The original documents are located in Box 65, folder "Bicentennial Exposition on Science and Technology, Cape Canaveral, FL - Proposal to the President (2)" of the John Marsh Files at the Gerald R. Ford Presidential Library.

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preliminary concept of a

U. S. BICENTENNIAL

EXPOSITION

0 F

SCIENCE

AND

TECHNOLOGY

to be held at CAPE CANAVERAL, FLORIDA, June-September, 1976

prepared by the office of JOHN R. STILES

The White House

July 10, 1975



THE U.S. BICENTENNIAL EXPOSITION

OF SCIENCE & TECHNOLOGY

BASIC CONSIDERATIONS

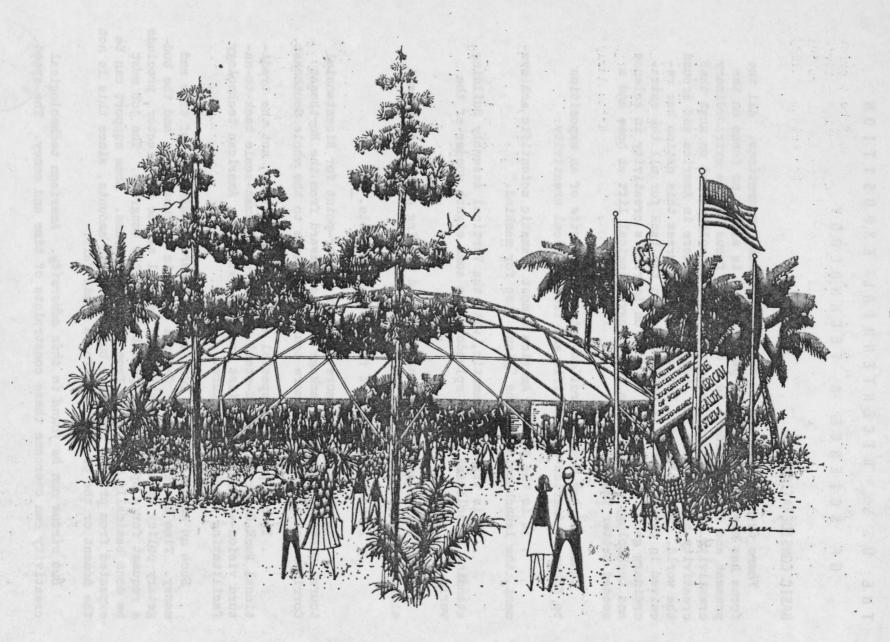
There is one major gap in the Bicentennial preparations. All the focus has been on the distant past. There is almost no focus on the present and future. There is a need for a focus on the extraordinary creativity of this nation in science and technology, and on what that creativity has done for the lives of people here in America and around the world. Amidst all the bad news and bad press this nation has received in recent years, it needs a pat on the back for all the extraordinary good it has done. A focus on America's creativity in science and technology can provide a needed psychological lift at home and a needed better image abroad.

Canaveral has many natural advantages as a site of an exposition to focus on America's scientific and technological creativity:

- . It is the site of America's most dramatic scientific achievement, the launch-point of the "giant step for mankind."
- . It is visually dramatic, with the Vertical Assembly Building standing in colossal lonely splendor like some eighth wonder of the world.
- . It has ample land available, and finding ample vacant land elsewhere would be most difficult.
 - . It has ample tourist facilities available.
- . It can provide a more southern anchor-point for Bicentennial tours, extending standard package tours southward from the Northeast Corridor and thus bringing more tourist business to the whole Southeast.
- . It can provide a special vision of the future, not the traditional Buck Rogers glass-and-steel vision but a human-scale back-to-nature vision---technology amidst trees and wildlife, American technology facilitating a return to nature.

Such an exposition must work within severe constraints of time and money. Time is very short. General economic circumstances and the budgetary policy of the Administration, as well as the time factor, preclude a request for a special appropriation from the Congress. The job must be done basically with funds from current programs. Some support can be expected from private industry, but in limited amounts, since this is not the moment or the proper locus for a trade fair.

But virtue can be found in this adversity. American technological creativity can overcome these constraints of time and money. The speed



and economy with which the exposition is staged can in itself be a prime demonstration of the special quality of American technological creativity. For example, the use of geodesic domes as exhibit halls can provide not only speed and economy but also a vivid symbol of the unique utility and ingenuity of American technology.

STRUCTURE & DIMENSIONS OF THE EXPOSITION

The Exposition is conceived as organized into nine sectors---e.g., the American Home, the American Factory, etc. Each presents basically what American achievements in technology mean in the lives of people, Past, Present and Future. The Basic Presentation focuses on how technology has made life easier and richer. In addition there should be a Juvenile Presentation, since 40% of the visitors probably will be children, and also a Technical Presentation, for those who are particularly knowledgeable or sophisticated in a sector.

Sectors & Space Requirements

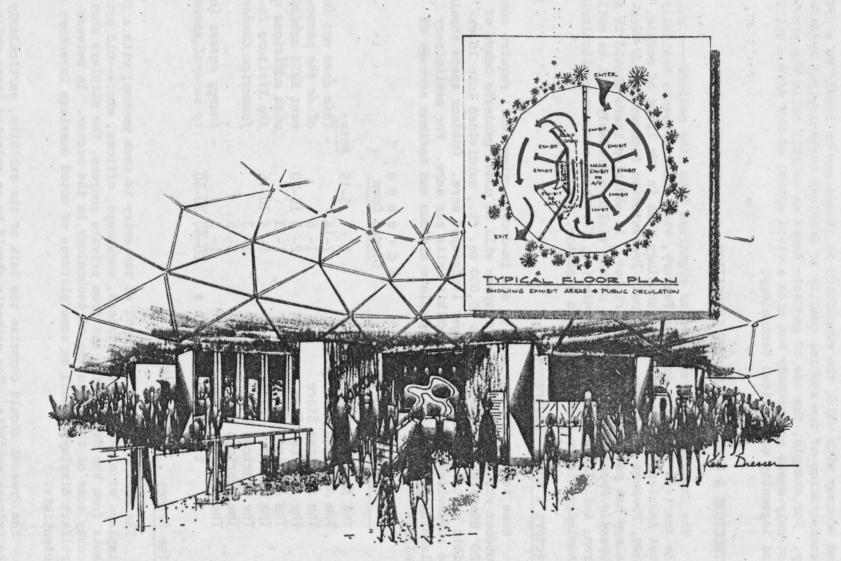
Some sector displays will be all in-doors, others will require some outdoor exhibit space. In-door space will be under geodesic domes of 120' diameter, enclosing about 10,000 sq. ft., subdivided into 10 exhibit units---about one dome per landscaped acre. Outdoor space should be subdivided at about five exhibit units per acre. For preliminary planning purposes, we might calculate minimum and maximum acreage as follows:

s e c t o r	Acreage Closed Open	
The American Home	2 5-15	Note:
The American Factory	7-14	- This does not in-
The American Store	1- 5	clude the perma-
The American Farm	2- 3 15-20	nent NASA exhibit
The American Office	1- 3	with additions at
The American Road	2- 4 10-15	the Visitors In-
The American School .	1- 3	formation Center
The American Health System	3-, 5	, -
The American Ocean Frontier	1- 3	- Energy enters in-
total acre	$s: \overline{20-40} \ \overline{30-50}$	to several sectors

Time Frames

The Past should be displayed at the entry to each sector, with a few displays of old-fashioned kitchens, workshops, offices, etc.---old artifacts from the Smithsonian and from private sources. The displays should convey some of the evolution of technology in the sector. In between artifact displays should be some pictures of noted American inventors and scientists.

The Present should comprise the bulk of the exhibits, particularly the private exhibits. The emphasis should be on selected items which illustrate the latest state-of-art. Since this is not a museum, they do



not have to show how things work. Since this is not a trade fair, they do not have to show the exhibitor's full line. Scale models may be more useful than actual heavy equipment, in many cases. Delicate equipment should not be displayed; computers should be displayed with actual terminals but only scale-models of the rest of the configurations.

