ticket options displayed on the ticket booths.

Each interviewed averaged 10 minutes and involved 40 questions ranging from basis demographic classification questions and prior visitation to the set of 18 price sensitivity questions. The pricing questions, by ticket option, were rotated for each interview.

The response base by residency is as follows...

Residency	Base	
	N	%
United States, Non-Florida	310	61%
Florida Resident	74	15%
International [English speaking]	122	24%
<b>Base</b>	<b>506</b>	<b>100%</b>

The **van Westendorp Price Sensitivity Model** developed in the 1970's by the Dutch economist Peter Van Westendorp was the basis for the study.

The objective of the van Westendorp Price Sensitivity Model is to ascertain the range of acceptable prices, as well as optimum and indifference price points, for a product or service. The range will run from the price at which the preponderance of respondents start to doubt the quality of the product to the point at which the preponderance of respondents consider the product or service too expensive.

In this model, price sensitivity relates not to absolute price, but rather to perceived value of the product and service. Consumer price expectations and tolerances are measured by asking a set of price perception questions. These questions are the key to the model - the price at which the product or service is ...

- So *cheap* that product quality is questionable (*Too Inexpensive*)
- A *bargain* (*Inexpensive*)
- Beginning to *seem too expensive* (*Expensive*)
- Too *expensive to consider* (*Too Expensive*)

Once graphed, the point at which the *Inexpensive* and *Expensive* responses intersect is considered the *Indifference Price Point* (IDP); the point at which the *Too Inexpensive* and *Too Expensive* responses intersect is considered the *Optimal Price Point* (OPP).

IDP is where "cheap" and "expensive" curves cross. At this point, as many people consider the product or service cheap as consider it expensive. This represents the "normal" price in the market. At this point, we have maximized the percentage of respondents whose "normal" range we are in.

OPP is where "too cheap" and "too expensive" cross. At this point, the number of respondents finding the price acceptable is maximized and the resistance (in the form of unacceptability) to price changes is minimal.

Respondents are also asked for each of the two ticket options the price they would expect to pay, priced and un-priced purchase intentions and perceived value.

## Findings

### *“Ticket Option A”*

Ticket Option A, which later became the *Maximum Access Badge*, provides full access to the Kennedy Space Center Visitor Complex and is described by the following”

“With Ticket Option A, you will have unlimited access to Kennedy Space Center Tour, IMAX® Movies, Robot Scouts, Universe Theater, Early Space Exploration, New Millennium, and all other Visitor Complex attractions.”

After reading the descriptive, the respondent is asked several un-priced general intent to purchase questions. Ninety-four percent (94%) indicated that they definitely or probably would buy this ticket option based solely on its description.<sup>1</sup>

Then visitors are asked the series of price sensitivity questions based on the van Westendorp configuration regarding their pricing perceptions for this [still un-priced] ticket option. The mean (averages) responses to the five key points of the pricing model are shown in the table below.

**Table 1: Pricing Perceptions - “Ticket Option A”**

Question	Average Price Points <sup>2</sup>			
	Overall	Non-Florida, US Residents	Florida Residents	International
Would be so cheap that you would question its quality	\$13.68	\$13.38	\$11.09	\$16.46
Would consider it a bargain	\$30.64	\$30.10	\$27.34	\$34.05
Would begin to seem expensive	\$44.95	\$44.13	\$39.93	\$50.10
Would be too expensive to consider	\$55.91	\$54.30	\$50.96	\$63.00
Would expect to pay	\$34.71	\$34.21	\$31.00	\$38.48

Highlights include...

<sup>1</sup> Two ticket options were presented and rotated in their presentation. To avoid a potential “name association” bias, the tickets were labeled and read as Ticket Option A and Ticket Option B.

<sup>2</sup> Mean response, five percent trim to reduce the affect of extreme outliers.

- Overall, the expected ticket price is \$34.71.
- Florida residents are a bit more restrictive with an expected price of just over \$31.00; Non-Florida residents say \$34.21.
- International visitors expect to pay an average of \$38.48 for the “maximum access” ticket.
- The plotting of the Optimal Price Point (OPP) and the Indifference Price Point (IDP) indicates a range from \$31.00 to \$40.00. [Refer to Graphic 3]
- After being told the actual price as described is \$24, the “definite likelihood” of purchase increased from the un-priced response of 51% to the priced response of 82%. [Refer to Graphic 1]
- For the child’s ticket price of \$15, the definite likelihood of purchased increases from 51% to 60%. (No specific question for an un-priced child’s ticket was asked; the purchase decision is made solely on the \$15 price presentation. Thus, the same un-priced response.)

