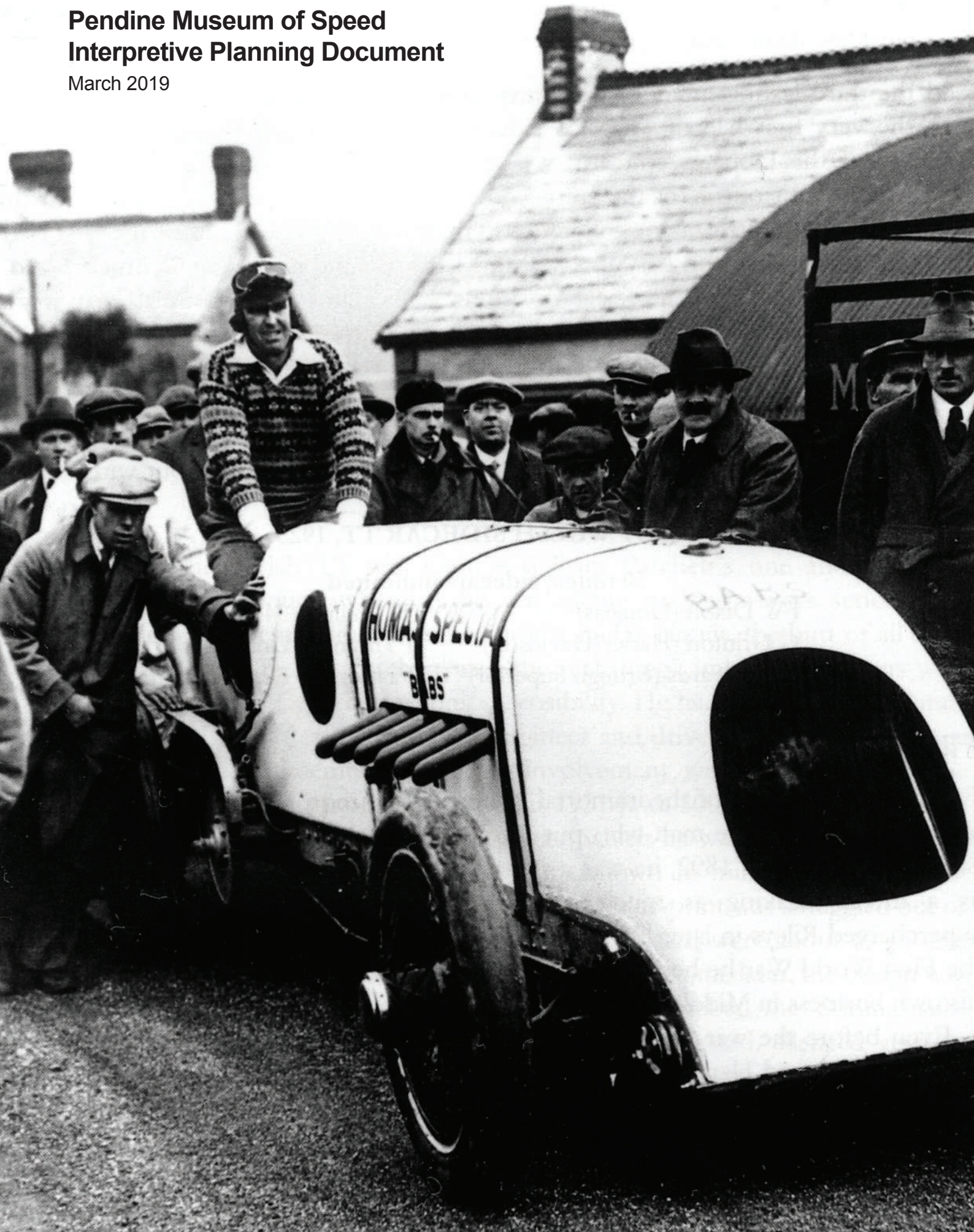


**Pendine Museum of Speed  
Interpretive Planning Document**

March 2019





# Pendine Museum of Speed: Interpretive Planning Document

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# 1. Introduction

## 1.1 The Museum of Speed

The Museum of Speed in Pendine is under-going a major redevelopment, which includes a new building and completely new exhibition. Scheduled to open in spring of 2020, the new museum will be a major visitor attraction and will seek to engage with school pupils from local schools and those using the nearby outdoor centre.