The Future should be displayed by diaramas chosen by competition, through the following procedure:

- . The National Academy of Sciences designates panels for each sector, and possibly subsector.
- . The panel establishes problems or parameters for proposed optimum future solutions. For example, in housing they might suggest a house that can be easily modified by the family itself and cost next to nothing to cool and heat---along with some other features.

\$ m : " .

- . Private firms and institutions are then invited to submit plans for diaramas illustrating the solution, along with explanations of recent state-of-art developments that make the solution conceivable plus remaining knowledge gaps.
- . The panel then judges the submissions and selects winners on the basis of the soundness and coherence of the explanation and the vividness of the presentation.

Thus, the future will be the visions of private Americans, as evaluated by panels of eminent scientists.

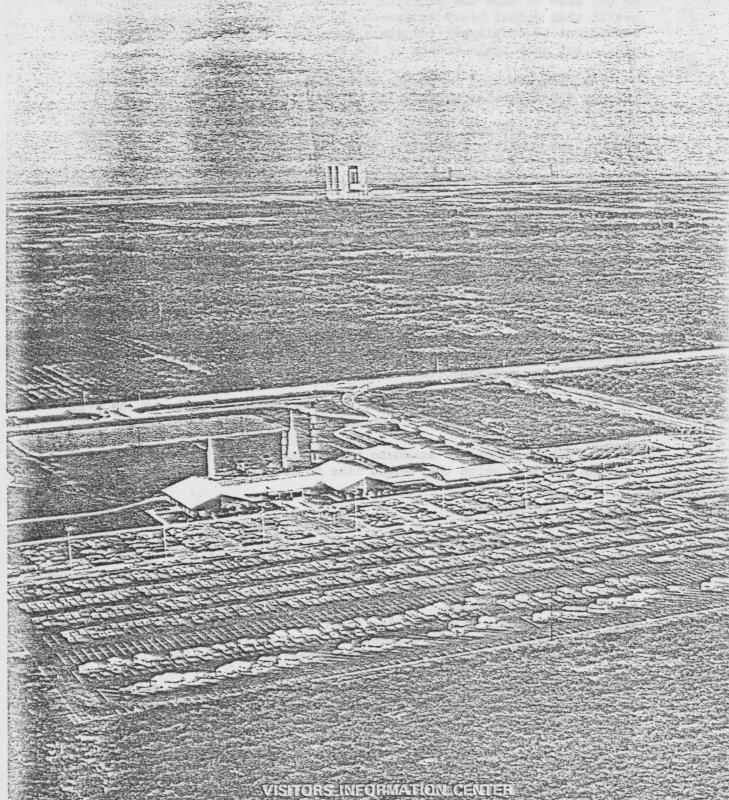
The public should be asked to participate at the Exposition by submitting features which they would like to see in the future.

Levels of Presentation

The Basic Presentation should focus on what the past evolution, the current state-of-art, and the future possibilities mean in the lives of people. Captions should emphasize how long it used to take and now takes to do things or to earn the money to buy things---and what features have made the most difference. The agriculture presentation should show the new miracle cereals alongside the older varieties and emphasize how America has fed the world and enabled the world to feed itself. The basic publication of the Exposition should emphasize these themes.

The Juvenile Presentation should tell stories of major developments in comic-book form. Some of the episodes should be presented on lifesize moving panels at queue-up points, to relieve queue-up monotony.

The Technical Presentation should be in the form of a booklet or cassette for each sector, detailing the technical features of the various exhibits. It should be on the level of articles in Science or American Scientist.



VISITORS INFORMATION CENTER

VAB by Background

COMPLEMENTARY EVENTS

Certain coordinated events and productions can carry the message and psychological impact of the Exposition across the nation and abroad.

A Summit Science Colloquium

The National Academy of Sciences might invite the most distinguished scientists in the US, plus some economic historians, to a Bicentennial colloquium at Canaveral. A combination of papers and discussions would focus on:

- . the character and sources of America's technological creativity
- . the current condition of that creativity
- . prospects and needs for future technological creativity

The same or another group might also do a Delphi exercise on probable dates of major breakthroughs in the Third Century.

The colloquium should be held in late January or February, so that the outputs of the conference can be fed into the script and publications of the Exposition.

Publications

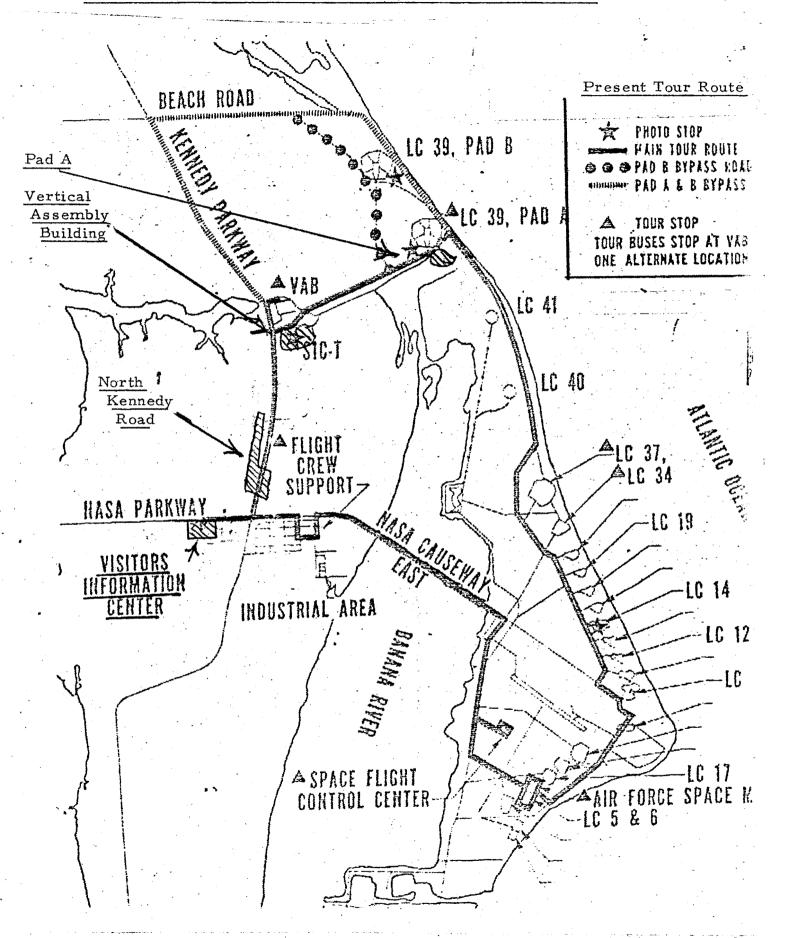
The publications sold at the Exposition should be something more than guidebooks. They should use the Exposition to tell the story of American technology. They should be written in a general form that will be suitable for general distribution across the nation and abroad.

Because of time pressures, either major periodicals or a special publications manager on the contract team should take charge of production. Time, Science, American Scientist and other similar publications would be geared up to do the job in time. In addition, major periodicals might be interested in doing special editions featuring the Exposition. In addition to the periodicals listed above, National Geographic might be interested. And the USIA periodicals in various foreign languages would probably bring out special editions on the Exposition.

TV Specials

The Exposition should lend itself naturally to a variety of TV presentations. In addition to a series on Educational TV, one might envision a variety of one-hour specials on commercial networks. Some might tell the general story in a series of three to six specials. Others might feature one particular aspect: The Home of the Future, America Feeds the World, or the Ideas of Visitors on the Third Century.

These would probably run on into the Fall season, thus providing a continuing impact from the Exposition.



LOGISTICS

Sites

North Kennedy Road provides the prime site. A long, narrow wooded ridge just to the west of the road has ample area for most of the exhibits. The site is dramatic; the only structure in sight is the Vertical Assembly Building. There is also some wooded land to the east of the road. All open sites should be in this area.

Opposite the VAB and PAD A are some 15-30 acres that can be used as supplementary sites for closed exhibits. The area across from the VAB is particularly suited for computer terminals, as the VAB has ample computer communication facilities to tie them into CPUs elsewhere. The oceanfront area by Pad A is particularly suited to the Ocean Frontier exhibit. Open exhibits should be avoided in this area, as they would clutter an otherwise spectacularly open seascape.

