

Expanding the Audience for Transport Museums

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This article about three aviation museums in the United States, Canada and Spain, and one automotive museum in France, has been prepared especially for the *Journal of the International Association of Transport and Communications Museums* by five professional museum consultants who worked directly on the projects described. Ted Silberberg and Katherine Molineux are with the international service of Lord Cultural Resources based in Toronto, while Angela Gonzalez de Vallejo works in Madrid with *Lordcultura* (which serves Spain and other Spanish-speaking countries), and Carlyne Krummenacker is in Paris

with *Lordculture*, serving all of Europe outside Spain. Co-President Barry Lord edited the article.

The first two sections of the article focus on the planning of two new aviation museums; the latter two follow the planning, design, production and installation of two new exhibitions, one of aviation, the other automotive, through to opening day. All four sections focus on the need to expand the audience for transport museums to include a non-specialist audience that initially may not have any particular interest in or enthusiasm for transportation history.



Miles Falcon Six of the Infante de Orleans Foundation Collection. Credit: Ismael Abeytua.

1. Fort Worth Air and Space Museum, Texas, U.S.A.

By Ted Silberberg, Senior Principal, Lord Cultural Resources

Mass market institutions have the ability to attract large numbers of visitors of both genders, in all age categories, both residents and tourists. They usually have strong curriculum links to attract school groups as well. Attendance levels at many transport museums, by contrast, are often not as substantial, because transport museums may be perceived – and may present themselves – as niche market attractions with limited appeal to women and children, sometimes to school groups, and generally to people who do not believe they have an abiding interest in aviation, automotive, rail, transit or other transport history.

This perception – or reality – may reflect the fact that members of these museums' governing bodies, senior management and volunteers supporting the operation of many transport museums are often male transport enthusiasts themselves. Too often these men assume that the more aircraft, rail cars or automobiles in a gallery, the larger the likely number of visitors will be. In fact, the opposite is often true, as the general public is looking for context and meaning. It has also sometimes been difficult for many transport museums to develop the clear curriculum links needed to maximize visits by school groups.

Some transport museums have recognized the need to attract more female members of their governance group, Executive Directors and other senior managers, and/or to develop content that offers wider appeal to women, children and the general public. *The biggest challenge – but also potentially the most substantial reward for transport museums – is to identify ways and means to increase their appeal to women.* Women represent a particularly important market for all museums because:

- In western countries women tend to make many of the decisions regarding the educational experiences of their children;
- Even if men share in choosing the destination, women are more likely to select specific attractions to visit on family vacations;
- In many countries women constitute a majority of the school teachers who choose class field trip destinations;
- And almost everywhere women constitute the majority of tour group passengers for bus tours and cruises, deciding where to go and what to see.

Women account for about 55% of museum visitors overall, 60% or more for art museums, but average only about 40% for transport museums. The age profile of aviation museums specifically also tends to skew older. (One exception

is the National Air and Space Museum in Washington, D.C., largely because children have a greater level of interest in the space flight components of that Museum.) The ability of an aviation museum – or other transport museums – to widen the market from an age perspective requires that at least part of the content and visitor experience should be compelling to children – or at least to perceptions by adults of what their children may be interested in.

There are enthusiasts who will attend aviation museums wherever they travel and will sometimes choose a destination largely because it has an aviation museum. However, the size of that aviation museum market is limited, and unfortunately cannot be seen to include persons who fly on commercial flights, just as persons who drive automobiles are not necessarily auto enthusiasts. Aviation museums



Industrialist Amon Carter brought aviation to Fort Worth, Texas in 1911. Here he is in 1946 with a DC-3 named for the City of Fort Worth.

Photo courtesy of American Airlines.



Military aircraft at Amon Carter Field in Fort Worth in 1954 including a B-36 Peacemaker bomber constructed for the US Air Force and a prototype of the Convair XC-99. Photo courtesy of American Airlines

must thus seek to widen appeal to the general public from beyond the perhaps 5-10% of the public that has a particular interest in aviation.

Seeking to widen appeal to women, children, school groups and the general public were all part of the challenge in a strategic master planning study conducted by Lord Cultural Resources for the Mayor's Task Force for the Fort Worth Aviation Museum in north Texas. This writer, Ted Silberberg, led our work in close collaboration with the Museum.