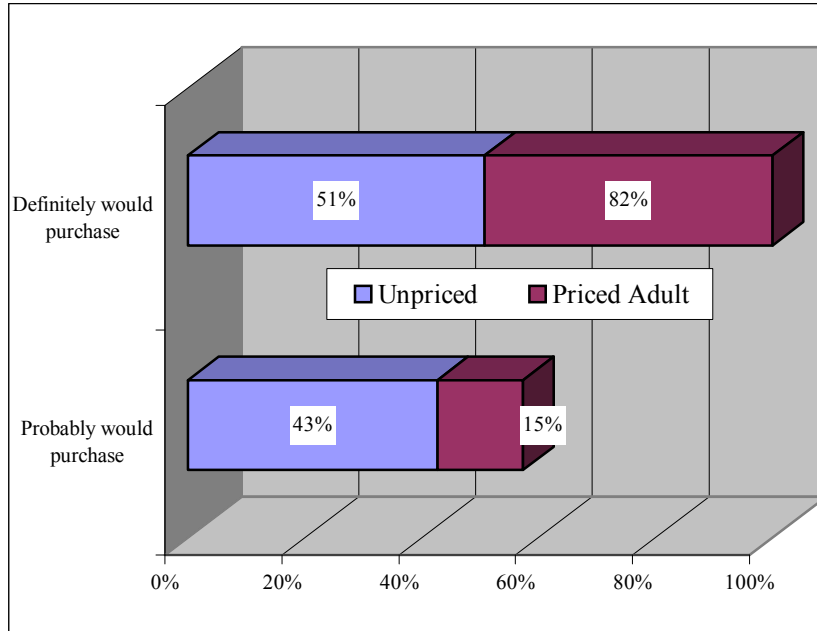
When noted the proposed price for Ticket Option A, few (under five percent) expressed resistance to the entrance price of \$24. This reaction indicates that this price point has strong market acceptance. Further, when asked to express their opinions on the value of Ticket Option A for its \$24 price, 91% consider it an *excellent/very good value for the money*. (See page 9 for details.)

This study estimates a “definitive balk rate” to be under two percent with another 2%-3% being “indecisive” as to their intentions at this price point.

Purchase likelihood is high for the “Ticket Option A” as seen in the following graphics. The bars display the purchase patterns between the unaided initial action question based solely on the ticket option’s descriptive compared to the actual price disclosure.

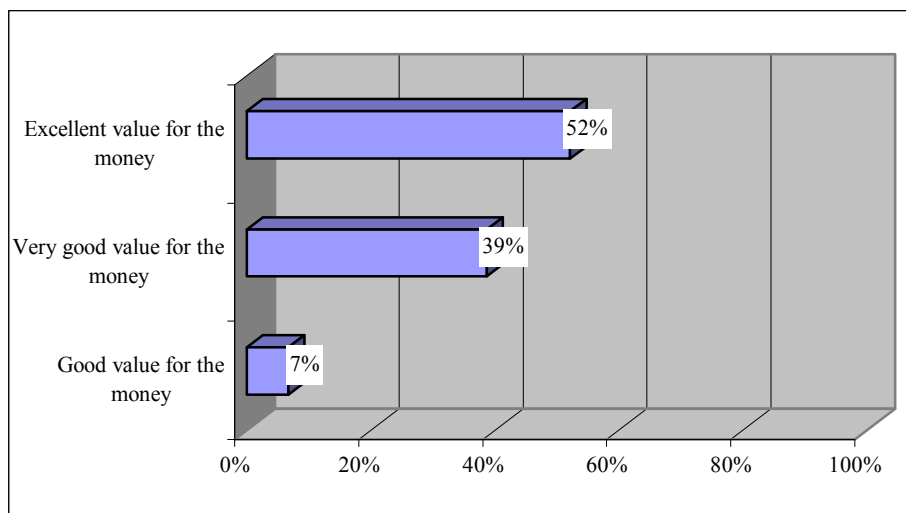
The “definitely would purchase” increases from 51% to fully 82% saying that they are assured of purchasing the Adult ticket at the proposed \$24 fee.