The Visitor Information Center has some 30 acres available for development, at present under orange grove. The site is not as attractive as the above sites and is more expensive to develop. However, it should be used for additions to the permanent exhibit, and for spill-over from the above sites.

Security & Parking

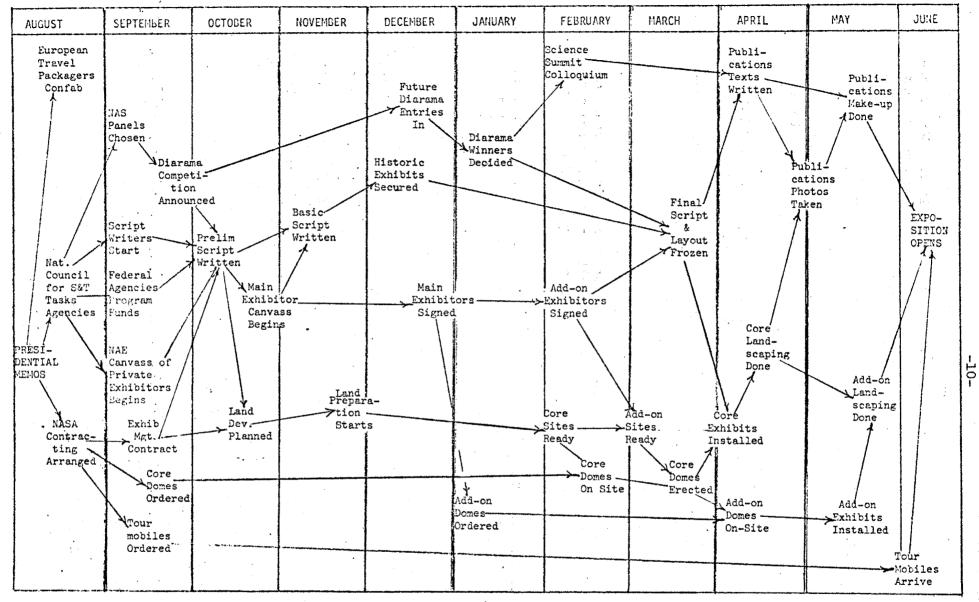
Security considerations require that all visitors stay "outside the fence" unless they are in small conducted groups. The fence starts east of the Visitors' Information Center. So visitors will have to park in that area. Beyond there they must travel in buses. Exhibit areas on North Kennedy Road and opposite the VAB and PAD A should be well fenced in, to prevent unauthorized and unaccompanied visitors from wandering into NASA and USAF work areas.

There are ample areas around the Visitor Information Center for additional parking. It has been suggested that USAF landing mats be used as surfacing for temporary parking areas.

Bus Transportation

The present standard tour can be considerably shortened and improved in other ways by moving the USAF outdoor missile and rocket exhibit from the south end of the AF Base to the area adjoining the VAB. This would shorten the round trip from 57 to 20 miles, from a circuit of the whole Canaveral complex to a trip from the VIC to Pad A and back. Since the other pads are anti-climax after seeing Pad A, it will make the standard tour less tedious. It will also eliminate the security complications of leading regular conducted tours through a USAF base.

It might then be more economical to operate Tourmobiles rather than standard commuter buses. Because of the suitability and the availability of cost data, this preliminary plan for the Exposition assumes the use of tourmobiles.



U.S. BICENTENNIAL EXPOSITION OF SCIENCE & TECHNOLOGY -- PRELIMINARY WORK SCHEDULE

Bus requirements must be based on capacity for peak loads. We may assume a peak daily volume of 35,000 visitors, over twice the present peak. Requirements and costs may then be computed as follows:

- . A tourmobile has a capacity of 88 passengers; on a peak day it will average 80 passengers per trip.
- . With an average speed of 25 MPH over the 20-mile circuit and an average stop of 3 minutes at 8 points on the circuit, one round trip will take 72 minutes.
- . So in one day one tourmobile can make 7 trips and carry 560 passengers; 62 buses are needed to carry 35,000 passengers in a day.
- . Operating a tourmobile a full day costs \$200, including depreciation; since the fleet will only be operated partially on most days, the average daily cost will be $$160 \times 62 = $9,920$.

Food Service

Meal service should be avoided in the temporary exhibition areas, as they require additional land development and additional maintenance costs for the whole area. They should be concentrated at the Visitor Information Center.

However, ample snack food should be available by machine vending. Since it will not be competing with meal service, the vending service at the temporary exhibit areas may provide an opportunity for innovative, future-looking convenience food vending.

WORKPLAN

The network schedule on the opposite page illustrates the work to be done. This network is not meant to be comprehensive or definitive or to show a critical path; rather it is meant to show how flexibility and coherence can be maintained in a severe time constraint. Flexibility is needed to cope with a response from private exhibitors which may be strong or weak. Coherence is needed to tie together contributions from hundreds of sources into a meaningful message. Flexibility and coherence can be achieved through careful staging, a three-stage process of display script-writing and a two-stage process of construction and installation.

Script-Writing

The term script is used in museum display planning as well as in the theater. The preliminary script-writing can be concatenated by a chain leading from Presidential directives to directives from the National Council for Science & Technology (policy officers of all concerned Federal agencies, staffed by OMB), which would task the Smithsonian to provide a core of scriptwriters and task other agencies to assist. The Council would then involve some private bodies in the effort, particularly the National Academy of Sciences and the National Academy of Engineers. The

NAE, whose leadership includes executives of major manufacturing concerns, would play two important roles. They would give the scriptwriters ideas on what is state-of-art in private industry, and they would make a preliminary canvass of manufacturers to get expressions of interest. The Council and OMB, meanwhile, would determine what contribution Federal agencies can make directly. And the NAS panels would determine the basic character of the future diaramas. All this would be fed into the preliminary script.

Then the sign-up of exhibitors would start in earnest. Key exhibitors would be secured by mid-November, and the basic script could then be written. This would guide layout planning for the core sites. Final script and layout could be held off to mid-March, however, if the exhibit plan is on a flexible, modular pattern, with standardized exhibit spaces.

Core Sites & Add-Ons

The minimum 20 domes should be ordered by mid-September. Once the core exhibitors have been signed by mid-December, however, the Exposition management should be able to judge from the private industry response how much additional space can be filled. At that point it would order a quantity of add-on domes, and order clearing of additional sites, closed and open. The landscaping of the core areas should be done in time for the last publication photos in late April or early May. Thus, only the core exhibits would appear in photos in the publications.

Note that the schedule assumes use of tourmobiles, which must be ordered eight months in advance. The existing bus fleet may be used instead.

European Travel Packagers Convention

A convention of European travel packagers opens in Boston on August 17. Packaging of tours from Europe to the US must be done 10 months in advance. It is important, therefore, that the Exposition be officially announced by that date.

FINANCIAL PLAN

The main concern is a low break-even point. The Exposition should be able to break even with a minimal contribution from existing Federal funds and spending programs, and with a minimal response from the public, from exhibitors and from visitors. Although bus and other capacity must be ready to handle some 3,000,000 visitors, the Exposition should be able to break even with only 1,000,000 visitors during the 100 days. It should also be able to break even if only 200 of the 350 exhibit units in the core areas are leased to private exhibitors.