Aviation became a significant part of Fort Worth history as early as 1911, when world-famous French pilot Roland Garros flew his Bleriot over the area, sponsored by Fort Worth industrialist Amon Carter, whose art collection later formed the basis of an art museum in Fort Worth. During World War I the Fort Worth area became the site of three aviation training bases that achieved many aviation 'firsts'. Noteworthy achievements included the first military air ambulances and the first aerial refuelling. During that war obtaining helium for airships was considered a strategic necessity, and Fort Worth became America's only source of

helium when the Army, Navy and the U.S. Bureau of Mines collaborated to build a helium extraction plant.

With America's involvement in World War II imminent, and due to the already pressing need to supply U.S. allies, President Franklin D. Roosevelt issued a challenge to the American aircraft industry in 1940 to increase warplane production to 50,000 aircraft per year. Fort Worth was selected as a suitable site for a major bomber factory, and became a leading national center for military aircraft production. Aviation became the impetus for a shift from Fort Worth's formerly largely agricultural base to an industrial economy. Over the past six decades more aircraft have been built in the Fort Worth and north Texas area than anywhere else in the world. This included assembly of over 3,000 B-24 bombers, the first intercontinental bomber (B-36), the first supersonic bomber (B-58), and the first swing-wing aircraft (F-111). Major corporations still operating in the area include Lockheed Martin, Vought and Bell Helicopter.

Although there are several aviation-related museums in the Dallas-Fort Worth area, none is considered 'world

class'; but this is not for lack of effort. The Aviation Heritage Association (AHA) was incorporated in 1987 as a not-for-profit corporation with the objective to establish such a museum. A B-36 Peacemaker Restoration Group was formed to save that plane as the projected centerpiece of a major aviation museum. Other initiatives over the years aimed to establish a Fort Worth Aviation Museum at one of the regional airports, including a joint undertaking with the nearby City of Dallas to create a regional aviation museum at Dallas/Fort Worth International Airport.

Last year the Mayor of Fort Worth formed an Aviation Museum Task Force, bringing together a variety of aviation-related organizations whose objective was to develop a world-class aviation museum. As usual, almost all of those on the Task Force were male aviation enthusiasts, but fortunately they recognized the need to widen appeal to women, children, school groups and the general public in order to increase the likelihood for long-term sustainability of the proposed museum. The Master Plan that we helped to develop for the new museum includes the following strategic directions:

- An emphasis on both the science and history of aviation: This will increase appeal to school groups and to the young family market. In both cases women are the primary decision-makers.
- A focus on the present and the future of aviation, not just the past. In addition to the important history of aviation

in Fort Worth and north Texas, this leads to a strong focus on space flight. The recommended name for the future museum is the Fort Worth Air and Space Museum.

- A visitor experience that is different from existing aviation museums in the region, employing contemporary methods of interpretation to attract the general public: While it is essential to have a reasonably sized core collection that tells the story of aviation in Fort Worth and north Texas, the new museum should also offer interactive, entertainment-oriented experiences that may appeal to persons with no strong level of interest in aviation. With such a focus, interpretive priorities will drive collection development, as opposed to assembling yet another comprehensive aviation collection. In addition to a focus on the science and future of aviation, key elements of the visitor experience will include the use of humor as an interpretive device, and efforts to boost entertainment value, including a '4-D' theatre experience.

The Master Plan also addresses the fact that aviation museums tend to be governed and managed by aviation enthusiasts. The plan recommends governance and management of the aviation museum by the Fort Worth Museum of Science and History (FWMSH), a successful institution oriented to attracting the general public. This will also reduce staffing requirements from what would be required if the aviation museum were a completely separate entity. Staff time of the FWMSH allocated to the aviation museum will of course need to be compensated, but costs would be far lower than if the aviation museum had to have its own President, Development Director, Exhibitions Director, etc. There are also opportunities for admission ticket packaging with the Museum of Science and History.