**Graphic 1: Purchase Intent**



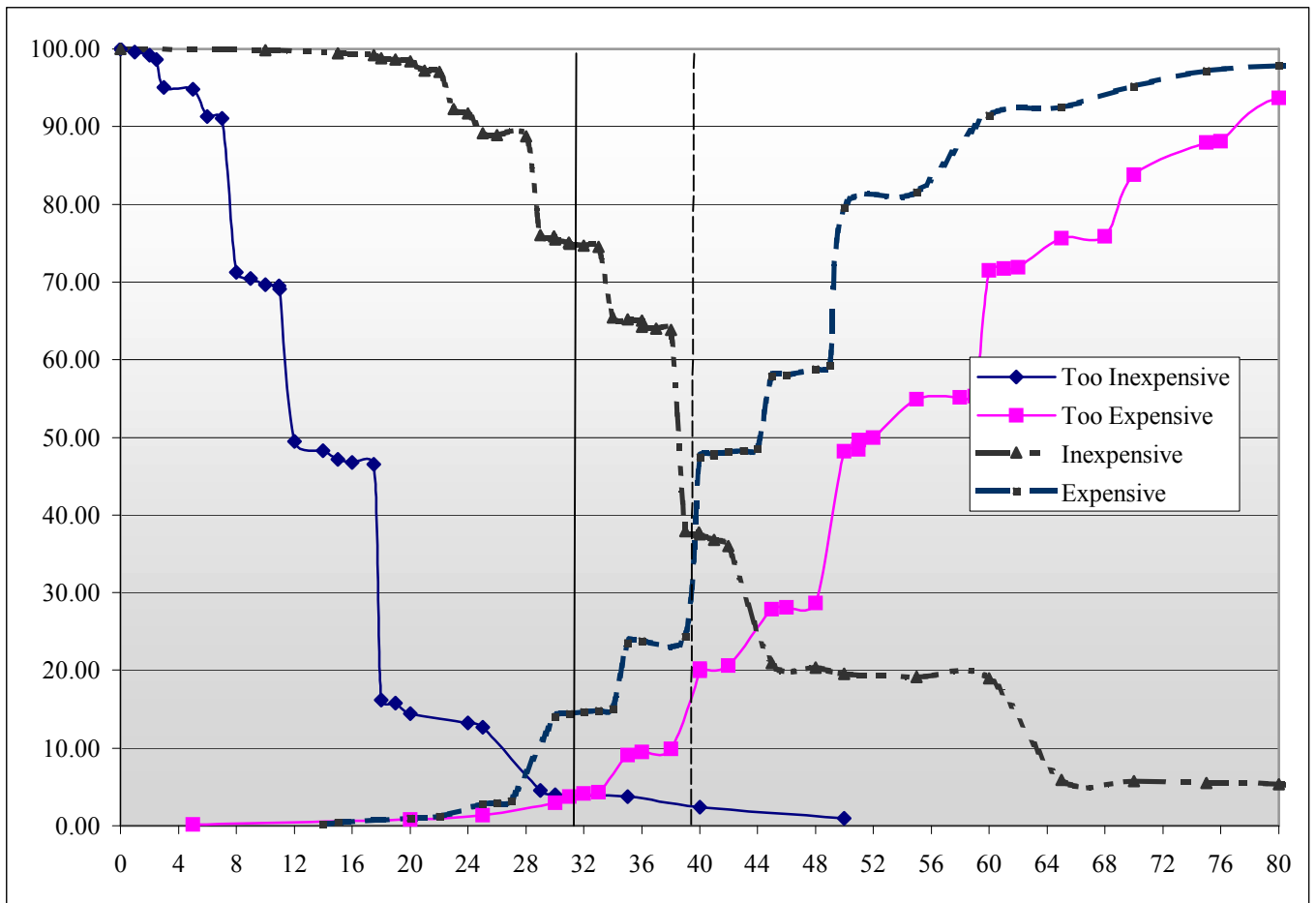
Value for Ticket Option A is high with 91% saying it is an *excellent/very good* value for the price.

