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## **Introduction**

The California Air and Space Center is envisioned as the most exciting place to experience the thrill of space exploration on the planet. To be housed at the NASA Research Park in historic Hangar 1 — the world’s largest intact dirigible hangar of the modern era and perhaps the largest free-standing structure in western North America — it is imagined as a place where researchers, students, teachers and the public can immerse themselves in the science and wonder of space — where they can learn about the history of human adventures in space, understand the important questions being asked of our place in the universe and explore the possibilities of the future.

The development of the California Air and Space Center has taken a number of twists and turns over the course of its history. Originally conceived of in the late 1960s or early 1970s, it was finally formalized with its incorporation — the California Air and Space Educational Foundation — in 1989. Since then, the project has waxed and waned as NASA Ames Research Center came to terms with its own evolution and purpose after taking custody of Moffett Field in the mid 1990s.

Recently, all of the necessary elements have come into alignment to accelerate planning for this project. In order to identify and address the issues involved in the creation of a new science center and attraction, NASA and the founding CASCEF Board engaged the planning team of LORD Cultural Resources Planning & Management, Inc., and Oppenheim | Lewis to conduct an Economic Feasibility Analysis.

The purpose of this analysis is to produce a planning document that will provide an understanding of relevant economic opportunities and constraints, to test and refine content and operational approaches and to create a reference document to illustrate the project for interested parties.

## Contextual and Market Analysis

*Key demographic indicators point to a promising niche for a major space center on the West Coast and specifically in Silicon Valley.* These attributes include a large, well-educated and affluent marketplace that values science education and is already predisposed to visiting science-related attractions.

From a competitive standpoint, there are a number of science attractions in the Bay Area — including several with astronomy or space themes — that are well established. Given this context, *if CASC aspires to be a major attraction with high levels of attendance (e.g., 1,000,000 or more), it must carefully define its niche and provide an exceptional “product,” as well as gain recognition on a national/international level.*

*The CASC will be positioned to take on a leadership role in promoting the visibility of both NASA and Silicon Valley to residential, school and tourist markets.* The CASC can help NASA generate good will in the community, develop contacts for NASA’s community education programs, and provide both a test site and network for curricular development. These aspects of the CASC/NASA relationship can help to create a broad residential market base with strong repeat visitation potential. Children, students, families and adults primarily in Santa Clara County/Silicon Valley, and secondarily throughout the Bay Area, will be served by CASC.

*As an exciting historic feature that is physically visible throughout the Valley, CASC can also be influential in attracting the public —including tourists —to Silicon Valley by providing an anchor and icon to the Valley’s sense of place.* Tourist markets have been extremely difficult for Silicon Valley museums to penetrate, as business travelers and conventioners tend to stay close to their hotels and convention centers and leisure travelers do not frequently venture to Silicon Valley (except for an occasional special event). *Through convenient public access to Moffett Field and a unique visitor experience, the CASC may succeed in capturing a share of the tourist market and making an important contribution to Silicon Valley’s tourism potential where other institutions have met with limited success.*

Different elements of proposed concepts were tested. *The concept that appears not only to be the most enthusiastically endorsed by community stakeholders, but also by peer and neighboring institutions for reasons of complementarity and niche differentiation, is one that focuses on space (as opposed to aviation history) and the future of space exploration.* The history-making fields of astrobiology and the work of NASA’s Life Sciences Division are key interpretive themes that could firmly establish the uniqueness of the Center. *The consultants also recommend that the political/locational framework be shifted from “California” to “international,” requiring a name change and identity positioning.*

## Visitor Experience and Program Elements

*The visitor experience is envisioned as dramatic, compelling and engaging.* Facility programming should take advantage of, yet not diminish, the vast space available in the Hangar — an experience and “draw” in itself. Capitalizing on the physical structure means incorporating the existing mezzanines and designing exhibits for suspension in the vertical height. However, ***CASC cannot depend on the interest in or physical drawing power of the Hangar alone — it must offer a compelling program that builds its own audience.*** The core experience for visitors are the main exhibit areas on the Hangar floor and mezzanines. Each primary exhibit area will focus on one of four interconnecting themes:

***Where others have gone before:*** Orienting the visitor to the subject of exploration and preparing them for the different experiences to follow.