The Board of the Fort Worth Museum of Science and History is very open to the concept, but has deferred a decision on the governance concept for a period of two years, given the fact that their Museum has just completed a major expansion. However, the FWMSH will host a 1,000 sq. m. preview temporary exhibition on the history and science of aviation in 2011 — the 100th anniversary of the first flight in Fort Worth. When the temporary exhibition closes, the Museum of Science and History will install the highlights of the exhibition in about 350 sq. m. of gallery space, until the new Fort Worth Air and Space Museum opens in 2015 or 2016. Other parts of the temporary exhibition will be made available as a travelling exhibition to other aviation museums.

The flight path for the projected Fort Worth Air and Space Museum remains challenging. However, the Master Plan has provided the Mayor and the Aviation Museum Task Force with a flight plan that will optimize its chances for sustainable success.

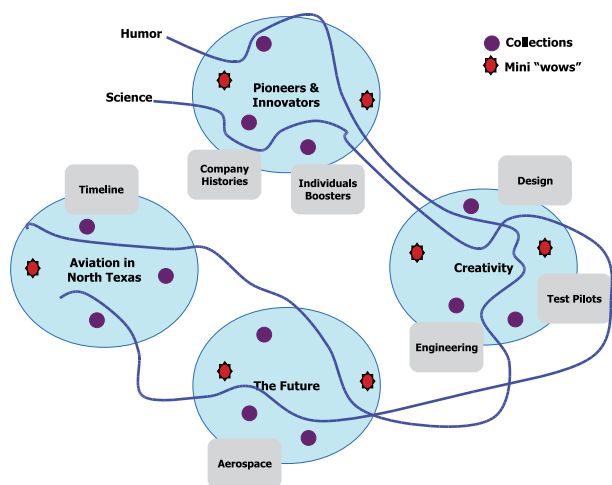


Diagram by Lord Cultural Resources sets out the interpretive framework for the visitor experience of the future Fort Worth Air and Space Museum
(c) Lord Cultural Resources

2. Aviation Museum of the *Infante de Orleans* Foundation, Madrid, Spain

By Angela Gonzalez de Vallejo, Senior Consultant, *Lordcultura*

“Keep ‘em flying!” That’s the motto of the *Infante de Orleans* Foundation (FIO) in Madrid, devoted to collecting, preserving and promoting historical aircraft still flying that have played an important role in Spanish aeronautical history. The Foundation houses the most important collection of this category in Europe, consisting of 40 aircraft of 17 different types spanning the first sixty years of aviation history in Spain. It’s a unique collection thanks to FIO’s work in maintaining every aircraft in flying condition. Moreover, the continuing education and training of the Foundation’s pilots and technicians make it an invaluable source of knowledge about these historic machines.

Since its creation in 1989, the FIO has located its operations center and Museum in the military and civil airport of *Cuatro Vientos* in Madrid, where the FIO displays its magnificent collection.

Every first Sunday of each month, weather permitting, voluntary pilots and members of the FIO Board perform a flying exhibition with the aircraft from the collection for enthusiastic visitors. Income derived from the Sunday air show entrance fee is used to preserve the collection.

One of the main characteristics of the Foundation’s operation has always been the support that the FIO has enjoyed from pilots, technicians and aviation historians. Nevertheless, in the past few years the Foundation has seen the need to increase its appeal to a wider non-specialist audience.

With the aim of expanding its public programs and improving its pilot training, the Foundation signed an agree-

ment to relocate the Museum to the nearby city of Getafe, one of the most populated and industrialized cities in the conurbation of Madrid, situated to the south of the capital. Getafe is home to the oldest Spanish military air base, and has an ambitious plan to establish a Technology Park that will include some of the leading companies in the European aerospace industry. The new location in Getafe could have strategic value for both the Museum and the city.

As part of this new project, the FIO asked *Lordcultura* to assist the Foundation in the planning of a new Aviation Museum, to be situated in a large building being designed by the international architects Foster & Partners. The present writer, Angela Gonzalez de Vallejo, was part of the team that undertook a review of the Foundation’s concept, an evaluation of its collection, and an analysis of the available public programming space in order to take full advantage of opportunities and to optimize the visitor experience.