**Graphic 2: Perception of Value**



The point at which the *Too Inexpensive* and *Too Expensive* responses intersect is considered the *Optimal Price Point* [solid vertical line] being just under \$32.00. The point at which the *Inexpensive* and *Expensive* responses intersect is considered the *Indifference Price Point* [dashed vertical line] is approximately \$39.75. This result finds that the proposed \$24 entrance fee at this point is an appropriate pricing strategy. [The vertical axis is cumulative percentage points and the horizontal is in dollars.]

**Graphic 3: Ticket Option A – Pricing Strategy**



### ***“Ticket Option B”***

As with Ticket Option A, respondents were first read an un-priced description of a limited access ticket to the Space Center Complex, called Ticket Option B.<sup>3</sup> This ticket design became the *Limited Access Ticket*.

“With Ticket Option B, you have access to Early Space Exploration, New Millennium, and Visitor Complex attractions only.”

After reading this descriptive, the interview continued in the same sequence form as with Ticket Option A. Fifty-seven percent indicate that they definitely or probably will buy this [un-priced] option. (See charts on page 13 for details.)

The mean (averages) responses to the five key points of the pricing model are shown in the table below.

**Table 2: Pricing Perceptions – Ticket Option B**

Question	Average Price Points <sup>4</sup>			
	Overall	Non-Florida, US Residents	Florida Residents	International
Would be so cheap that you would question its quality	\$6.81	\$6.49	\$5.84	\$8.35
Would consider it a bargain	\$17.05	\$16.54	\$14.64	\$19.78
Would begin to seem expensive	\$27.65	\$26.83	\$24.74	\$32.02
Would be too expensive to consider	\$35.52	\$33.98	\$32.69	\$41.86
Would expect to pay	\$19.44	\$19.02	\$17.67	\$21.72

<sup>3</sup> Two ticket options were presented and rotated in their presentation. To avoid potential “name association” bias, the tickets were labeled and read as Ticket Option A and Ticket Option B.

<sup>4</sup> Mean response, five percent trim to reduce the affect of extreme outliers.

About six percent expressed a definite resistance to the proposed entrance price of \$10. This relatively small negative reaction indicates that the planned fee for this limited access ticket has very good market acceptance. Ten percent say that they “might or might not” purchase. Key points include...

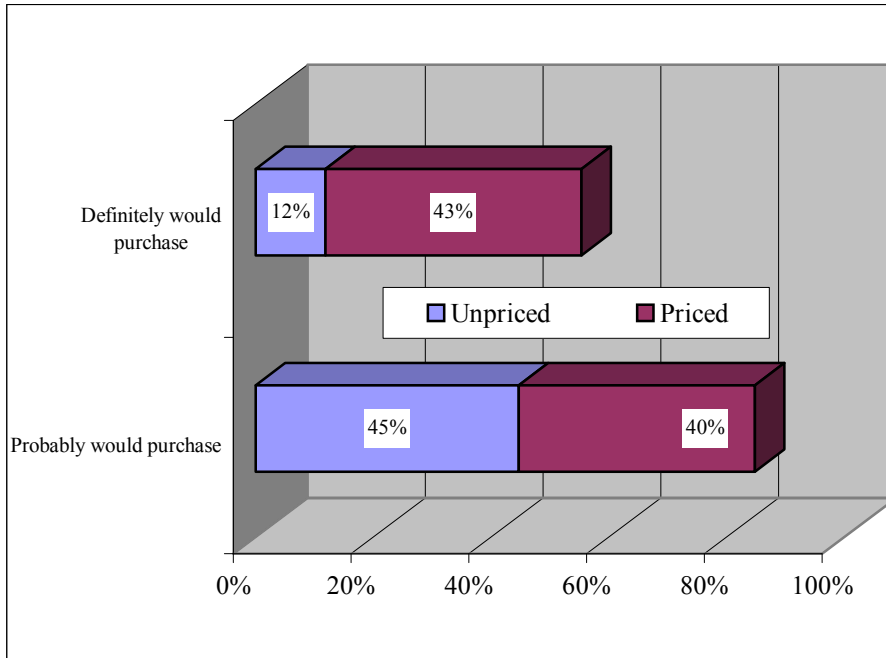
- On average, the expected entrance fee for the limited access ticket is \$19.44.
- Non-Florida residents would expect to pay an amount just slightly higher than Florida residents: \$19.02 versus \$17.67, respectively.
- International visitors expect to pay an average of \$21.72 for the “limited access” ticket.
- The plotting of the Optimal Price Point (OPP) and the Indifference Price Point (IDP) indicates a narrow band range from \$19.50 to \$21.00. [Refer to Graphic 6]
- After being told the actual \$10, the “definite likelihood” of purchase increased nearly four-fold from the un-priced response of 12% to the priced response of 43%. [Refer to Graphic 4]