So we may figure the minimum revenues and the basic costs (development of core areas only) as follows:

Minimum Revenues

Visitor Admission Fees 1,000,000 @ \$2.20 \$2.75 for adults, \$1.35 for children	
Profit on Misc. Sales 1,000,000 @ \$.10 books, food, etc. (at temporary sites only)	
Exhibit Units Leased 200 @ \$2,500	500,000
total	\$2,800,000

Basic Costs -- minimum acreage at temporary sites only

Exposition Management	\$ 400,000
Public Relations & Publications Editing	140,000
Site Preparation & Landscaping 60 acres @ does not include parki	
Fencing & Walkways 50 acres @ wood-chip walkway surfaces	\$ 1,000 50,000
Sanitation, Speakers, Signs 50 acres @	\$ 600 30,000
Dome Flooring & Partitions 20 domes @ wood-chip walkways	\$ 7,000 140,000
Dome Rental 20 domes @	\$16,000 320,000
Site Operation & Maintenance 50 acres @	\$12,000 600,000
Bus Operation 100 days @	\$10,000 1,000,000
total	\$2,800,000

The last three items can be paid during the operation of the Exposition, so only about \$900,000 is required in advance. If the lease on exhibits can be collected in advance, the initial funds needed can be reduced to some \$500,000---excluding costs of more permanent improvements at the Visitor Information Center. All this does not include the cost of the preparation of the exhibits themselves, which must be born by the exhibitors, public and private.

MANAGEMENT deserves a final word. Various options may be considered. The present concessionaire, TWA, might handle the entire operation. Or it might find it useful to subcontract the management of the preparation of the exhibits, including the solicitation of the private exhibits. Or, NASA might find another contractor for the Exposition preparation and even operation. OMB should monitor the effective participation of other Federal agencies.

WASHINGTON

July 11, 1975

MEMORANDUM TO:

RUSS ROURKE

FROM:

JACK MARSH

When do we set up the NASA Bicentennial meeting? Aren't we about ready for a Cabinet meeting with the President?

We are awaiting the completion of Paul O'Neill's option memo (the preparation of which was materially assisted by Pete Crow's paper re Canaveral possibilities). Once Pete's paper is digested and possibly rejected by the President, then a Cabinet-type meeting with the President would be in order.



July 21, 1975

Cape

MEMORANDUM FOR:

JACK MARSH

FROM:

RUSS ROURKE

Jack Stiles is pressing me for our meeting with the entire group. As Paul O'Neill suggests, we should have a quite meeting in the next day or two for a strategy session . . . to include simply you, Ted Marrs, Paul O'Neill and me.

Should we invite Stiled:

Yes				
	-	and the same of	-	-
No				

Obviously the OMB memo literally drives us toward a "small NASA Fair." The practiculities of the situation would appear to be briate the selection of any other affirmative alternatives.

Please advise.

RAR/dl



MEMORANDUM FOR:

JACK MARSH

FROM:

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Please advise.

RAR/dl

WASHINGTON

July 21, 1975

MEMORANDUM FOR:

TED MARRS

FROM:

JACK STILES AND

SUBJECT:

U.S. Bicentennial Exposition of

Science and Technology at

Cape Canaveral

In anticipation of a decision-making meeting in the week of July 21-26 on the Canaveral Bicentennial Science and Technology Exposition, enclosed please find proposal from my office.

Other proposals will be presented and all suggestions and comments welcomed.

Please look this over carefully in advance of our meeting to be called by Mr. Jack Marsh.

Thanks.



Confidential Comment from Pete Crow:

Kulp's estimates of revenues are overstated and costs understated.



Jack --

While this came in without further identification, my assumption is that its Earl Kulp's Capa Canaveral contribution.

Russ

Suggested. INITIAL TASKS & INPUTS

Russ Runker

Primary Responsibilities

JUL 1 8 1975

NASA - mana

- management contracting

This may be subdivided in various ways. TWA should have first option, but parts may go to other contractors. NASA should have a contracting plan ready in 3 weeks, all contracting to be signed by September 15.

- land development...temporary exhibit area and parking

plans ready by 10/10

. environmental impact statement filed by 9/15

- two hangars cleared for temporary storage of exhibits by 12/15

Smith- - scriptwriting

SO-

. 4-6 scriptwriters during Sept.-Nov.

nian

. 2 scriptwriters Dec-March

- procurement of historic exhibits, app. 80 Exhibit Units (EUs)

NSF

- liaison with NAS, NAE etc. on scriptwriting & exhibitor contacts

USAF

- transfer of Missile Exhibit to VAB area

- landing-strip matting for parking areas

- special events and displays

Management Assistance

Smithsonian - expert on exhibition management to NASA)

Nat. Park Service - expert on exhibition management to NASA] 2 manmonths each

Dept. of Commerce - expert on exhibition management to NASA)

HEW - liaison man to AMA, NIH, etc.

Dept. Transport. - expert on traffic management to NASA

Scriptwriting Assistance

all member agencies of National Council for Science & Technology designate 2 experts as liaison to Smithsonian script-writers, 1 expert on history of the relevant technology and 1 expert on current state-of-art

General Coordination

NSF - secretariat to a special panel of the NCST to coordinate the Exposition OMB - expediting, monitoring, funding problems

Exhibit Units display items plus app. \$2-3,000 per EU for installation etc.

NASA 10 EUs in agriculture, ocean frontier, etc.

NSF 20 EUs in a variety of fields

DoT 30 EUs from Transpo 72

ERDA 35 EUs in housing, transportation, industry

HUD 10 EUs

DoC 10 EUs in commerce and industry

HEW 15 EUs in medicine, education

USDA 10 EUs

DoI 5 EUs





Cape Canaveral

THE WHITE HOUSE

WASHINGTON

July 24, 1975

Jack --

The attached communication from Ted provides us with the three-way out opportunity you and I discussed this morning. I have beaten this subject to death with Jack Stiles and Milt Mitler. Obviously, you and I (and I would expect the President) would opt for the \$3 Million up front, break even option.

Russ

WASHINGTON

July 24, 19**7**5 11:00

Message from Dr. Marrs (for Russ)

The option paper that we are going to present will not go into details of how a Canaveral exposition would be set up. We are going to propose three alternatives:

- (1) go with \$10 million limit
- (2) to lay a requirement on NASA for a break even operation, but allowing them \$3 million up-front money to insure prompt development and operation
 - (3) no go.

We will not define the details of different parts of these options. We will leave the management of it in both "go" proposals to NASA, providing them only the top draw limit and asking them to get the maximum amount for their money -- get the White House out of operational aspects and lay the responsibility on the shoulders of NASA. NASA is receptive to this approach.

This is cleared with Stiles. Will have O'Neill comment before circulating.

Dr. Marrs said if you don't understand this, he will understand. Call him.

THE WHITE HOUSE WASHINGTON

July 25, 1975

Jack --

You are correct in your recollection that there were two low-cost options. They are contained in the last Tab B of the memo attached. two options were eliminated in the final Ted Marrs memo which is the principal item presented for discussion.

FYI. I spoke with Paul O'Neill re this item this morning. He advises me that he intends to approach the President either by himself or with Don Rumsfeld in an apparent effort to kill the whole project.

THE WHITE HOUSE WASHINGTON

July 30, 1975

Jack --

FYI, Jack Stiles has suggested that you might want to send a communication to the President asking that he act on the Cape Canaveral memo. I am merely passing this on.



Jack --

FYI, Jack Stiles has suggested that you might want to send a communication to the President asking that he act on the Cape Canaveral memo. I am merely passing this on.

Rass

RAR/dl



WASHINGTON

August 6, 1975

ADMINISTRATIVELY CONFIDENTIAL

MEMORANDUM FOR:

JOHN O. MARSH JR.

THEODORE C. MARRS

FROM:

JAMES E. CONNOR

SUBJECT:

Bicentennial Science and Technology Display at Kennedy Space Center, Cape Canaveral,

Florida

The President has reviewed your memorandum of July 24 on the above subject and made the following decision:

#2 - Approval of a program at the Cape with direction to NASA for a break-even operation but allowing them 3.0 million dollars in up front money to assure effective and immediate project activity.

Please follow-up with appropriate action.

cc: Don Rumsfeld

WASHINGTON
July 24, 1975

ACTION

MEMORANDUM FOR:

THE PRESIDENT

FROM:

THEODORE C. MARRS

THRU:

JOHN O. MARSH, JR.

SUBJECT:

BICENTENNIAL SCIENCE AND TECHNOLOGY DISPLAY AT KENNEDY SPACE CENTER, CAPE CANAVERAL,

FLORIDA

I.

