

As a service to our clients and others, we provide conference presentations, occasional research reports and project reviews on topics of interest which highlight various trends and aspects of our practice. We specialize in the fields of museums, aquariums and zoos; other visitor attractions and facilities; and tourism and resort development. We welcome your comments.

AVIATION MUSEUMS: AN IMPORTANT CONTRIBUTOR TO THE TRAVEL AND TOURISM INDUSTRY

Aviation museums preserve and interpret the history of aviation and its impact on our world, particularly on the development of passenger travel and wartime aviation. In 2003, the museum world celebrated the 100th anniversary of the Wright Brothers' first powered flight on December 17. Aviation museums are common in the United States, reflecting the broad-based appeal of the subject matter. The American Association of Museums *Official Museum Directory 2007* lists 109 aviation, aeronautics and space museums in the United States. Aviation museums quite often feature a large open space, typically a hangar, filled with parked or hanging airplanes which are toured by visitors. Many of these museums were founded as a place for plane collectors to store their aircraft, while receiving the financial and tax benefits of operating as a non-profit museum.

ConsultEcon has conducted numerous studies of museums focusing on aviation/ aeronautics and space, science and technology, and military/ maritime themes. We have also conducted surveys of museums and compiled research data from many industry sources, including facility representatives, industry experts and associations. The following summary of our experience is presented for our interested clients and colleagues.

The proliferation of diverse leisure activities in America has led to competition for consumer leisure time. For aviation museums, this has led to more elaborate exhibits and interactive or dynamic attractions such as wind tunnels, flight simulators, Large Format Theaters, and other special exhibits which can make the attraction more competitive in the local or regional marketplace.

Aviation museums face a growing challenge to reach out to visitor markets that are not typically associated with aviation museum visitation, such as female youth, and especially young mothers, who are often the decision makers for their families' leisure activities. Another challenge has been to provide relevance and create interest for historic aircraft as younger generations are often less informed and interested in America's civilian and military aviation legacy.

Like many museums, securing funding for operations and capital projects can be a challenge. Many aviation museums, especially those which feature 'hands on, interpretive or scientific' exhibits require capital to keep exhibits up to date and properly maintained. This frequently requires large capital campaigns and major investments in exhibits. Airplane maintenance and restoration can also be very expensive, requiring consistent funding. As with museums of all types, funding has become scarcer in recent years due to economic conditions, increased demands on the philanthropic community, and government budget cuts.

Despite these challenges, aviation museums have brought positive economic impacts including job growth and stimulation of the tourism economies of a number of cities and towns. They offer much needed educational programming to local schools, and contribute to the cultural capital of the cities in which they are found. The level of success of these projects is affected by the projects' physical size, program elements, market characteristics, management, visitation patterns and the specific market and operating characteristics.

The following outlines some of the findings from aviation museum studies we have conducted.

Location, Facility Exhibits and Programming Location –

The location of a facility can strongly affect visitation levels. Poor location has been a primary obstacle to higher visitation at several aviation museums. Many air museums are situated at airport locations. This has the advantage of allowing planes to fly in and out of the facility (if they are flyable), as well as to allow, in some cases, airshows. The aviation experience is heightened by an airport location. However, in many cases these museums are situated in locations at the airport that are not easy to find or visible from major roadways. Planning to ensure that a site is visible, properly signed, and has all the necessary site requirements for operation is essential to success.

Facility Size – The size of a museum facility can be an important indicator of its potential attendance, operating cost, exhibitry, and experience offered. Because these museums display aircraft, they are typically large in size - often in the 100,000 to 300,000 square foot range. Several aviation museums are planning expansions to exhibit areas and/or ancillary facilities such as gift shops and food service areas. A facility must be appropriately sized so that inefficiencies do not hamper operations, and visitor length of stay is commensurate with the admission fee. A number of museums are handicapped by facilities that were not built or were not large enough, such as gift shops, caterers' kitchens, or meeting areas. Planning for future operational needs is imperative to success.

Impacts of Expansion – A number of aviation museums have undergone major expansions that have helped move them from being minor attractions to medium-sized or major attractions. These expansions have helped to increase visitation by creating more and better exhibits and visitor amenities. It should be noted; however, that often with an expansion comes an increase in operating expenses. Significant investment in and upgrading of exhibits can have an impact similar to expansion.