This development is part of the larger Pendine Attractor project which includes the creation of an eco-hostel, events space, sand dune gardens and play area. The project is funded by Carmarthenshire County Council, Visit Wales and the European Development Fund. Architects and exhibition designers were appointed by the Economic Development department in Carmarthenshire County Council. The plans are now well developed and work to demolish the old museum is about to start. Carmarthenshire Museum Service will run the museum when it opens and have appointed a Project Curator to oversee the development of the interpretation, content and collections in the new museum. Although the designs for the museum were well established and various reports produced that describe the heritage stories, collections and assets, there was a gap in the interpretive planning and a lack of understanding about the audiences for the museum, the collections available and how the story would be told.

Headland Design were appointed to work with the Project Curator, the museum staff, the exhibition designers and the Economic Development team to develop a vision for the museum, the key elements of the story to be told and an Interpretive Framework for the new exhibitions.

The outcomes described in the brief are:

- Articulation of a vision for the museum, representing a different approach to museum service provision in Carmarthenshire
- Definition of the audiences which the displays will seek to engage, and to define Pendine's own unique tone of voice
- Definition of the key elements of the Pendine story and the unique selling point(s) for the exhibition
- Development of strategies for the design, interpretation and media elements in the displays, which can be used to brief the designers in their work creating the exhibition.
- Development of a strategy for the display, or otherwise, of the land speed record car Babs, which is only available to the museum for 8 weeks each year.

## 1.2 Methodology

### 1.2.1 Gathering information

This report draws on research already undertaken and found in:

- Towards a new museum complex for Pendine Chris Delaney November 2016
- The availability of objects for display in Sands of Speed Andrew Death March 2017

- Proposed Exhibition Layout & Content Real Studios June 2018



The work has been delivered through a series of meetings, workshops and desk research. Work began with a workshop that covered the scope of the work, and a SWOT to understand the strengths, weaknesses, opportunities and threats for the project as it stands. The SWOT was used to develop the challenges and opportunities for the project. The group also discussed the outcomes using Generic Learning Outcomes, and the target audiences for the new museum.

This was used to develop a consultation plan that set out the process to help understand the target audiences. The second workshop involved the exhibition designers and was an opportunity to review audiences and design proposals and discuss interpretive principles. A further session with the museum collections team discussed potential objects for display, matching the objects to topics and challenges for the display of the collections.

Consultation involved:

- Surveys with three groups of enthusiasts that produced 195 responses to questions about experience and interest in the new museum
- Phone conversations with local school teachers
- Surveys with families at Pendine beach during the half term holidays
- A stakeholder workshop. The group discussed their experience of the old museum, stories that they'd like to tell at the new museum and topics that they'd like to know more about, types of interpretive media and the proposed interactive exhibits.

### 1.2.2 Developing the stories and themes

The museum has the potential to tell a huge range of stories linked to the local area, the beach and the historic connection with land speed records.

Interpretation is the connection between the heritage assets, collections and stories and the audiences. In order to develop interpretation, we need to understand the needs and interests of both current and new audiences and the potential collections that are available and the stories that could be told. Consultation will help to define the needs and interests of the different audiences, and in particular to establish which stories are of interest to which audiences. Defining which stories are significant and the link to collections will help to set the parameters of the narrative.

During a workshop with the project team and a further one with stakeholders the consultants have been able to gather all the stories that relate to the local area and group them into topics. These

topics were used during consultation and have been developed into themes. Within each theme there are a series of identified key stories and a note of the relevant heritage assets.

## 2. Challenges and opportunities

The museum project group took part in a SWOT exercise to review the current position for the museum and to identify the strengths, weaknesses, opportunities and threats for project. These were used to develop a series of challenges and opportunities at the start of the project.

### **Building on past success**

The previous museum had 35,000 visitors per year (before an admission charge was introduced), demonstrating interest for the subject. Pendine beach is well known and is a destination for speed enthusiasts coming to events, as well as people coming to see where land speed records were set. The big draw at the museum was Babs, the car used by Parry Thomas to set the land speed record. The text was quite wordy and there was little interactivity.