BACKGROUND:

During your session with the New York Times on January 16, 1975, in response to a query on the subject of a Science-Technology Display at Cape Canaveral, you said you thought it was a good idea. As a result, there have been several meetings in regard to the development of a Science and Technology Display at the Kennedy Space Center for 1976. The Center is currently attracting about 1 million visitors annually because of space activity and memorabilia, and has natural advantages which are suitable for an expansion of facilities for this purpose. The Disneyworld fall-out has been appreciable.

A display of this nature would give Bicentennial focus to the present and future in contrast to the general run of 200th anniversary activities which are concentrating on the past two centuries.

Positives for the program are emphasized in Tab A provided by Jack Stiles and reflect an approximate cost of 2.8 million dollars.

The negatives are contained in Tab B provided by Paul O'Neill and show costs running as high as 10 million dollars.

FORDS

Should the decision be to go ahead with the project, it is recommended that NASA director, Jim Fletcher, be given management responsibility. The question of management quality and subordinate decisions such as industry participation are not addressed on the basis that the guidance to NASA will be to assume the responsibility and remove the White House from an operational relationship. NASA would accept this and would appreciate our setting a top dollar. Departments and agencies will be advised to support NASA's efforts.

II.

DECISIONS:

- Approval of the full program and operation under NASA with a cost limitation set at no more than 10.0 million dollars.
- Approval of a program at the Cape with direction to NASA for a break-even operation but allowing them 3.0 million dollars in up front money to assure effective and immediate project activity.
- Disapproval of the plan.

III.

RECOMMENDATIONS:

- Decision at the earliest possible time to insure best possible product.
- 2. Alternative 2 is my preference.



preliminary concept of a

U. S. BICENTENNIAL

EXPOSITION

0 F

SCIENCE

A N D

TECHNOLOGY

to be held at CAPE CANAVERAL, FLORIDA, June-September, 1976

prepared by the office of JOHN R. STILES

The White House

July 10, 1975



THE U.S. BICENTENNIAL EXPOSITION

OF SCIENCE & TECHNOLOGY

BASIC CONSIDERATIONS

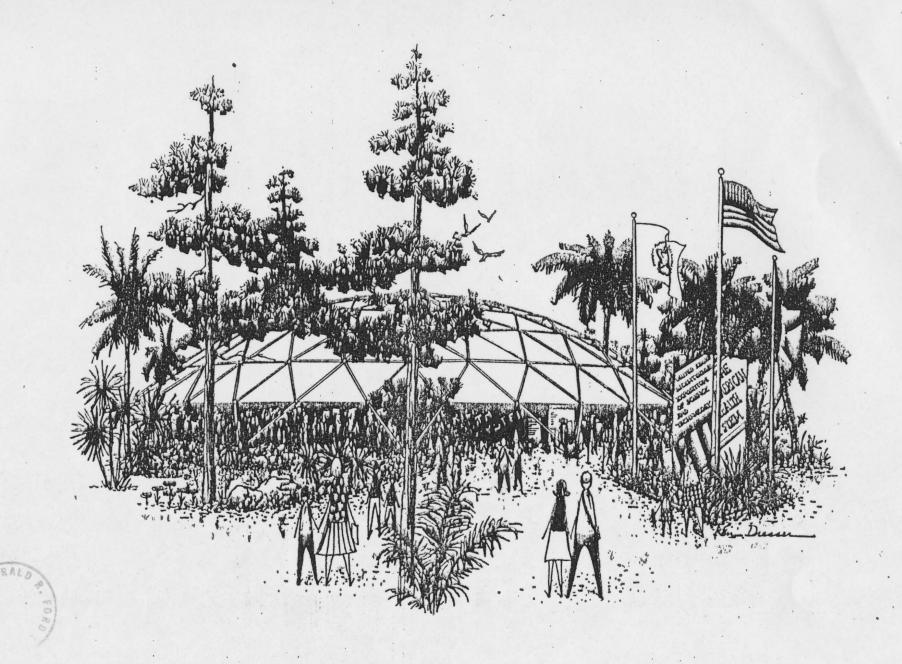
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Canaveral has many natural advantages as a site of an exposition to focus on America's scientific and technological creativity:

- . It is the site of America's most dramatic scientific achievement, the launch-point of the "giant step for mankind."
- . It is visually dramatic, with the Vertical Assembly Building standing in colossal lonely splendor like some eighth wonder of the world.
- . It has ample land available, and finding ample vacant land elsewhere would be most difficult.
 - . It has ample tourist facilities available.
- . It can provide a more southern anchor-point for Bicentennial tours, extending standard package tours southward from the Northeast Corridor and thus bringing more tourist business to the whole Southeast.
- . It can provide a special vision of the future, not the traditional Buck Rogers glass-and-steel vision but a human-scale back-to-nature vision---technology amidst trees and wildlife, American technology facilitating a return to nature.

Such an exposition must work within severe constraints of time and money. Time is very short. General economic circumstances and the budgetary policy of the Administration, as well as the time factor, preclude a request for a special appropriation from the Congress. The job must be done basically with funds from current programs. Some support can be expected from private industry, but in limited amounts, since this is not the moment or the proper locus for a trade fair.

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Sectors & Space Requirements

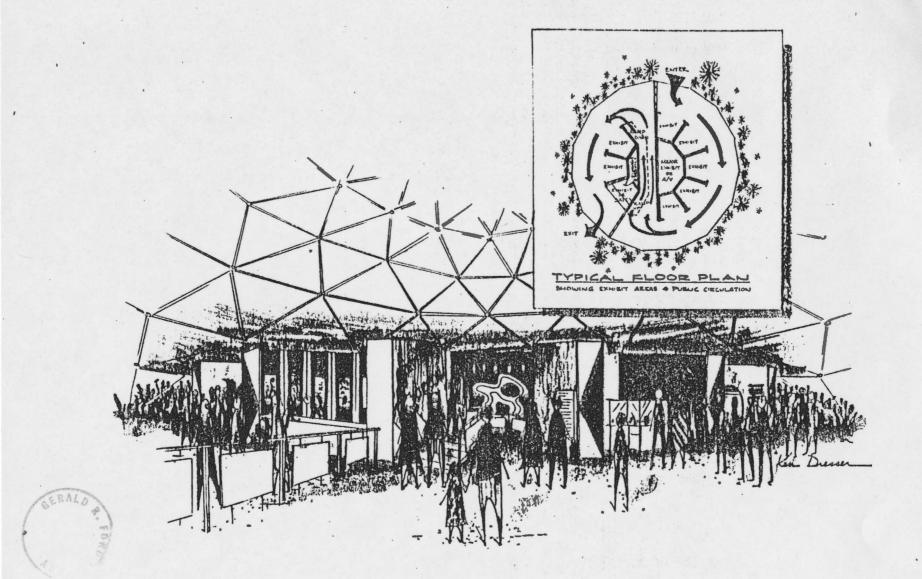
Some sector displays will be all in-doors, others will require some outdoor exhibit space. In-door space will be under geodesic domes of 120' diameter, enclosing about 10,000 sq. ft., subdivided into 10 exhibit units—about one dome per landscaped acre. Outdoor space should be subdivided at about five exhibit units per acre. For preliminary planning purposes, we might calculate minimum and maximum acreage as follows:

sector	Acreage Closed Open	
The American Home	2 5-15	Note:
The American Factory	7-14	- This does not in-
The American Store	1- 5	clude the perma-
The American Farm	2- 3 15-20	nent NASA exhibit
The American Office	1- 3	with additions at
The American Road	2- 4 10-15	the Visitors In-
The American School .	1- 3	formation Center
The American Health System	3- 5	•
The American Ocean Frontier	1- 3	- Energy enters in-
total acres	: 20-40 30-50	- Energy enters in- to several sectors

Time Frames

The Past should be displayed at the entry to each sector, with a few displays of old-fashioned kitchens, workshops, offices, etc.——old artifacts from the Smithsonian and from private sources. The displays should convey some of the evolution of technology in the sector. In between artifact displays should be some pictures of noted American inventors and scientists.