- Introduction/overview of the history of human exploration, particularly of space
- Humanity’s drive for discovery and search for life (both on our planet and beyond)
- History of the Hangar, Moffett Field, NASA Ames
- ***WOW! element: Introductory experience (ride, immersion theater).***

***Our World, Other Worlds:*** Introducing the visitor to planetary science, the discovery and exploration of planets orbiting both our own star and others.

- Planetary science
- The search for new planets and how it is achieved
- What we know about other worlds
- What makes the prospect of life possible or impossible on those worlds
- ***WOW! element: Simulator experience “Destination: Mars”***

***Life: Familiar and Fantastic:*** Making the link between planetary science and how life emerges and evolves on planets — including our own.

- Understanding life as we know it — what we are looking for elsewhere
- Life connections — how it is linked on Earth, to other “star stuff”
- What we know — how it translates to what we can imagine
- ***WOW! element: Extreme Zoo — life in extreme environments on Earth (contemporary and extinct)***

***Finding Our Place in the Universe:*** Understanding how credible scientific discoveries are made and results tested in the context of space exploration.

- What distinguishes science from pseudoscience (scientific method, critical thinking skills, etc.)
- How can we know about conditions on worlds trillions of miles distant
- Role of imagination in science and science fiction
- Popular culture and how it perpetuates misinformation
- Why is it important to know if Earth and its life are special
- ***WOW! element: Quiz show-type interactive/theater experience*** (a “show” experience similar to those seen at Sea World and Disney World).

Prospective program elements for further development that reflect on the identified themes are:

- **Special Events** such as the Air/Space Show, trade shows, conventions, corporate events, fundraisers and other large-scale programs to utilize extensive **Rental Facilities** with appropriate support areas. For CASC, the advantage is that the Hangar provides not only a unique venue, but also a large-scale space unavailable elsewhere.
- **Theater Space**, whether large-volume alone or large format (IMAX or some other format) has yet to be determined. There are many options with respect to the theater component of the program; it is envisioned here as either a stand-alone experience and/or integral to the overall attraction mix (featuring a combination ticket option with admission to the exhibits).
- **Simulators and rides** appeal to today's visitors' heightened expectation of sensory input and will help CASC stand out as a destination "worth the trip."
- **Changing Exhibits** that take advantage of Hangar 1's volume/height, provide an entertainment element, and draw on collaborations with NASA Ames.
- **Space Camp** and other themed summer and holiday camps for students. The "behind the scenes," "train like an astronaut" opportunities intrigue visitors.
- **Restaurant/Café** and adjoining eating areas offering a breadth of types of quality foods/snacks, drinks and price range that is determined by audience.
- **Themed retail** experiences, so the visitor can purchase a souvenir or space-related materials.
- Leadership in NASA educational programs such as **NASA Quest**, **Ames Aerospace Encounter** and **JASON**
- Lead role in developing/implementing **the Teacher Institute** (under the umbrella of the CASEF)
- **Other programming** that broadens the appeal of the CASC beyond traditional audiences.

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## Operations and Marketing Strategies

Operations and marketing are intrinsically linked and the following recommendations will contribute to CASC's positioning as a major Bay Area, national and international attraction. Certain assumptions had to be made in order to set operating parameters and marketing strategies for CASC; however these should be considered flexible, allowing for an appropriate "fit" for CASC both as a stand-alone project and a part of the evolving NASA Research Park.

**Operating Schedule** – A twelve month, seven day a week operating schedule is typical of many major air and space/science centers; since CASC is to combine museum aspects with urban entertainment center elements, evening hours are envisioned to be more extensive. Thus CASC's operating schedule would be: **Daylight savings time (April-October): Daily 10 a.m. to 10 p.m. (84 hrs/wk)** and **Standard time (November-March): Daily 10 a.m. to 7 p.m. (63 hrs/wk).**

**Admission Fees and Related Strategies** – In order to be perceived as welcoming to all visitors, it is essential that CASC aggressively seek external funding and subsidies to cover costs of admission for schools and other groups that might not otherwise be able to afford a visit. We recommend the following fee structure for CASC in 2002 constant dollars:

Visitor Category	Exhibits Alone	Theater/ride alone	Combination Ticket
Adult (13-64)	\$10.50	\$8.50	\$17.00
Senior (65+)	\$9.50	\$7.50	\$15.00
Child (3-12)	\$8.50	\$6.50	\$14.00
School Group (per person)	\$5.00	\$5.50	\$8.50
Non-School Group (per person)	\$7.50	\$6.50	\$13.00
Members	\$0.00	\$5.00	N/A

**Operating Expenses – Occupancy costs** including building repairs/maintenance, utilities, security and insurance for a historic, 350,000+ square foot building will likely **approximate \$6/sf of building space** in the opening year of operation. The usual range for museum facilities is between \$4 and \$6.50 and varies by several environmental/building conditions and the use of energy saving systems and materials.