### **Not enough objects**

There is currently a perception that there is a lack of collections owned by the museum service to create interesting displays. The previous museum included displays of trophies and models of ships that had been wrecked off the local coast. There is an opportunity to include objects from the wider county service collections if the story is widened but this must be within the overall narrative. The seaside environment is a harsh climate for collections and adequate protection needs to be provided for the collections both within showcases and the building.

### **New audiences**

There is no history of school visits and the previous displays were not designed to appeal to families or children. There is huge opportunity to link to STEM aspects of the curriculum and to enable families to develop science capital, and to provide interpretation of scientific principles through interactivity. The museum could be a fun place for families that maintains its appeal to adults and enthusiasts.

### **Different times of the year**

Popular with tourists, the area is quiet during the winter months and the proposal is to open the museum all year round. Babs is only available for between 8 and 16 weeks per year, and this is the star attraction for many people. There needs to be strategy for an alternative display when Babs is elsewhere.

### **New stories**

The museum could appeal to new audiences by telling a wider story, starting with the history of Pendine, explaining the unique nature of the beach that makes it ideal for racing and encouraging people to explore the natural history of the area. A link could also be made to the history of cycling in Carmarthenshire, which has a significant past manufacturing bicycles and is set to become the cycling capital of Wales. It is crucial that the story told is unique, links to the collections and the place and could not be told anywhere else.

### **Chronology v Thematic**

The timeline of the main story is quite short, although the wider story of land speed records is a longer one. The whole story could be fitted into a timeline, but a thematic approach would help non-enthusiasts to make connections to the wider story in an accessible way.

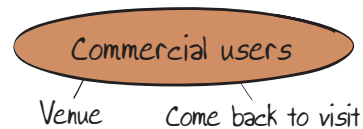
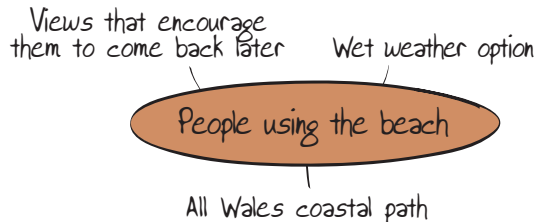
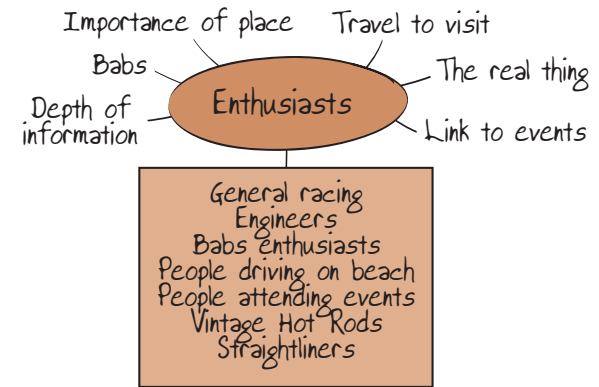
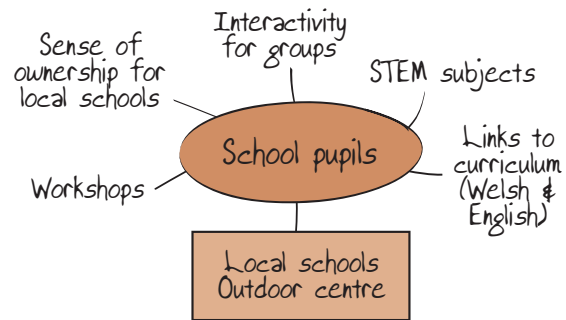
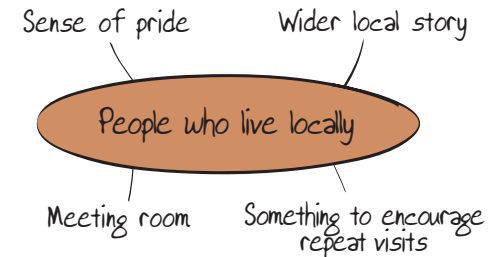
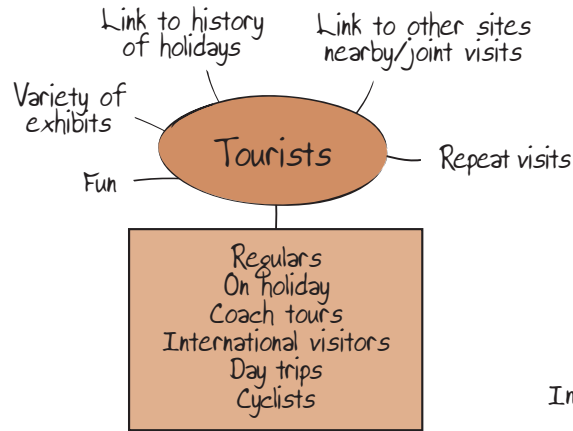
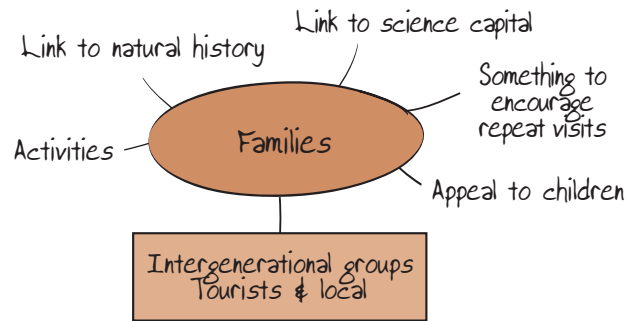
### **When Babs isn't there**