The limited access ticket’s value for its \$10 price also is high, 65% consider it an *excellent/very good value for the money*. (See page 15 for details.)

Purchase likelihood is high for the Ticket Option B ticket as seen in the following graphics. The bars display the purchase patterns between the unaided initial action question based solely on the ticket option's descriptive compared to the actual price disclosure.

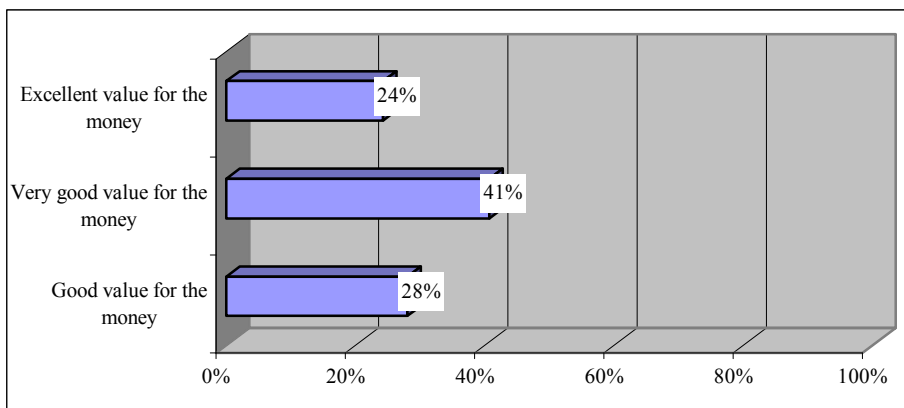
The “definitely would purchase” increases from 12% to 43% saying that they are assured of purchasing the ticket at the proposed \$10 fee.