**A series of operation-related fees** — Institutional Shared Pool (common area maintenance cost or tax), Tenant’s Association and Transportation Demand Management — **also will have significant impact on operating expense**. In a worst-case scenario CASC could incur a total of fees that on a per gross square foot basis would be cost prohibitive for any project of it’s scale and complexity. **CASC will need to negotiate with NASA to determine what percentage of Hangar 1’s space is subject to these fees or if there are alternate means of figuring these fees** (e.g., cost per full-time equivalent employees or some other basis).

**Access, Parking and Transportation** – Accessibility is a critical factor from the perspectives of both facility planning and attracting visitors. We recommend that CASC heavily market the advantages of a highly visible, “park” location, accessible by public and private transportation, with ample parking for cars and buses. **Parking in Phase 1 will be free and we strongly recommend that parking remain free for CASC visitors.**

**Target Markets and Strategies** – The resident market — primarily Santa Clara County/Silicon Valley, secondarily the entire Bay Area — will be CASC’s key audience base and should be the focus of resources in CASC’s early years in order to develop a support base. There is also some thought that CASC can be a “public face” for NASA, helping to demystify and promote it to the local community.

The tourist market has been very difficult for Silicon Valley museums to penetrate, and will require more time for developing appropriate marketing strategies. Collaboration, networking and partnerships with local Convention and Visitors Bureaus, the hospitality industry, other cultural institutions, and Research Park partners to target residents, school groups and tourists will be critical to CASC's success. *An events driven strategy (that focuses on residents) will effectively complement a destination marketing strategy (focusing on tourists) for CASC and the Research Park.* CASC's general visitor experience should stimulate visits that average 3-4 hours; with careful planning CASC can maximize its daily revenue generation.

CASC offers a unique, intimate alternative to existing trade show, special event, and rental venues that is ideal for shorter duration engagements. *We recommend that CASC aggressively promote its facility — approximately 100,000 square feet of flexible use space — for varied kinds of rentals.*

*Brand/Image – It will be important for CASC to promote itself as a unique, exciting, and extraordinary place to visit.* Through the relationship of the CASC to NASA Ames research as well as its location in Silicon Valley, CASC exhibits and programs will be inspired by the most current science and technology research. *The unique position of being on-site in an active, Federally-supported laboratory will allow CASC to deliver an unparalleled experience to Bay Area residents and visitors that appeals to human curiosity about space, planets, and other life forms. We recommend that an award-winning professional service be contracted to design a logo, identify a name and develop a memorable byline that captures CASC's personality and vision.* It is also recommended that marketing materials be tailored as much as possible to their target audiences and geographies in order to be highly effective.

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## Staffing Requirements

The suggested CASC staff structure presents six major Divisions — Executive, Facilities, Public Programs & Visitor Services, Education, External Relations, and Business Development. Due to the size of the CASC facility and the extent of its envisioned visitor experience and programs, we anticipate a total staff complement of approximately 140 Full Time Equivalent positions. In a hierarchical structure, the *Executive Division* would oversee the five other areas:

- *Public Programs & Visitor Services* focuses on the experience of the visitor. Exhibits, collections management, public and some school programs (e.g., tours, shows, activities, classes, lectures, etc.), admissions/information, and volunteer management are the purview of the Public Programs & Visitor Services Division. A NASA Visitor Center in Hangar 1 would provide a direct source for visitors to get information about NASA.