The Present should comprise the bulk of the exhibits, particularly the private exhibits. The emphasis should be on selected items which illustrate the latest state-of-art. Since this is not a museum, they do



4-

not have to show how things work. Since this is not a trade fair, they do not have to show the exhibitor's full line. Scale models may be more useful than actual heavy equipment, in many cases. Delicate equipment should not be displayed; computers should be displayed with actual terminals but only scale-models of the rest of the configurations.

The Future should be displayed by diaramas chosen by competition, through the following procedure:

- . The National Academy of Sciences designates panels for each sector, and possibly subsector.
- . The panel establishes problems or parameters for proposed optimum future solutions. For example, in housing they might suggest a house that can be easily modified by the family itself and cost next to nothing to cool and heat——along with some other features.
- . Private firms and institutions are then invited to submit plans for diaramas illustrating the solution, along with explanations of recent state-of-art developments that make the solution conceivable plus remaining knowledge gaps.
- . The panel then judges the submissions and selects winners on the basis of the soundness and coherence of the explanation and the vividness of the presentation.

Thus, the future will be the visions of private Americans, as evaluated by panels of eminent scientists.

The public should be asked to participate at the Exposition by submitting features which they would like to see in the future.

Levels of Presentation

The Basic Presentation should focus on what the past evolution, the current state-of-art, and the future possibilities mean in the lives of people. Captions should emphasize how long it used to take and now takes to do things or to earn the money to buy things——and what features have made the most difference. The agriculture presentation should show the new miracle cereals alongside the older varieties and emphasize how America has fed the world and enabled the world to feed itself. The basic publication of the Exposition should emphasize these themes.

The Juvenile Presentation should tell stories of major developments in comic-book form. Some of the episodes should be presented on life-size moving panels at queue-up points, to relieve queue-up monotony.

The Technical Presentation should be in the form of a booklet or cassette for each sector, detailing the technical features of the various exhibits. It should be on the level of articles in Science or American Scientist.



VISITORS INFORMATION CENTER

VAB to Background

COMPLEMENTARY EVENTS

Certain coordinated events and productions can carry the message and psychological impact of the Exposition across the nation and abroad.

A Summit Science Colloquium

The National Academy of Sciences might invite the most distinguished scientists in the US, plus some economic historians, to a Bicentennial colloquium at Canaveral. A combination of papers and discussions would focus on:

- . the character and sources of America's technological creativity
- . the current condition of that creativity
- . prospects and needs for future technological creativity

The same or another group might also do a Delphi exercise on probable dates of major breakthroughs in the Third Century.

The colloquium should be held in late January or February, so that the outputs of the conference can be fed into the script and publications of the Exposition.

Publications

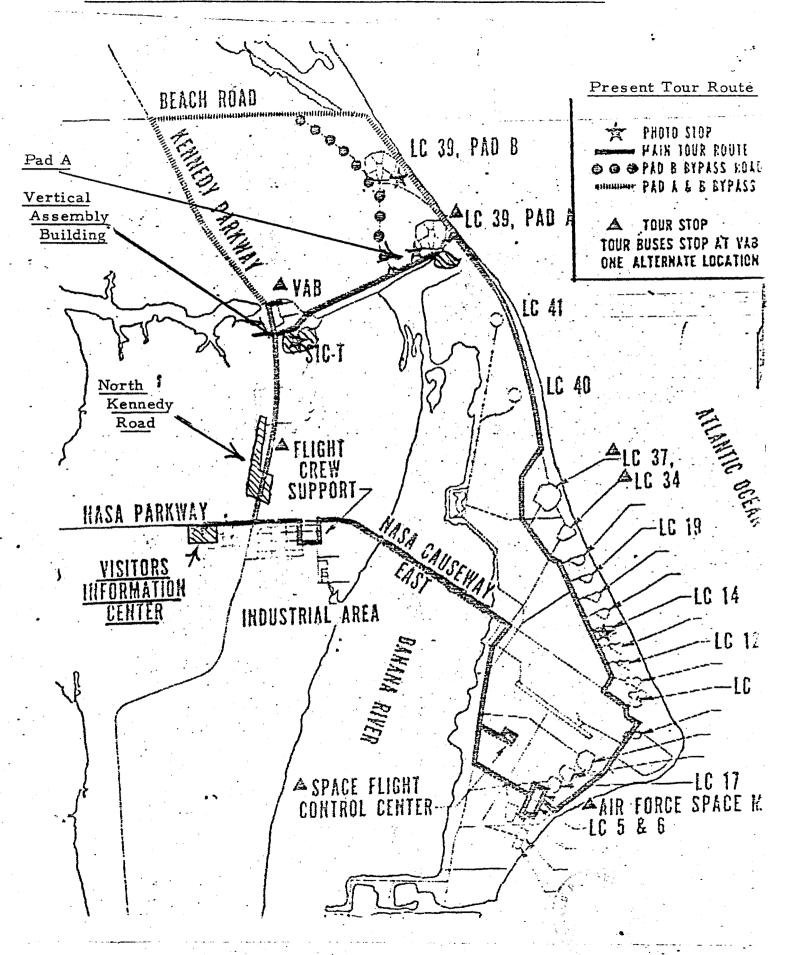
The publications sold at the Exposition should be something more than guidebooks. They should use the Expositon to tell the story of American technology. They should be written in a general form that will be suitable for general distribution across the nation and abroad.

Because of time pressures, either major periodicals or a special publications manager on the contract team should take charge of production. *Time*, *Science*, *American Scientist* and other similar publications would be geared up to do the job in time. In addition, major periodicals might be interested in doing special editions featuring the Exposition. In addition to the periodicals listed above, *National Geographic* might be interested. And the USIA periodicals in various foreign languages would probably bring out special editions on the Exposition.

TV Specials

The Exposition should lend itself naturally to a variety of TV presentations. In addition to a series on Educational TV, one might envision a variety of one-hour specials on commercial networks. Some might tell the general story in a series of three to six specials. Others might feature one particular aspect: The Home of the Future, America Feeds the World, or the Ideas of Visitors on the Third Century.

These would probably run on into the Fall season, thus providing a continuing impact from the Exposition.



LOGISTICS

Sites

North Kennedy Road provides the prime site. A long, narrow wooded ridge just to the west of the road has ample area for most of the exhibits. The site is dramatic; the only structure in sight is the Vertical Assembly Building. There is also some wooded land to the east of the road. All open sites should be in this area.

Opposite the VAB and PAD A are some 15-30 acres that can be used as supplementary sites for closed exhibits. The area across from the VAB is particularly suited for computer terminals, as the VAB has ample computer communication facilities to tie them into CPUs elsewhere. The oceanfront area by Pad A is particularly suited to the Ocean Frontier exhibit. Open exhibits should be avoided in this area, as they would clutter an otherwise spectacularly open seascape.

The Visitor Information Center has some 30 acres available for development, at present under orange grove. The site is not as attractive as the above sites and is more expensive to develop. However, it should be used for additions to the permanent exhibit, and for spill-over from the above sites.