The Foundation agreed with us that attracting a non-specialist audience to this Museum would be a key factor for its success. For this reason, and in order to reach its attendance target of 50-55,000 visitors per year, *Lordcultura* in consultation with the FIO developed a coherent functional program in which visitor services play an important role, with the visitor experience focused on two different audience profiles, the specialist audience of enthusiasts on the one hand, and the non-specialist general public on the other:



British Aircraft Eagle II of the *Infante de Orleans* Foundation Collection. Credit: Ismael Abeytua



Bucker 131 Jungmann of the *Infante de Orleans* Foundation Collection. Credit: FIO – Javier Guerrero



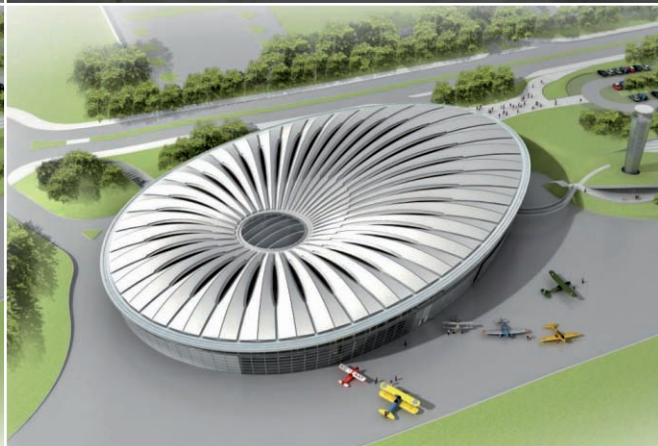
De Havilland DH.89 Dragon Rapide of the Infante de Orleans Foundation Collection. Credit: FIO – Javier Guerrero

■ The specialist audience is composed of people who are really enthusiastic about aviation history, who will enjoy the aircraft either during the flying shows or as static exhibits. They are knowledgeable about aeronautical

science, and are keenly interested in the technical differences among the historic aircraft. They are loyal visitors, and would remain captive in the new facility, whether in the present or the new location. They are expected to constitute about 5-10% of the projected museum visitors.

■ On the other hand, the non-specialist audience does not have any specific interest in aviation or its history, but can be attracted to consider the museum as a possible destination due to various motivations, such as the novelty of a new museum in the greater metropolitan area of Madrid, an iconic building designed by Norman Foster, the sheer excitement of the flying exhibitions, or as a family activity different from any other on offer in the region. The major challenge for the new Museum is to attract these visitors, since they constitute about 90-95% of the projected audience.

Keeping their historic aircraft flying remains the Museum's *raison d'être*: the core visitor experience attraction. However, the FIO's flying program is necessarily limited, currently on offer only one Sunday each month.



Foster Design development of the new aviation museum. Propiedad FIO

Most of the time the aircraft are on static display inside the museum. Therefore, the permanent collection exhibition must play an important role in plans for the everyday visitor experience at the new Museum. Exhibits need to provide interpretative context, and should evoke the aesthetic as well as the functional and typological aspects of the aircraft. The exhibition design and museography must employ audio-visual and sensory means to transmit the dynamic character of the historic aircraft; fortunately, since they are still flying, it is relatively easy to document their take-off and flight on film or video.

In addition, the permanent collection exhibition should be accompanied by other spaces that enhance the visitor experience and comprehension, as well as facilitating social, intellectual and emotional access to aviation history for visitors who cannot be classified as enthusiasts. The spaces recommended by *Lordcultura* include:

- A **Gallery of Aviation History**, in which uniforms and personal artefacts of representative personalities of Spanish aviation history will put the aircraft in context. Broader topics of social, military and political history, and the

human stories of the aviators will be told here in a dramatic way, with passion and humour.

- The **Centre of Aeronautical Science** will be an interactive educational gallery where students and other visitors can learn about the physics and technology of flight and other aspects of aeronautical science. The focus will be on learning by doing, so that the Centre will work effectively for families as well as school groups.
- An **Orientation Theatre** will project an audiovisual show that will tell the whole story of Spanish aviation from the beginning, including the role of the Infante de Orleans Foundation in keeping the historic aircraft flying.