Exhibits Focus and Visitor Product – While similar in their focus on aviation, there is considerable diversity in

the size and type of museum facilities among aviation museums, as well as in their style of exhibits. Aviation museums can focus on local history and the aviation industry, as well as feature aircraft used or manufactured elsewhere. Museums can focus on modern or historic aircraft, and can feature actively flown planes or retired planes or both. Exhibits can be interactive or static; the most popular museums feature interactive exhibits and often include attractions such as flight simulators or Large Format Theaters. There can be much diversity in the visitor experience, however, it is important that the 'story' told by a museum be clearly focused and designed to create a unique identity for the museum. For many aviation museums, traveling/changing exhibits are fundamental to their programs, and crucial to repeat visitation. Spending and emphasis on temporary exhibits varies considerably, however.

Gift Shop – Gift shops typically perform well at aviation museums as they carry merchandise that appeals to children such as toys and paraphernalia, as well as more expensive items appealing to adults. Low priced items sell well among school children. Gift shop sizes ranges from less than 500 square-feet to around 9,000 square feet.

Educational Programming – Education is a central component of the exhibitry, programming, and operations at aviation museums. Attendance by school children can represent up to 50 percent of visitation. Admission fees differ among facilities for school groups, but often they are subsidized through grants or are free. While programs can be costly, they sometimes pay for themselves by helping to build more interest in a museum, increasing memberships and market potential. The school market may be limited, however, by a decline in field trips due to school budget cuts, security issues, and standardized curricula and testing.

Airshows – Airshows and aviation events are often planned as important aspects of the offerings of an aviation museum. There are over one hundred airshows held nationally ranging from small fly-ins in the smallest airports to regional events drawing hundreds of thousands - even millions - of visitors. In 2004, the U.S. Army approved "aerial support requests"

Research Report

for close to 150 airshows, in addition to hundreds of other community events, football games, and celebrations involving aerial flight maneuvers for entertainment of the public. While many aviation museums located at airports host or sponsor airshows, some facilities chose not to hold airshows due to site-related issues or other challenges. Some aviation museums feel that airshows can be financially risky and not feasible unless produced professionally by an experienced organization. Other facilities have positive experiences with their airshows.

Attendance and Market Characteristics

Attendance Volume – Attendance at aviation museums ranges widely from several thousand at the smallest museums to over a million visitors at the largest. Factors affecting attendance include resident and visitor market sizes, location, visitor experience offered, marketing, and price. In most cases attendance has grown moderately in the long term and reached a stabilized level. Despite this, there is a widely held apprehension that the market for aviation museums may be limited due to the large number of them, competition from other leisure options, and the aging of military veterans who are such an important market segment. Several museums have indicated that expansions and investments in new exhibits resulted in short term surges in attendance, and long term increases in the base attendance level.

Target Audiences – Among most aviation museums, target audiences include families with children, “empty nesters,” school groups, and tourists, as well as military veterans. While capturing the primary audiences for aviation museums is essential, it is also advisable to reach out to demographic groups that are not typically associated with museum visitation, such as girls and mothers. Because of their facility sizes, aviation museums can make excellent venues for events and facility rentals. Prospective event and rental users have become an important market segment for many aviation museums. Efforts must be made to involve local schools, businesses, and organizations in a museum’s success.

Resident/Visitor Ratio – The breakdown of local residents to visitors at an aviation museum is dependent on a number of factors including size of the resident market, level of regional tourism, and museum location. Visitation patterns differ considerably among museums. The majority of the museums surveyed have stronger attendance by the resident market, but in some cases there is as much as a 50/50 split. The tourist market for aviation museums is considered to be limited, aside from exceptional museums or those located in highly visible tourist destinations.

Seasonality of Operations – The museums surveyed generally experienced strongest visitation during the summer months, especially July and August. The late fall and late spring were strong periods for visitation by school groups. Slowest overall visitation periods were during the winter and in September (vacation is over), with the exception of museums located in winter tourism destinations. Family/adult visitation is highest on the weekends, and virtually all school visits occur on weekdays, especially during the fall and spring. Summer weekdays are popular days for day-camps and other youth activities.