Security & Parking

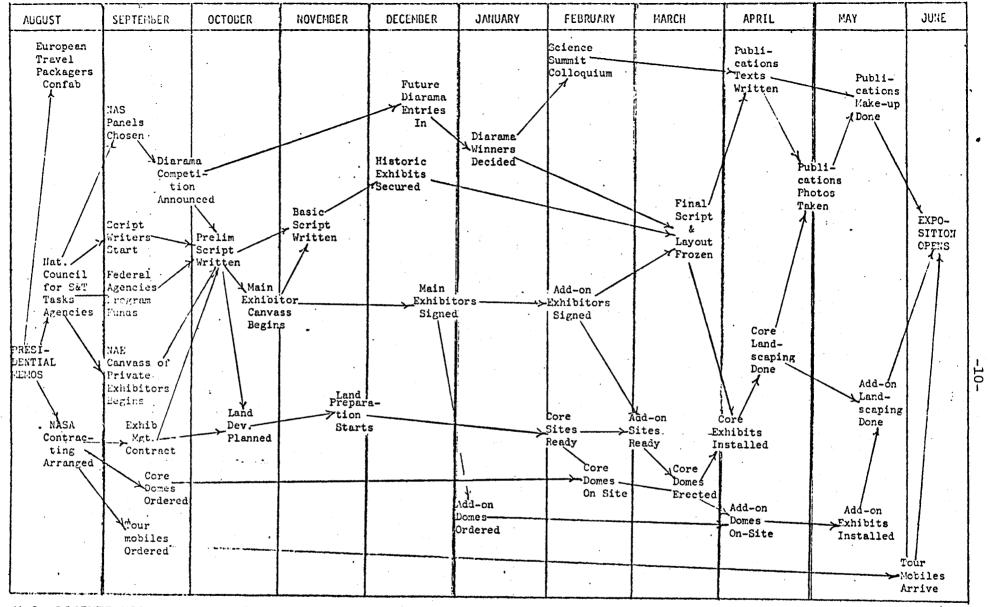
Security considerations require that all visitors stay "outside the fence" unless they are in small conducted groups. The fence starts east of the Visitors' Information Center. So visitors will have to park in that area. Beyond there they must travel in buses. Exhibit areas on North Kennedy Road and opposite the VAB and PAD A should be well fenced in, to prevent unauthorized and unaccompanied visitors from wandering into NASA and USAF work areas.

There are ample areas around the Visitor Information Center for additional parking. It has been suggested that USAF landing mats be used as surfacing for temporary parking areas.

Bus Transportation

The present standard tour can be considerably shortened and improved in other ways by moving the USAF outdoor missile and rocket exhibit from the south end of the AF Base to the area adjoining the VAB. This would shorten the round trip from 57 to 20 miles, from a circuit of the whole Canaveral complex to a trip from the VIC to Pad A and back. Since the other pads are anti-climax after seeing Pad A, it will make the standard tour less tedious. It will also eliminate the security complications of leading regular conducted tours through a USAF base.

It might then be more economical to operate Tourmobiles rather than standard commuter buses. Because of the suitability end the availability of cost data, this preliminary plan for the Exposition assumes the use of tourmobiles.



U.S. BICENTENNIAL EXPOSITION OF SCIENCE & TECHNOLOGY -- PRELIMINARY WORK SCHEDULE

Bus requirements must be based on capacity for peak loads. We may assume a peak daily volume of 35,000 visitors, over twice the present peak. Requirements and costs may then be computed as follows:

- . A tourmobile has a capacity of 88 passengers; on a peak day it will average 80 passengers per trip.
- . With an average speed of 25 MPH over the 20-mile circuit and an average stop of 3 minutes at 8 points on the circuit, one round trip will take 72 minutes.
- . So in one day one tourmobile can make 7 trips and carry 560 passengers; 62 buses are needed to carry 35,000 passengers in a day.
- . Operating a tourmobile a full day costs \$200, including depreciation; since the fleet will only be operated partially on most days, the average daily cost will be $$160 \times 62 = $9,920$.

Food Service

Meal service should be avoided in the temporary exhibition areas, as they require additional land development and additional maintenance costs for the whole area. They should be concentrated at the Visitor Information Center.

However, ample snack food should be available by machine vending. Since it will not be competing with meal service, the vending service at the temporary exhibit areas may provide an opportunity for innovative, future-looking convenience food vending.

WORKPLAN

The network schedule on the opposite page illustrates the work to be done. This network is not meant to be comprehensive or definitive or to show a critical path; rather it is meant to show how flexibility and coherence can be maintained in a severe time constraint. Flexibility is needed to cope with a response from private exhibitors which may be strong or weak. Coherence is needed to tie together contributions from hundreds of sources into a meaningful message. Flexibility and coherence can be achieved through careful staging, a three-stage process of display script-writing and a two-stage process of construction and installation.

Script-Writing

The term script is used in museum display planning as well as in the theater. The preliminary script-writing can be concatenated by a chain leading from Presidential directives to directives from the National Council for Science & Technology (policy officers of all concerned Federal agencies, staffed by OMB), which would task the Smithsonian to provide a core of scriptwriters and task other agencies to assist. The Council would then involve some private bodies in the effort, particularly the National Academy of Sciences and the National Academy of Engineers. The

NAE, whose leadership includes executives of major manufacturing concerns, would play two important roles. They would give the scriptwriters ideas on what is state-of-art in private industry, and they would make a preliminary canvass of manufacturers to get expressions of interest. The Council and OMB, meanwhile, would determine what contribution Federal agencies can make directly. And the NAS panels would determine the basic character of the future diaramas. All this would be fed into the preliminary script.

Then the sign-up of exhibitors would start in earnest. Key exhibitors would be secured by mid-November, and the basic script could then be written. This would guide layout planning for the core sites. Final script and layout could be held off to mid-March, however, if the exhibit plan is on a flexible, modular pattern, with standardized exhibit spaces.

Core Sites & Add-Ons

The minimum 20 domes should be ordered by mid-September. Once the core exhibitors have been signed by mid-December, however, the Exposition management should be able to judge from the private industry response how much additional space can be filled. At that point it would order a quantity of add-on domes, and order clearing of additional sites, closed and open. The landscaping of the core areas should be done in time for the last publication photos in late April or early May. Thus, only the core exhibits would appear in photos in the publications.

Note that the schedule assumes use of tourmobiles, which must be ordered eight months in advance. The existing bus fleet may be used instead.

European Travel Packagers Convention

A convention of European travel packagers opens in Boston on August 17. Packaging of tours from Europe to the US must be done 10 months in advance. It is important, therefore, that the Exposition be officially announced by that date.

FINANCIAL PLAN

The main concern is a low break-even point. The Exposition should be able to break even with a minimal contribution from existing Federal funds and spending programs, and with a minimal response from the public, from exhibitors and from visitors. Although bus and other capacity must be ready to handle some 3,000,000 visitors, the Exposition should be able to break even with only 1,000,000 visitors during the 100 days. It should also be able to break even if only 200 of the 350 exhibit units in the core areas are leased to private exhibitors.

So we may figure the minimum revenues and the basic costs (development of core areas only) as follows:

Minimum Revenues

Visitor Admission Fees 1,000,000 @ \$2.20 \$2.75 for adults, \$1.35 for children	\$2,200,000
Profit on Misc. Sales 1,000,000 & \$.10 books, food, etc. (at temporary sites only)	100,000
Exhibit Units Leased 200 9 \$2,500	500,000
t o t a l	\$2,800,000

Basic Costs -- minimum acreage at temporary sites only

Exposition Management	\$	400,000
Public Relations & Publications Editing		140,000
Site Preparation & Landscaping 60 acres @ \$ 2,000 does not include parking area		120,000
Fencing & Walkways 50 acres @ \$ 1,000 wood-chip walkway surfaces	ļ	50,000
Sanitation, Speakers, Signs 50 acres € \$ 600)	30,000
Dome Flooring & Partitions 20 domes @ \$ 7,000 wood-chip walkways)	140,000
Dome Rental 20 domes @ \$16,000)	320,000
Site Operation & Maintenance 50 acres @ \$12,000	i	600,000
Bus Operation 100 days @ \$10,000		,000,000
total	\$2	,800,000

The last three items can be paid during the operation of the Exposition, so only about \$900,000 is required in advance. If the lease on exhibits can be collected in advance, the initial funds needed can be reduced to some \$500,000--excluding costs of more permanent improvements at the Visitor Information Center. All this does not include the cost of the preparation of the exhibits themselves, which must be born by the exhibitors, public and private.

MANAGEMENT deserves a final word. Various options may be considered. The present concessionaire, TWA, might handle the entire operation. Or it might find it useful to subcontract the management of the preparation of the exhibits, including the solicitation of the private exhibits. Or, NASA might find another contractor for the Exposition preparation and even operation. OMB should monitor the effective participation of other Federal agencies.

Primary Responsibilities

MASA - management contracting

This may be subdivided in various ways. TWA should have first option, but parts may go to other contractors. NASA should have a contracting plan ready in 3 weeks, all contracting to be signed by September 15.