Although the new museum project has been delayed by the economic crisis, it is hoped that the project will be resumed once finances permit, so that the Foundation can bring its important collection and its determination to keep its aircraft flying to the attention of a wider public. The new attraction at Getafe will also be designed to provide more effective educational services and a greater level of social engagement with its community. The FIO will keep flying, but with a broader base of support.



Polikarpov I-16 of the Infante de Orleans Foundation Collection. Credit Ismael Abeytua.

3. Canada Aviation Museum, Ottawa, Canada*

By Katherine Molineux, Senior Consultant, Lord Cultural Resources

On February 23, 1909 a young engineer named J.A.D. McCurdy flew a small bi-plane dubbed the Silver Dart across a frozen lake in Baddeck, Nova Scotia. In so doing, McCurdy piloted the first powered, heavier-than-air flight in the Dominion of Canada and the British Empire. To celebrate the centennial of this first flight and the history of flight in Canada, the Canada Aviation Museum (CAvM) underwent a complete redesign and re-interpretation of its main exhibition gallery.

To celebrate this achievement, Lord Cultural Resources, in collaboration with multimedia and interactive programmers Mystus Exhibits and exhibition fabricators *Expografiq*, were commissioned by CAvM to create a new exhibition entitled *Canadian Wings: A Remarkable Century of Flight*. The new exhibition, which starts with the flight of the Silver Dart but continues through the entire century that followed, consists of four large galleries exploring the significance of aviation to Canadians, as well as aviation's role in connecting Canadians to each other and to the world. The present writer, Katherine Molineux, was part of the Lord team working closely with the CAvM's Director and staff of museum professionals.

In planning the exhibition, all agreed that not only aviation enthusiasts, but visitors of all ages, backgrounds and interests should find something in the exhibition that they could connect to, and which has meaning for them. Four of the main ways this is achieved in the new CAvM exhibition are:

- providing context;
- displaying a diversity of artefacts;
- using broader themes to tell the story
- interactive exhibition techniques.

Providing Context

In close consultation with CAvM, Lord Cultural Resources planned the exhibition as a series of galleries that provide the interpretive anchor for the incredible collection of aircraft on display. The galleries are organized chronologically, beginning with pioneer innovation and the development of aircraft during the First World War; the interwar years and the growth of bush flying; the importance of aviation during the Second World War; and the growth of commercial air travel from the 1950s to the present. This thematic and chronological approach helps visitors to connect the history of aviation to the history of Canada generally, as well as to important world events, such as the First and Second World Wars. Additionally, the display of the museum's aircraft collection was rearranged to complement the interpretive structure established in the galleries, so that the order of viewing the content of the galleries provides visitors who are not aviation enthusiasts with the tools to understand and appreciate the actual aircraft on display. This required a huge job of removing and reinstalling aircraft throughout all four galleries.



The aircraft collection was rearranged around the historical galleries. The content worked with the collections to connect visitors to the story of aviation in Canada at the Canada Aviation Museum, Ottawa.

Credit: Lord Cultural Resources

Diversity of Artefacts

In order to provide all visitors to the museum with an engaging experience, a diversity of artefacts was chosen as a means of interpreting the history of aviation in Canada. Some artefacts were specifically chosen to provide historical context and parallels so that as visitors ‘move through time’ from one gallery to the next, the journey is enhanced by artefacts that evoke that era, in addition to the period aircraft on display.

Telephones, cameras, even a 1956 Oldsmobile are used as a means of helping visitors connect the story of aviation to everyday life, and to a specific period in history. Additionally, a variety of artefacts were chosen specifically to draw the interest of a wider audience, such as paintings, commercial travel posters, model aircraft, clothing (including a display case showcasing flight attendant and pilot uniforms over the decades), and much more.