The old museum was designed around Babs and when the car wasn't there the museum experience was limited and disappointing. The new museum has been designed to showcase Babs but there are currently no proposals for what will be on display when Babs is at other venues. The agreement with the owners of Babs is that the car will be available for between 8 and 16 weeks of the year.

### 3. Audience Development

#### 3.1 Target Audiences for development

**Pendine Museum of Speed** The illustration describes the target audiences, who they are (in the box below) and their needs and interests.



The displays need to be bilingual and accessible for people with learning, physical & sensory disabilities



### **People who live locally**

Local groups and organisations will be able to use the meeting room and venue for functions and meetings. The new museum should help engender pride in their local history.

### **Tourists**

Many of the people who have visited the museum in the past are either on holiday in the area or have come specifically to Pendine to see the beach, or Babs, or are staying within a day's drive. Tourists will include people represented by almost all the other target audience groups. This will also include people visiting as part of a coach trip and new visitors drawn to the area by the new museum and hostel.

### **Families**

Intergenerational groups visiting with children, need something that appeals to children and that will keep their attention. This will include families staying at the local caravan park, tourists who come back to the area every year, people staying further away (up to an hour) and local families.

### **Enthusiasts**

This small audience are significant and, in the past, have come great distances to visit Pendine and Babs. Enthusiasts include people interested in cars, motorcycles and bicycles as well as engineers. Many of them come outside of the school holidays, and others come for the programme of events put on by groups such as the Vintage Hot Rods and Straightliners.

### **Students**

Involvement with the university engineering department could enable further research and engagement by students in the project.

### **School pupils**

Local schools and schools using the outdoor pursuit centre will be able to book a visit to the museum. A more in depth relationship with immediately local schools will enable the pupils to get involved in the design of the museum and have a sense of ownership. Schools from within an hour's travel time could also be expected to visit.

### **People using the beach**

People walking the Wales coastal path, cycling or dog walking along the beach may stop on route or plan to visit another time. People attending events on the beach will visit whilst they are in the area and the museum will provide shelter from the rain on a wet day. Holiday makers enjoying the beach will also visit, especially if the weather is bad.

### **Commercial users**

The museum will provide a venue for meetings, events, weddings and filming locations. People attending one of these events will be able to visit the museum.

The exhibition design must also provide all information bilingually and provide information that is accessible to people with learning physical and sensory disabilities.

## 3.2 Understanding the target audiences

### 3.2.1 The old Museum of Speed (current visitors)



The Museum of Speed opened in 1996 and was dedicated to the use of Pendine Sands for land speed records. Initially entry to the museum was free but from 2016 admission was charged but only when Babs was resident, the rest of the year the museum was free. Prior to admission charges the museum attracted 35,000 visitors per year, this reduced by 54% in

2015-16. The museum was open from Easter to the end of September and Babs was on display from early July. No visitor information or surveys were collected apart from the visitor numbers.