- The breadth of CASC offerings and its relationship with NASA, as well as potential collaborations, encourage the creation of an ***Education Division***, primarily serving school groups and teachers, including association with the Teacher’s Institute. As a center advocating the importance of future scientific discoveries to humanity, math and science education will be fundamental to educational programs.
- The ***External Relations Division*** coordinates special events, fundraising and marketing that involve facilities or organizations outside CASC and/or the community.
- The Museum Store(s), Restaurant/Café, Rentals and Rides/simulators — all business ventures for CASC — would be managed and coordinated by the ***Business Development Division***. At this time, the Restaurant/Café and Rides are considered to be concessions. The Museum Store is an “in house” venture, but to be determined is whether or not NASA merchandise will be sold exclusively through a NASA Exchange or another means.
- The ***Facilities Division*** is responsible for the operation, maintenance and safety/security of the building and its surrounding facilities (e.g., parking). The Building/Facilities Manager should be CASC staff, but positions such as Maintenance, Custodial and Security could be met through contracted services, secured “in house” or provided by NASA.

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## Facility Requirements

The space requirements for CASC form the basis for capital cost projections, contribute to projections of attendance levels and reflect how the facility will support the programs offered by CASC. Several key underlying principles guide the space requirements:

***It is assumed that the CASC program will be housed in the spectacular Hangar 1 facility located in NASA Research Park.*** Hangar 1 is itself a remarkably iconic artifact that will contribute substantially to the appeal of the Center and to the visitor experience. ***Given the enormous volume of space inside Hangar 1, it is not necessary to restrict the Center to one (ground floor) level. The disposition of the spaces within the Hangar will be such that the grandeur of its interior is preserved as part of the visitor experience.***

The total available footprint of Hangar 1 is approximately 350,000 square feet. The total space requirement of CASC’s preliminary program is approximately 500,000 sf; a system of mezzanines is assumed to accommodate the total program requirements. In fact, given the nature of the proposed large artifacts to be displayed, it may be advantageous to employ mezzanine levels to provide a variety of vantage points to large-scale exhibition elements. Mezzanines will also preserve much of the existing ground floor level as “clearable” space, suitable for either special events/ tradeshow or mobile exhibitions.

*The CASC will be a non-collecting institution. Thus it will not require the extensive collection storage and support facilities typically found in “typical” collecting institutions.* This consideration will “skew” space allocation ratios toward publicly accessible areas.

*There is a substantial commitment (100,000 sf) to “open” floor space within the Hangar to allow for large-scale trade shows, events and other rental functions.*

*There will be two public entrances to the CASC — one of the two lobbies is assumed to be the **main entrance**, with the second entrance provided so that it is possible to enter either side of the Hangar without circulating around the exterior. Total lobby area is estimated at 10,000 square feet. It is assumed that the NASA Visitor Center is included within the allocation made for the Lobby space.*

Three levels of food service are assumed at CASC: *a full service, “upscale” restaurant as a destination (including alcohol sales); a more casual, family oriented café and food stations or kiosks in various locations for a combined total of 7,000 square feet.*

*Retail space is provided for in the preliminary space plan — a total of 8,000 square feet is allocated to retail functions. There may be more than one retail area, although the staffing allocation would support a maximum of two separate areas. Volunteers may provide additional staffing support if more than two retail areas are contemplated.*

*Commercial office space of 75,000 sf on the mezzanine level is included in these initial projections as an option for further development and costing.*

*Staff and work areas (including mechanical space and storage) are provided at 75,000 square feet; for current purposes, the staff size is assumed at 140 people.*

*The public exhibition areas are estimated at 125,000 square feet, allocated equally to each of the four thematic areas at this stage of planning. Dedicated **education space, including classrooms and the Resource Center** (and intended to accommodate space-themed educational programs such as Space Camp), is estimated at 15,000 square feet.*

*CASC has the remarkable opportunity to develop one of the most highly visible properties on the West Coast. Hangar 1 is a structure of such enormous volume and distinctive architecture that it would be prohibitively expensive to build today or impossible to meet code. Perhaps the most critical issues for the project are those of the deferred maintenance (a high priority with respect to the Hangar’s historical importance), code upgrades and hazardous materials abatement. However, because the structure is existing and historic, some of the issues can be “grandfathered” into acceptance. The cost of developing this facility will have to include correction of the code and health-related issues. Use of the Hangar — for events, activities, and programs — before it is redeveloped will be substantially limited unless some waiver of code can be obtained. **The ultimate challenge will be funding the development of this project — but successful efforts will create an experience unlike any other.***