Broader Themes

Engaging visitors in the story of aviation in Canada requires broadening the story beyond a narrow historical focus. Addressing the need to attract female visitors, women are represented consistently throughout the exhibition, focusing on pioneers like Elsie MacGill, the first Canadian woman to become an aeronautical engineer, and the first woman in Canada to work on the overall design of an airplane. Key contributions of women in aviation industries during the Second World War are also highlighted. Another way that the history of aviation in Canada is told through a wider lens is through an exhibit that relates the stories of new Canadians who came by air, and how they connect their memories of that flight immigrating to Canada and their thoughts about their new home. When Canada’s Governor-General Michaëlle Jean toured the exhibition at the opening, she was prompted by this exhibit to recall her own



*Period artifacts placed near aircraft evoke the era, Canada Aviation Museum, Ottawa.
Credit: Lord Cultural Resources*



*A diverse selection of artifacts can stimulate the interest of a wider audience, Canada Aviation Museum, Ottawa.
Credit: Lord Cultural Resources*



*Using a range of media – digital, print and environment, and a range of artifact types – travel posters and commercial model aircraft relate to each other and the interests of many visitors at the Canada Aviation Museum, Ottawa.
Credit: Lord Cultural Resources*

family's arrival in Canada by air from Haiti. Visitors to the museum are able to see themselves reflected in the exhibition through a more representative history of aviation in Canada.

Interactivity

Families and school groups comprise an important part of the Museum's audience. In order to speak directly to those visitors, a variety of both low- and high-tech interactive methods are used to engage different age groups and learning styles. Interactive multimedia stations allow visitors to build their own aircraft while learning about the principles of flight. Audio stories and flip books appeal to an older age group and explore the stories of bush pilots and aviation pioneers; aircraft recognition spinners, a Morse code tap-per, dress-up clothing and an operating rivet gun and touch tools help younger visitors relate to both the civil and military contribution of Canadians during the Second World War. A recreated DC-3 cabin interior offers visitors of all ages an immersive experience of luxury travel in the past. Incorporating exhibits that appeal to various learning types and age groups allows for a greater degree of engagement with the content of the galleries.

Through a combination of the techniques listed above, *Canadian Wings: A Remarkable Century of Flight* appeals to a wide range of visitors. The exhibition content and artefacts tell the multifaceted story of the development and achievements of aviation in Canada in the past and present.

It is relevant, engaging and ultimately taps into the mission of the museum which “invites Canadians of all ages and from all regions to explore the wonders of flight and the contribution of aviation to the transformation and development of Canada.”



A range of interactives appeals to a wide audience with various learning styles at the Canada Aviation Museum, Ottawa.

Credit: Lord Cultural Resources

4. Le Mans 24 Hour Museum, France

By Carolyne Krummenacker, *Lordculture*

The Le Mans 24 Hour Museum, formerly known as *Le Musée automobile de la Sarthe*, reopened on April 27th 2009 in Le Mans, with a brand new exhibition design highlighting the stars and cars that put this French city on the world motor-racing map.

The 24 Hours of Le Mans (*24 Heures du Mans*) is the world's oldest sports car race in endurance racing, held annually since 1923 near the town of Le Mans, in the Sarthe region of France, to the west of Paris. Commonly known as the 'Grand Prix of Endurance', it is organised by the *Automobile Club de l'Ouest* (ACO) and races on a circuit including closed public roads that are meant not only to test a car and driver's ability to go fast, but also to keep going over a 24 hour period. The race has been held every year since 1923 with the exceptions of 1936, and between 1940 and 1948, during and just after the Second World War.

The Museum was founded in 1961 to present an outstanding collection of vehicles held by the *Automobile Club de l'Ouest*. The department of Sarthe, which owns the museum, appointed *Lordculture* in 2005 to help the Museum, which had been presenting a regional but otherwise generic automotive collection, to regain its position as a major cultural institution on a national and international scale, appropriate to the global renown of the 24 Hours Race. The present writer, Carolyne Krummenacker, played a leading role in *Lordculture's* work with the Museum.

At the time the Museum was deeply concerned with the

serious erosion of its attendance figures. Visitor numbers had fallen from 84,000 visitors a year in 1992 to 51,600 visitors in 2004, reflecting the gradual deterioration and decline of the permanent collection exhibition's quality and relevance, after more than 10 years of unchanging display. The challenge was not only to refresh the display, but also to make the Museum once again vital to a much broader range of visitors, including new generations who might not be aware of the great tradition of the 24-hour race.