In order to understand perceptions of the old museum the stakeholder workshop included a discussion about the old museum and what people liked or didn't like about the old museum.

The group liked the location of the museum, right above the beach and the shape of the building. One of the group remembered when the building was a library. The subject of land speed records



meant that there was a lot of interest in the museum, it's a fantastic story. Visitors liked the film and seeing Babs. They commented that the museum was quite sparse and if Babs wasn't elsewhere there wasn't much to see. The information could be better presented and was quite dry, it wasn't interesting to people who aren't enthusiasts.

The displays were quite old and look tired and needed an update. The museum closed from September

when people without children go on holiday. Also, the museum was always shut on a Monday. It must have been a bit of a let-down for people who had come a long way as there wasn't much to it once you'd seen Babs, and it probably didn't get many repeat visits.

There could be something for children that would grab their attention and give them something to do, and it would be great to be able to work with the schools and make sure that it appeals to them.

### 3.2.2 Stakeholder workshop

A stakeholder workshop took place at the Chinese Restaurant in the Parry Thomas Centre that overlooks the beach and is adjacent to the museum. 20 people attended the meeting including local shop and business owners, staff from Carmarthenshire County Council, the Dylan Thomas Boathouse, Pendine Community Council, MALD and Pendine Outdoor Education Centre. The group began with a discussion about the old museum and their experience of the museum and what they liked or didn't like. They discussed the stories that the museum could tell, types of interpretive media, the proposed hands on interactive exhibits and admission prices. The full notes are at Appendix A.

The group were asked to brainstorm the stories that they already knew about the beach, its use for land speed records and other uses. They were also asked what stories they would like to know more about. There was lots of knowledge about recent use of the beach for events and speed records as well as Parry Thomas, Malcolm Campbell and Babs. There were lots of questions and interest about the history of the MoD and Llanmiloe. There was interest and knowledge about the flying sweethearts although some confusion over a connection with Amelia Earhart. The group talked about the local caves known as the bleeding caves and the fact that cockles, mussels and laver bread are all still harvested from the beach. Older people remember the motorbike races along the beach and these stories appealed to those with an interest in the land speed records. There was some interest in finding out more about bicycle manufacture in Carmarthenshire but the real focus of the group's interest was the land speed records, the motor events past and present and the significance of Pendine beach. Everyone took great pride in the history of the land speed records and the part played by Pendine beach. Some of the group suggested that the museum should be the Home of Welsh Motoring or Racing. This would not be practical or possible but demonstrates local pride in the history.

The group discussed the pros and cons of different ways of telling the story in the museum.

Comments included:

- Important to have real objects
- A simulator would be great – so that you can feel the speed, the bumps and smell the engine. There is a good one at Brooklands and at the naval Dockyard they have a helicopter experience for 3 players
- Costume including some from the Hot Rods would put the cars in a social context
- Need to be able to fire up the engines and get the feel and the smell
- Need to be able to touch – maybe replicas or some of the materials if you can't touch the cars
- Show aerodynamism with natural history specimens – like birds
- Link displays to national curriculum – could include life cycles and food chains
- Be good to have displays about natural history and environment for schools and families
- Give the context for the speed records – how fast did other things go?
- Selfie opportunities
- Keep it unique – link everything back to Pendine
- Use digital interpretation