## Projections

### Development Costs

The capital costs associated with the development of this enormous facility are extensive and subject to further refinement as planning progresses. A summary of the facility development costs are presented below:

#### *Project Construction Costs*

Renovation and Repairs to Hangar	\$35,000,000
New Construction	\$105,000,000
Exhibits	\$100,000,000
<b><i>Subtotal</i></b>	<b><i>\$240,000,000</i></b>

Construction Contingency	10.0%	\$24,000,000
Escalation	12.0%	<u>\$31,680,000</u>

***Total Project Hard Costs*** ***\$295,680,000***

Soft Costs (including fees, mitigation, fundraising, etc.)	\$71,770,000
Contingency & Escalation for Soft Cost	12.0% <u>\$8,613,000</u>

***Total Project Soft Costs*** ***\$80,383,000***

***TOTAL PROJECT COSTS*** ***\$376,063,000***

### Five-Year Attendance Projections

A variety of methodologies are used to determine attendance projections — penetration rates, visitors per square foot, comparisons of regional attractions and with other national air and space/science and technology centers. We have taken the approach of providing both a “best case” and a “worst case” scenario for CASC attendance and operating projections. *Given the analyses conducted, combined with the consultants’ judgment and experience, a stabilized (Year 5) attendance in the range of 1,400,000 visitors seems appropriate for the Project in the Best Case Scenario. In the Worst Case Scenario, we project attendance levels 25% less, or a stabilized level of 1,050,000 in Year 5.* Taking into account that peak visitation the year a new museum opens is generally followed by a 10%-20% decline, and then by partial recovery within the first five-year cycle, we estimate that attendance levels will be as follows:

<b>Best Case</b>	<b>Worst Case</b>
<b>Year 1: 1,500,000</b>	<b>Year 1: 1,125,000</b>
<b>Year 3: 1,275,000</b>	<b>Year 3: 956,250</b>
<b>Year 5: 1,400,000</b>	<b>Year 5: 1,050,000</b>

## Operating Projections

The projections follow a logical progression from the study’s contextual, market and situation analyses, discussion of key opportunities and issues, and the recommendations, space/facility plan and assumptions that followed. As for attendance, we have developed both “best” and “worst” case scenarios. The analyses concluded for the CASC’s first five years of operations indicate the following revenue and expense projections as a “best case\*” scenario:

Category	Year 1	Year 3	Year 5	Year 1 %	Year 3 %	Year 5 %
<b>Annual Attendance</b>	<b>1,500,000</b>	<b>1,275,000</b>	<b>1,400,000</b>			
<b>Earned Revenue</b>						
Admissions	\$14,560,313	\$11,575,406	\$12,710,250	49.1%	46.4%	46.9%
Other Self-Generated	\$15,109,562	\$13,389,969	\$14,401,723	50.9%	53.6%	53.1%
<b>Total Earned Revenue</b>	<b>\$29,669,875</b>	<b>\$24,965,375</b>	<b>\$27,111,973</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>
<b>Operating Expense</b>						
Salaries, Wages, Benefits	\$8,419,930	\$8,504,340	\$8,589,596	34.8%	34.0%	33.6%
Occupancy/Operating Fees	\$5,000,000	\$5,106,050	\$5,216,384	20.6%	20.4%	20.4%
Exhibits/Programs/Events	\$5,465,000	\$5,965,000	\$5,965,000	22.6%	23.9%	23.3%
Other Operating Expenses	\$5,335,483	\$5,420,834	\$5,790,276	22.0%	21.7%	22.7%
<b>Total Operating Expense (before debt service)</b>	<b>\$24,220,413</b>	<b>\$24,996,224</b>	<b>\$25,561,256</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>
<b>Remaining Amount Required from External Sources to Break Even (before debt service)</b>	<b>\$5,449,462 surplus</b>	<b>(\$30,849)</b>	<b>\$1,550,717 surplus</b>			
<b>Debt Service Cost</b>	<b>\$7,100,000</b>	<b>\$7,100,000</b>	<b>\$7,100,000</b>			
<b>Operating expense (incl. debt service)</b>	<b>\$31,320,413</b>	<b>\$32,096,224</b>	<b>\$32,661,256</b>			
<b>Remaining Amount Required from External Sources to Break Even (after debt service)</b>	<b>(\$1,650,538)</b>	<b>(\$7,130,849)</b>	<b>(\$5,549,283)</b>			

\* The former includes our estimates of maximum attendance and earned revenue projections; the latter presents lower attendance and earned revenue estimates — or, conversely, higher operating expenses. The two scenarios represent two possible extremes, but these should not be regarded as inflexible. CASC’s actual operating performance may extend beyond the upper and lower bounds outlined in the “best” and “worst” cases.