Lordculture worked closely with the Museum through every step of the project, from the initial development of the concept through to opening day of the new exhibition. The study we conducted in the first phase of our work led to two main conclusions:

- First, the Museum was positioned as a classical automotive museum, unconnected to the 24-hour racetrack that is located directly behind the Museum building. The Museum needed to differentiate itself from other automotive or transportation museums by capitalizing on the celebrity and attraction of the famous 24-hour race. To illustrate this problem, we emphasized the fact that of the 750,000 people who visited the adjacent racetrack each year, fewer than 10% were walking through the Museum door.
- Second, the attendance statistics showed a crucial need for diversification of the Museum's visitors in regard to gender and age groups: in 2004, 72% of visitors were male, with only 28% female. As observed in section 1, women generally make up 55% of attendance at museums of all kinds, 60% at art museums, and 40-45% at transportation museums; so at 28%, this automotive Museum was even far below the average for transportation museums. Furthermore, 47% of the visitors were between 40 and 60 years old, with only 26% of the visitors between 25 and 40 years old, whereas in French museums the proportion of these two age groups is generally about the same. Clearly the new exhibition needed to appeal to women and to younger visitors.

Following on this analysis, *Lordculture* worked with the Museum to write an interpretative plan, which was subsequently developed into an exhibition design, fabricated and installed, according to the following three principles:

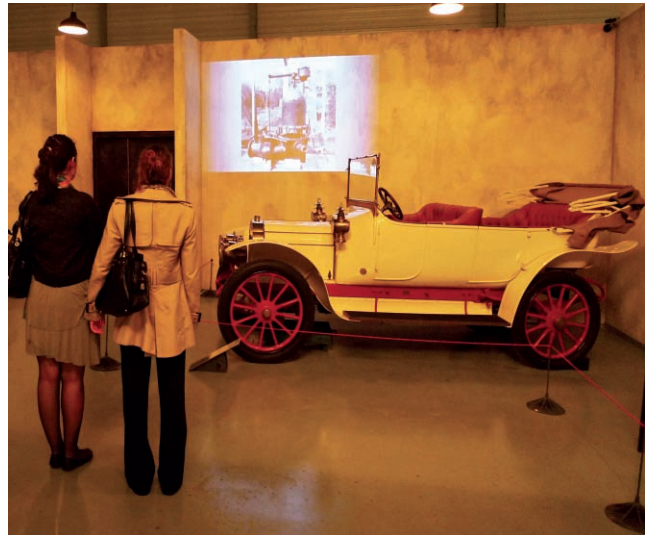
- **A new positioning:** the Museum was renamed *Le Musée des 24 heures du Mans* (The Le Mans 24 Hour Museum). Housed next to the famed racetrack, the new Museum now focuses its displays on the history of the classic en-



Model of the 24 Hours Race track, Le Mans.
Credit: Carolyne Krummenacker & XLC-JLG

durance race. Replacing a Museum that previously displayed cars generically, the refurbished galleries offer a Museum specifically dedicated to the 24 Hour Race. In the new Museum, visitors can follow the history of the race from the earliest days in the 1920s until modern times in the 21st century. In the rotunda, a giant model of the Le Mans racing circuit is displayed, and a 240-degree movie theatre allows the visitor to live or relive the unique atmosphere of the race.

- **An emphasis on the human presence behind the mechanics:** The Le Mans 24 Hour race is above all about the men who drive and service the cars. Former Le Mans participants are immortalised in a gallery of 24 portraits, including U.S. film star Steve McQueen, French industrialist Jean-Luc Lagardere, and Jacky Ickx, the Belgian driver who won the race six times. A whole section is dedicated to the thousands of people who work behind the scenes every year to make the race possible: engineers, medical staff, managers, volunteers, and of course the 250,000 spectators who attend the race.