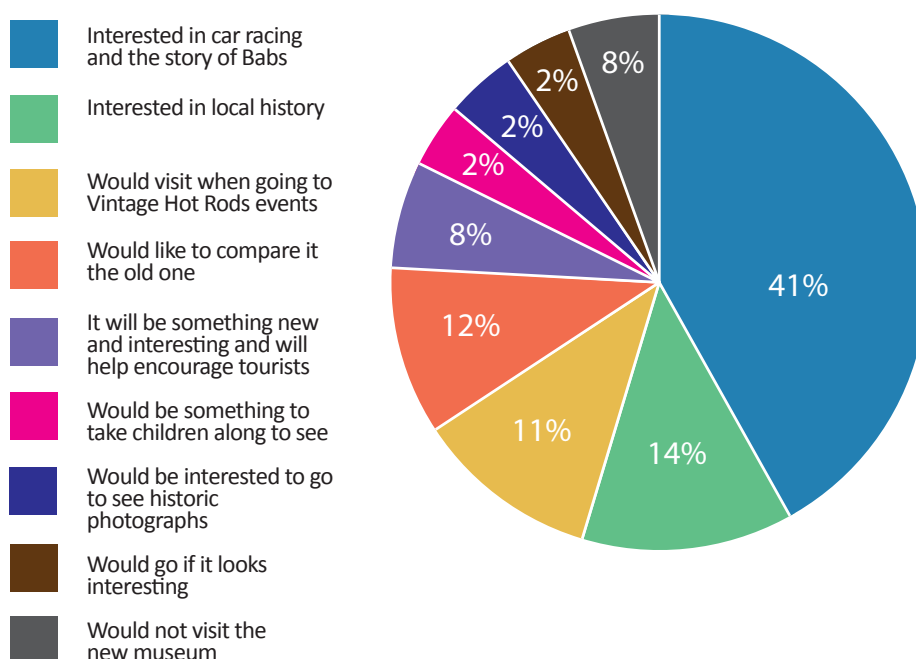
### Interactive Exhibits

The group reviewed the interactive exhibit proposals designed by Real Studio. At this stage these are concept ideas and the group’s input was sought to help the project team make decisions about which exhibits will work best. The most popular exhibit (with 20 votes) was the driving experience. This was followed by the design a car interactive (17 votes), race the bike to see if you can beat Guy Martin’s record (14). The VR headsets that allow users to experience the view of different animals and the life under the sand exhibit both got 4 votes. The other exhibits (365 days, the river table, mud flats VR and microscope) all got no votes.

### 3.2.3 Consultation with enthusiasts

In order to understand the needs and interests of enthusiasts the team sent surveys to three different groups. The Sunbeam Talbot Alpine Register is an owners’ group, many of whom have restored their vehicles themselves. The Vintage Hot Rods Association (VHRA) is a member’s club for American vehicles dating from the 1940s and 1950s. Surveys were also sent to volunteers and trustees at the British Commercial Vehicle Museum, which has just reopened after a major refurbishment. There was a great deal of interest in the Museum of Speed project, one of the STAR members has found some photographs of Babs when first dug up and one of the trustees at BCVM has provided information about the Leyland Eight cars and some photographs.

193 people completed the survey (all but one using survey monkey). 45% of respondents are aged 51-65, 30% 26-50 and 22% over 65 (3% didn’t answer the question). 65% of the respondents had visited the Museum of Speed in the last three years, 12% in the last 10 years and 4% more than 10 years ago. 22% had not visited the museum. The high number of recent visits may be connected to attendance at annual events by members of the Vintage Hot Rods. Respondents were asked if they had visited the beach at Pendine and why, some people indicated more than one reason: 54% had been for an event, 24% on holiday, 19% to visit the museum and 37% ticked other. Most people who ticked other specified that they lived locally (14% of the total). Respondents were asked why they would visit the new museum, the comments were grouped together and summarised in the pie chart below.



*I liked the old one so I should imagine the new one will be even better.*  
*I love seeing Babs and when they run her on the sand it is one of the best sounds to hear, that engine, and see her.*  
*Just to see if is better than the old one.*  
*As a VHRA member and participant in the Hot Rod Races I feel I have a personal interest in the history and heritage of Pendine Sands as a motorsport venue.*