- land development...temporary exhibit area and parking

.: plans ready by 10/10

. environmental impact statement filed by 9/15

- two hangars cleared for temporary storage of exhibits by 12/15

Smith- - scriptwriting

so- . 4-6 scriptwriters during Sept.-Nov.

nian . . 2 scriptwriters Dec-March

- procurement of historic exhibits, app. 80 Exhibit Units (EUs)

NSF. - liaison with NAS, NAE etc. on scriptwriting & exhibitor contacts

USAF - transfer of Missile Exhibit to VAB area

- landing-strip matting for parking areas

special events and displays

Management Assistance

Smithsonian - expert on exhibition management to NASA)

Nat. Park Service - expert on exhibition management to NASA] 2 manmonths each

Dept. of Commerce - expert on exhibition management to NASA)

HEW - liaison man to AMA, NIH, etc.

Dept. Transport. - expert on traffic management to NASA

Scriptwriting Assistance

all member agencies of National Council for Science & Technology designate 2 experts as liaison to Smithsonian script-writers, 1 expert on history of the relevant technology and 1 expert on current state-of-art

General Coordination

NSF - secretariat to a special panel of the NCST to coordinate the Exposition ONS - expediting, monitoring, funding problems

Exhibit Units display items plus app. \$2-3,000 per EU for installation etc.

NASA 10 EUs in agriculture, ocean frontier, etc.

IISF 20 EUs in a variety of fields

DoT 30 EUs from Transpo 72

ERDA 35 EUs in housing, transportation, industry

HUD 10 EUs

DoC 10 EUs in commerce and industry

HEW 15 EUs in medicine, education

USDA 10 EUs

DoI 5 EUs



EXECUTIVE OFFICE OF THE PRESIDENT OFFICE OF MANAGEMENT AND BUDGET

WASHINGTON, D.C. 20503

NOT SEEN BY J.T. LYNN

MEMORANDUM FOR THE PRESIDENT

JAMES T. LYNN FROM:

Bicentennial Project -- Science and Technology Fair at SUBJECT:

the Kennedy Space Center, Cape Canaveral, Florida

This memorandum presents an analysis of and my recommendations with respect to a proposal to conduct a Science and Technology Fair at the Kennedy Space Center, Cape Canaveral, Florida, as part of the Bicentennial celebration.

Background

- We understand John Stiles has recommended that a large Science and Technology Fair be held at Cape Canaveral as part of the Bicentennial celebration. The fair's themes would focus on past American technological achievements, our Nation's current capabilities, and where our technology is projected to go in the next 100 years. Thus the fair would emphasize progress since the science-oriented 1876 Centennial Exhibition and aim to "revitalize" Americans' sense of achievement. Associated with the fair would be an international convocation of "futurists" to be sponsored by the National Academy of Sciences and the National Science Foundation.
- The Cape Canaveral installation was apparently proposed as the location for the fair because it is a symbol of the latest development in our technological capabilities -the age of space flight.
- The Kennedy Space Center has approximately fifteen sizeable buildings (including the large Vertical Assembly Building) that are used to assemble and check-out rockets and satellites before they are launched. However, these buildings could not be utilized to house fair exhibits because they are special-purpose buildings (e.g. clean rooms), and because such use would encreach on NASA's program activities and cause security problems.

In addition to these buildings, the Kennedy Space Center has a Visitor's Information Center which is operated on a concessionaire contract with Trans-World Airlines. The information center has displays of rocket and satellite development, movies about space flight, and exhibits and pamphlets highlighting significant scientific discoveries in space. In addition, bus tours are conducted around the Kennedy Space Complex. About 1 million persons visit the information center each year and gross profits are estimated at \$4 million-adults pay \$2.50 and children (ages 12-18) pay \$1.25 to see the displays and tour the complex.

Analysis and Discussion of Alternatives

- Alternative 1--Do nothing more at Cape Canaveral
- Enough is already planned to focus attention on science and technology during the Bicentennial at a number of locations around the country.
- For example, the Smithsonian's Air and Space Museum, on the Mall, will open July 4, 1976 and will share exhibits on technological achievement with the Smithsonian's History and Technology Museum. In addition, the Chicago Museum of Science and Industry is sponsoring a major Bicentennial show (with Federal support) entitled "America's Inventive Genius" and will emphasize themes similar to the proposed fair at Cape Canaveral.
- Alternative 2--NASA conduct a small fair (e.g. add new exhibits) at Cape Canaveral
- Ounder Alternative 2, NASA would provide for modest increases in the number of exhibits at its Visitor's Information Center. The additional exhibits would be housed in temporary structures and would include mockups of the space shuttle, more movies, and replicas of satellites and rockets. The focus of the fair would only be on aerospace technology, and would be similar to the Air and Space Museum.
- NASA would not have to reprogram FY 1976 budget funds to cover the increases since the additional money (NASA) estimates about \$600 K) can be obtained from the concessionaire contract which NASA has with TWA.
- NASA would prefer this alternative if a fair of any sort is to be conducted at Cape Canaveral. This modest fair appears achievable under time and funding constraints, and would not create security problems for NASA nor interfere with NASA's work programs.

- Alternative 3--NASA and the Energy Research and Development
 Administration (ERDA) conduct a modest joint fair at Cape
 Canaveral
- o The size of MASA's contribution would be the same as in Alternative 2 above. In addition, ERDA would make a similar contribution. The fair would emphasize both aerospace technology and energy technology.
- ERDA has not been approached with regard to its participation. It may, however, be unwise to press ERDA to be involved because fair activities could well interfere with the important work of that agency and its top management in pressing forward with critical programs in energy R&D.
- Alternative 4--All Federal agencies with technology programs make a major contribution to an ambitious fair
- This alternative would be a much more ambitious undertaking, requiring a management team, research, time, and agreement on thematic presentations. It would involve new support facilities, sewers, parking lots, and other accommodations, which NASA believes could require as much as \$7-10 million in new funding.
- Federal agencies may not respond aggressively on the assumption that no supplemental appropriations would be requested from the Congress and agencies would have to absorb the costs.
- An approach where the fair would "pay its own way" would be extremely difficult because considerably more tourists would have to be attracted above the current rate in order to obtain revenues to cover the additional investment.
- There is also the question of whether Cape Canaveral is the appropriate location to make such a large Federal investment. Cape Canaveral is not located near a large population center, and currently has only 1 million tourists annually. In contrast, the Smithsonian's History and Technology Museum has as many as 7 million tourists annually. The present Air and Space Museum has an attendance of 3.3 million.
- Alternative 5--A national fair where Government and industry would participate
- This would be the most ambitious undertaking and would be similar to industry's participation in a World's Fair. Although a realistic cost estimate has not been developed, this approach could be in excess of that for Alternative 4. Industry would either share the expenses or rent space from the Government.

- After discussions with exhibition experts, industry representatives, project personnel for "Transpo 72," Bicentennial Administrator, and representatives from a number of interested Government agencies, NASA finds a consensus that a large fair along the lines of Alternatives 4 and 4 would not be feasible for the following reasons:
 - There is insufficient time to organize, to solicit industry, and to build the necessary facilities.
 - Industry views Cape Canaveral as an undesirable location and would prefer a location near a population center because of better transportation and living accommodations, and because the location (fifty miles from near by Disney World) would appeal to the vacationing public rather than to potential customers of technology.

Recommendation

- If a fair is desirable at Cape Canaveral as part of the Bicentennial celebration, I would recommend a modest effort by NASA. This appears to be the most that can be expected in view of time and funding constraints. Furthermore, considerable emphasis is already planned to focus on technology during the Bicentennial.
- Past experience has shown that considerable time is required to plan adequately and coordinate successful large expositions. I don't believe there is enough time available to prepare for a technology fair involving a number of Government agencies or a combination of Government and industry. Moreover, Cape Canaveral does not appear to be a good location for a large fair.

Decision

Alternative	1Do nothing more at Cape Canaveral	
Alternative	2NASA conduct a small fair .	
Alternative	3NASA and ERDA conduct a small fair	
Alternative	4Federal agencies with technology programs contribute to an ambitious fair	
Alternative	5A national fair with Government and industry	