**Graphic 4: Purchase Intent**



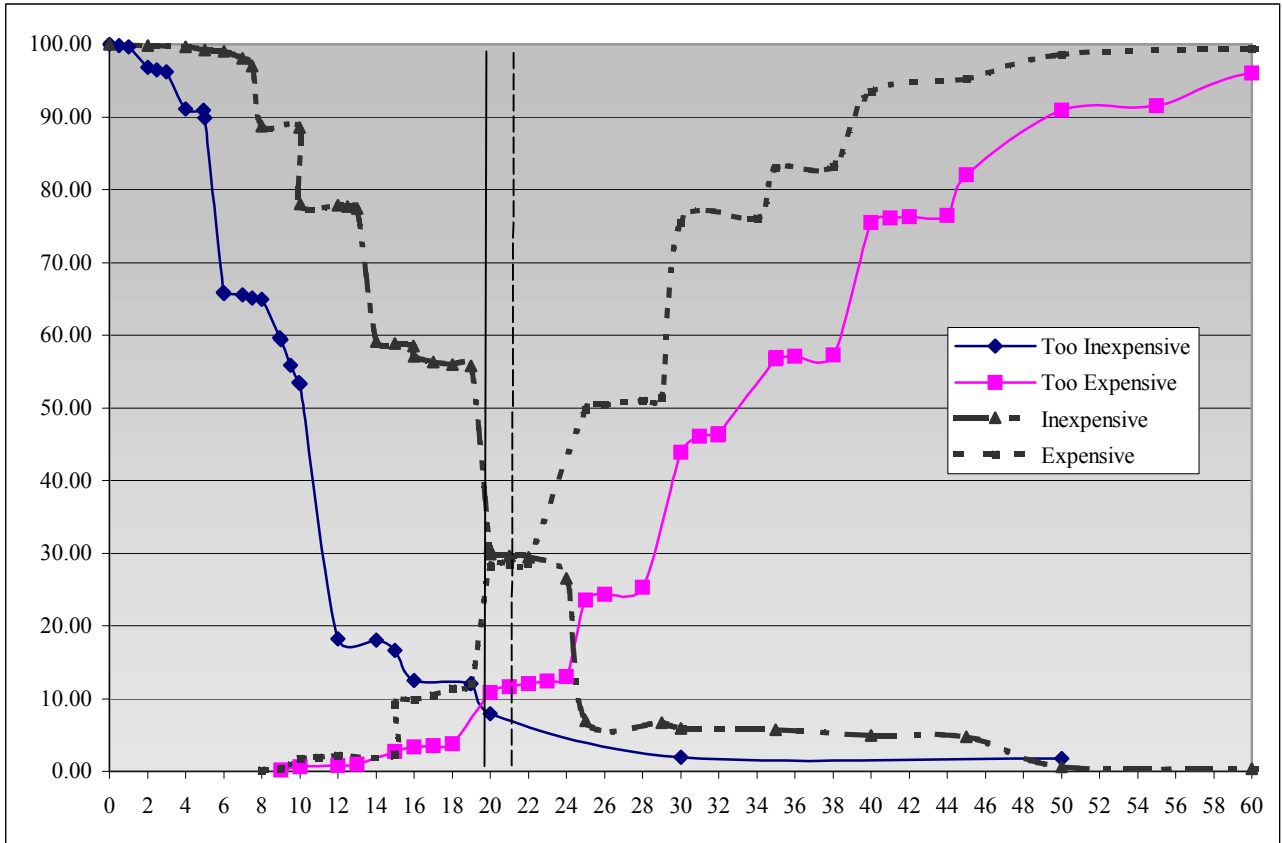
Twenty-four percent say that the \$10 entrance fee is an *excellent value for the money* and another 41% rate the value as *very good*.

**Graphic 5: Perception of Value**



The *Optimal Price Point* [solid vertical line] is around \$19.50; the *Indifference Price Point* [dashed vertical line] is just about \$21.00. This result finds that the proposed \$10 entrance fee, at this point, is an appropriate pricing strategy. [The vertical axis is cumulative percentage points, whereas the horizontal is in dollars.]

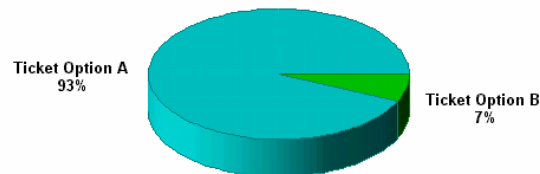
**Graphic 6: Ticket Option B – Pricing Strategy**



### ***Secondary Set of Questions***

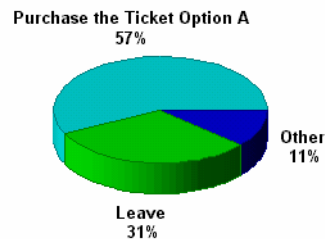
Ticket Option A, the “maximum access” option, is clearly preferred with over 90% of respondents selecting this entrance option.

**1. Given these two admission options to the Kennedy Space Center, which one would you most likely purchase?**



Of the seven percent of respondents who favor the “limited access” option [Ticket Option B], most are concerned about “not enough time available” to take advantage of all the facilities/attractions involved with Ticket Option A. Notice that about one-third (31%) of this sup-group would leave. This departing group translates into approximately two percent of the visitors [31% of 7%].

**IF Ticket Option B ASK: If the Ticket Option B was not available, what would you do?**



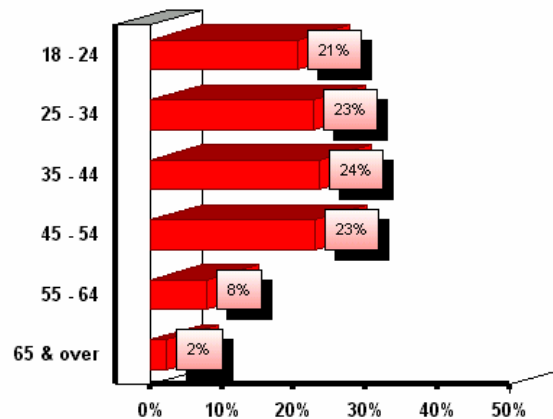
Those who note “other” generally expressed an interest in a family ticket option or in just walking around.