Replica of the late 19th-century workshop of Bollée, a family company that manufactured cars in Le Mans. Credit: Carolyne Kruppenacker & XLC-JLG



Stars of the 24 Hours Race, Le Mans. Credit: Carolyne Kruppenacker & XLC-JLG

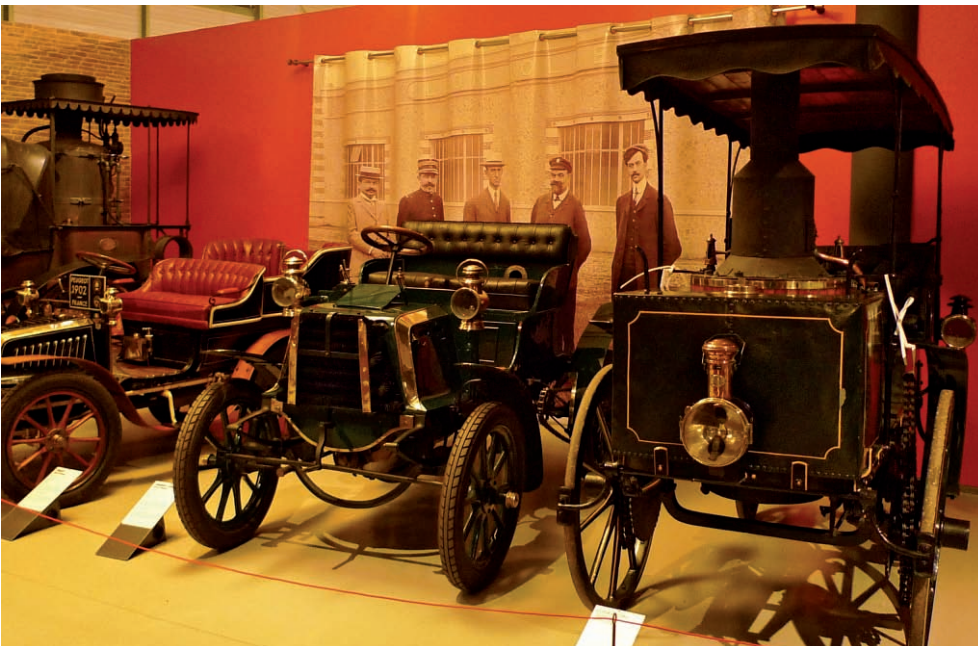
- The number of cars on display has been reduced (although 110 are still on view), in order to leave more space for this human dimension of the race, illustrated by small personal artefacts and with audio-visual programs based on the Le Mans 24 hours film archives. By humanizing the presentation, the museum aims to attract more female and younger visitors.
- **A better historical and geographical contextualisation:** Again to broaden the Museum's appeal to women, children and school groups, a number of exhibits on the history of the automobile industry related to world history of the 20th century help to place the story of the endurance race in its historical and social context. For example, there is a full-scale replica of the workshop of the famous Le Mans car maker Bollée, a family company that designed and built steam- and petrol-powered cars at the end of the 19th century, and who took part in some of the first ever 'Grand Prix' races in the early 20th century. Many vehicles among the 110 that are on display have had a lasting effect on the history of motoring or on history in general – such as the East German Trabant, the car that became inextricably associated for many observers with the fall of the Berlin Wall in 1989. The association of the automobiles on display with broader historic events makes the Museum more valuable to school groups, and of greater interest to visitors who have limited interest in automotive history or the history of automobile racing in general.

With this new presentation, the Le Mans 24 Hour Museum has made a fresh start, and aims to reach an annual attendance target of 100,000 visitors, almost twice its level before the changes, thereby regaining its place among the top five French transportation museums. Since it opened in April 2009, both the critical and the public response have been positive. *Lordculture* will continue to monitor the situation to determine how successful the changes in the permanent collection exhibition are.

Conclusion

All four of the case studies presented in this article illustrate the need for transport museums to broaden the scope of their exhibits, by exhibiting a wider range of artefacts and using interactive and audiovisual experiences where appropriate to encourage non-specialist visitors to appreciate the museums' collections as part of the broad sweep of social history. The focus on attracting women and developing more child-friendly exhibits in order to serve school groups better is another theme that all four groups have in common. Although there is no single 'magic bullet' to transform the presentation and public perception of transportation museums overnight, it is clear that systematic analysis, careful interpretative planning and high-quality execution of exhibits, interactive experiences and AV programs can go a long way toward extending the public for transportation and communication museums.

* Since this article was prepared the CAVM has been renamed as the Canada Aviation and Space Museum.



*Exhibit on the early days of the automobile in the Sarthe region.
Credit: Carolyne Krummenacker & XLC-JLG*