Admission Price – While most aviation museums charge admission, some of the largest and most popular facilities are free. The price of admission is dependent on several factors including local competition, cost of development and operations, and the quality of visitor experience offered. Prices are set to maximize revenue while allowing strong visitation levels from all income levels. Museums with strong tourist markets and income levels tend to have higher ticket prices.

Memberships – Providing the opportunity to purchase memberships is a good strategy for aviation museums, and for public attractions in general. Family membership prices at many museums range from \$35 to \$125. The number of memberships is reflective of local population, how established an aviation museum is in the community, and marketing effectiveness. Museums with large resident markets tend to have more members than those in tourist oriented areas. Volunteers are important in aviation museums, and membership programs can be an effective way to recruit volunteers.

Governance, Funding, and Operations Issues

Governance – The vast majority of aviation museums are non-profit 501(c)(3) organizations; however, due to the military/ airport affiliation of many aviation museums, a number are controlled by government organizations. While government controlled facilities may benefit from steady funding, the often bureaucratic processes used for personnel, as well as purchases and expenses, can constitute an operating challenge.

Sources of Funding – It is difficult, and rare, for aviation museums to be self-sustaining through earned revenue. Unearned revenues comprise, in many cases, between 10 and 65 percent of total revenues. While funding for government sponsored facilities is typically adequate, they are subject to the budget nuances faced by governments, rather than being affected directly by their own operating performance. Non-profit museums obtain their funding through a number of key sources, including earned revenues such as admission, gift shop sales, and memberships. Unearned revenue sources include contributions from individuals, institutions, and companies.

Marketing – Marketing is a powerful determinant of attendance, funding, and membership sales. As non-profit (or government operated) organizations however, marketing funds can be scarce. In some cases, this has necessitated a decrease in marketing budgets. Most museums make use of numerous modes of marketing including print media, radio, TV, and other advertising channels. In several cases, radio in particular has proven to be a reasonably-priced and successful form of advertising media. Free advertising and publicity through media outlets is also often a key factor to success.

Employment – Employment differs considerably among aviation museums, depending on museum size, programs, exhibits, marketing efforts, and auxiliary activities. Museums with static exhibits usually have fewer employees. Those with a large educational and interpretive focus employ more workers. In addition, activities such as airplane restoration are labor intensive and therefore require more employees. Museums have had success minimizing personnel costs by relying on volunteers, where appropriate. Aviation museums are particularly dependent on a strong core of volunteers for the help they provide with aircraft restoration, cleaning, education, and operations. The money saved through the help of volunteers can be a determining factor in the financial health of a museum.

Budget – Budget expenditures are a function of the size of the facility, the number of employees, the exhibits and programs offered, and the level of funding. Typically, personnel costs are the highest expense category, often comprising more than 60 percent of costs. Operating budgets of \$1 to \$5 million are common in the industry.

Summary of Aviation Museums Experience

Aviation museums are popular in the United States, reflecting the broad-based appeal of the subject matter, which can include both the history and technology aspects of aviation, from the early days of flight up to and through modern space technology. The aviation museum industry has the potential to continue to grow and to be mutually supportive, with appropriate planning and marketing being key to maintaining - and increasing - its current success and popularity.

ConsultEcon, Inc. provides services to clients in project and plan concept development, evaluation and implementation. Our services include:

- ◆ **Market and Financial Feasibility Studies:** Evaluation of the market support for and financial feasibility of visitor & recreational attractions.
- ◆ **Business Planning and Development Strategies:** Regional, state- city-wide and project-specific development strategies focusing on travel, tourism and leisure time facilities and programs.
- ◆ **Socio-Economic Impact Evaluations:** Analysis of the socio-economic impacts associated with project and program development. This is often an important component in project funding with publicly supported projects.

- ◆ **Project Implementation:** Targeted strategies for achieving project and plan implementation. This includes funding and financing strategies as well as representation to potential project funders.
- ◆ **Management and Operational Analysis:** Evaluation of management and operational aspects of programs and projects.

ConsultEcon, Inc.

Economic Research and Management Consultants
545 Concord Avenue, Suite 210
Cambridge, MA 02138 U.S.A.

T: +1 617 547 0100

F: +1 617 547 0102

info@consultecon.com

www.consultecon.com

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