### ***Respondent Demographics***

While no specific quotas were planned, a good distribution of visitors was monitored [both at the residency and age group levels] and the “principal” decision maker was interviewed among those in the travel party. [The author’s experience in the area’s attraction market finds that the decision is typically a “family affair.”]

Almost half of visitors interviewed were between 25 and 44 years old.

#### **C. What is your age?**



The gender came out to be 55% male and 45% female.

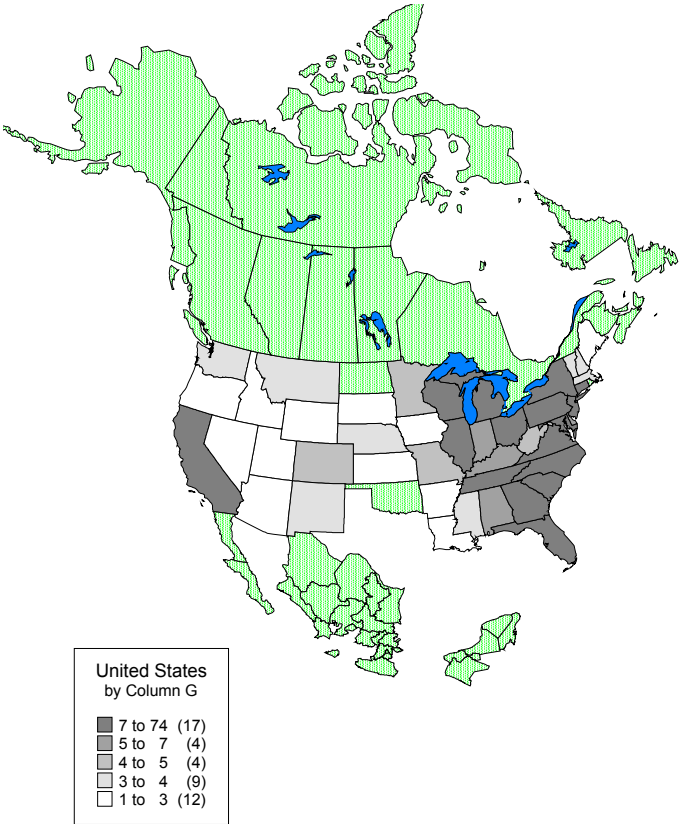
Visitor travel party was evenly split between “family and non-family” composition with an average of 3.3 members.

	<b>Number</b>	<b>Percent</b>
Family	246	49%
Non-Family	260	51%
<b>Base</b>	<b>506</b>	<b>100%</b>

As might be expected, the majority of visitors are from the Southern Region with 15% overall from Florida and the majority being full-time residents.

	Number	Percent
Northeast	70	14%
Midwest	77	15%
South	196	39%
West	41	8%
International	122	24%
<b>Total</b>	<b>506</b>	<b>100%</b>

The map below gives a visual representation of where domestic respondents lived.



## Conclusions

### Maximum Access Badge

- There is strong market acceptance for the proposed “maximum access” ticket option: 82% say that they would “definitely” purchase this option as described at the \$24 price.
- The estimated “balk rate” should be under two percent; an additional two to three percent are “indecisive.”
- The acceptable price range is from \$30 to \$40.
- Just over half (52%) rate the “maximum access” ticket option as an *excellent value for the money*, 39% say its value is “very good.”

### Limited Access Ticket

- Just under half (43%) will “definitely” buy the “limited access” ticket option, as priced and described, 40% will “probably” make the purchase.
- There is an approximate six percent “balk rate,” 10% are indecisive.
- The “limited access” ticket has an acceptable price range of \$19.50 to \$21.

### Actions

- The study received very positive review from both Delaware North management and NASA. Hence, the results took effect March 2000.
- A “shopper pass” came into the admissions structure.
- As of January 2001, the “limited access” ticket option was no longer available until late in the afternoon after the last Tour bus departed.
- An on going visitor track is taking place to monitor visitor activity, opinions toward the Complex and associated exhibits, and entrance fee structure.