*The difference between projected operating expenses and earned revenues represents the amount that the CASC will need to raise externally to break even.* Major sources of external funding include foundations, corporations, individual contributions, federal, state and local government agencies and endowment interest. We have assumed that up to one-third of the capital development costs (about \$120 Million) will be raised through tax-exempt bond financing and the annual outlay of debt-service is projected accordingly. The effect of debt service can be clearly seen. The “worst case” scenario is presented as follows:

Category	Year 1	Year 3	Year 5	Year 1 %	Year 3 %	Year 5 %
<b>Annual Attendance</b>	<b>1,125,000</b>	<b>956,250</b>	<b>1,050,000</b>			
<b>Earned Revenue</b>						
Admissions	\$10,920,234	\$8,681,555	\$9,532,688	54.0%	50.2%	51.0%
Other Self-Generated	\$9,308,582	\$8,599,487	\$9,172,330	46.0%	49.8%	49.0%
<b>Total Earned Revenue</b>	<b>\$20,228,816</b>	<b>\$17,281,042</b>	<b>\$18,705,018</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>
<b>Operating Expense</b>						
Salaries, Wages, Benefits	\$10,103,916	\$10,205,208	\$10,307,515	35.4%	34.5%	34.1%
Occupancy/Operating Fees	\$5,250,000	\$5,366,150	\$5,486,992	18.4%	18.1%	18.2%
Exhibits/Programs/Events	\$6,135,000	\$6,635,000	\$6,635,000	21.5%	22.4%	22.0%
Other Operating Expenses	\$7,051,376	\$7,359,974	\$7,779,674	24.7%	25.0%	25.7%
<b>Total Operating Expense (before debt service)</b>	<b>\$28,540,292</b>	<b>\$29,566,332</b>	<b>\$30,209,181</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>
<b>Remaining Amount Required from External Sources to Break Even (before debt service)</b>	<b>(\$8,311,476)</b>	<b>(\$12,285,290)</b>	<b>(\$11,504,163)</b>			
<b>Debt Service Cost</b>	<b>\$7,100,000</b>	<b>\$7,100,000</b>	<b>\$7,100,000</b>			
<b>Operating expense (incl. debt service)</b>	<b>\$35,640,292</b>	<b>\$36,666,332</b>	<b>\$37,309,181</b>			
<b>Remaining Amount Required from External Sources to Break Even (after debt service)</b>	<b>(\$15,411,476)</b>	<b>(\$19,385,290)</b>	<b>(\$18,604,163)</b>			

Lower attendance and subsequent lower earned revenues and higher operating expenses characterize this scenario. *The difference between the two scenarios is substantial and further underscores how decisions made through detailed planning can impact projections — and that as assumptions change through the course of detailed planning, the projections will need to be updated to reflect the changing assumptions that underlie them.*

## **Interim Staffing**

Achieving this ambitious project will require developing an interim staffing strategy that focuses on a core team with support from consultants and the project's partners (including NASA). The need for a high-powered team to keep the momentum for the project moving forward is clear — team members should include the Executive/Project Director, financial, legal/government affairs and facilities staff, fundraising and promotion professionals as well as administrative support. We anticipate that \$1.5 Million annually would be required to engage such a team for project development for up to five years (subsequently, the staff will begin to “ramp up” in preparation for opening and operation).

## **Conclusion**

The vision for the California Air and Space Center at Hangar 1 is bold and exciting. Refinement of the original concept as a general air and space museum to a focused space exploration theme — specifically on the search for life in the universe — gives the project unique character and powerful appeal. Yet, it is also very ambitious — a project that will require audacity and perseverance to see it through. With mutual support and commitment, CASC and its partners can create a global attraction and community focus that points the way for Silicon Valley into the next century and to the exciting prospects that future space exploration holds for the world.