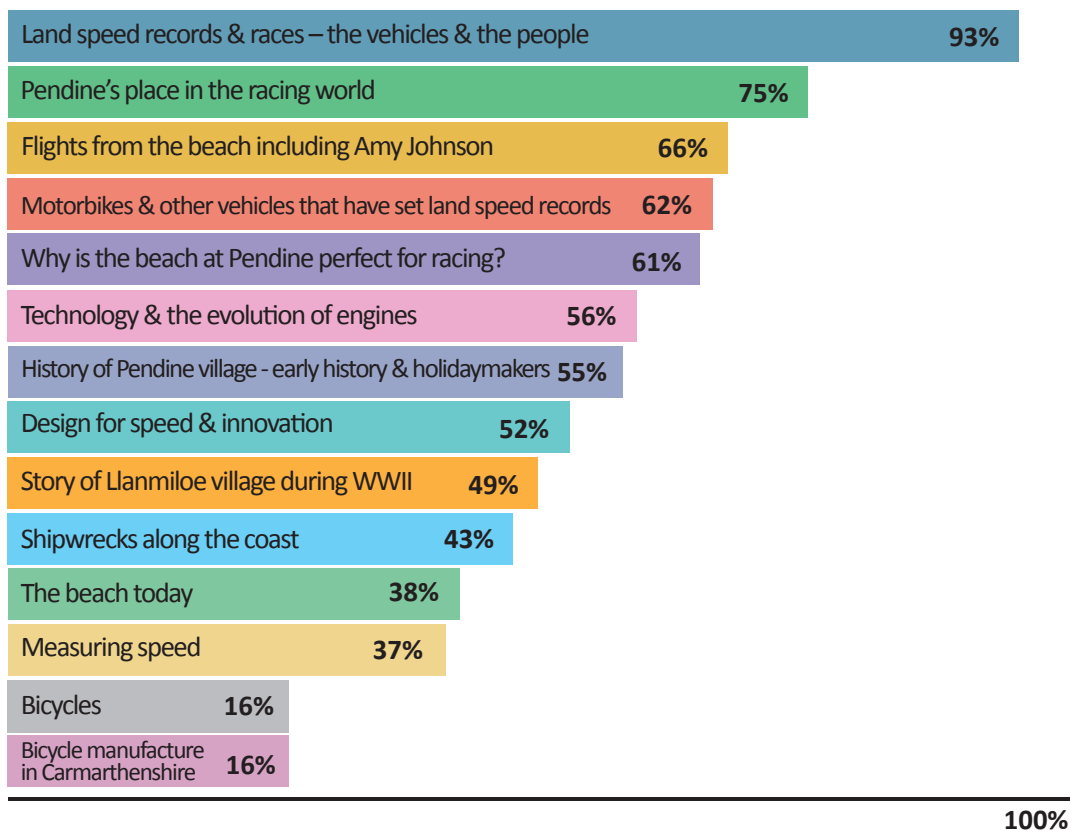
The old museum was very focused on the story of Babs and visitors were often disappointed to find that Babs was not always on display. Babs is only available on loan to the museum for a few (between 8 and 16) weeks each year. Respondents were asked “How important do you think Babs is to the museum experience – would Babs not being there affect your decision to visit?” 189 people answered this question.

46% said that it was critical that Babs was at the museum, and it would affect their decision to visit. 43% said that they would visit even if Babs was not there. This response can be further divided into those who said they would visit anyway (15%) and those who said that Babs is very important, but they would visit if Babs wasn’t at the museum (28%).

7% said that it would depend what else was on display and 4% said possibly or they didn’t know.

*Babs is definitely the big draw. The history of Babs and Pendine are entwined.*  
*Very important and I would hope it was there if I visited. If I knew it wasn’t, I might not visit.*  
*Babs is a fascinating car to me, and her history is both tragic and inspiring in equal measures.*  
*It would be a shame if Babs was not there, but I would still visit.*

Respondents were asked which topics they found most appealing. The results are shown in the chart:



Respondents were asked about how the museum could appeal to families. 128 people answered the question with lots of ideas.

41% said make sure it's interactive with lots of things to do

16% of the comments suggested using VR, AV and film to help tell the story

8% said a range of subjects would make sure it has a wide appeal

5% of the comments suggested multi-sensory exhibits such as noise, smell and tactile would bring the story to life

5% of respondents said lots of vehicles would appeal to younger visitors

4% of the comments were about making sure that the information is not dumbed down and still appealed to people who know about the subject

3% said information about events on the beach and have activities linked to the events

2% suggested having things that move

Comments by individuals included:

More parking, photo opportunities, demonstrate engines working in the museum, show the passion and enthusiasm that people have for speed and cars, somewhere to sit and relax for older people

***Interactive displays always help get kids interested. A driving simulator run down the beach for example.***

***Good interpretation, making the history part of the future, make it visually exciting, have a good mix of permanent collection but leave space for different themed exhibitions.***

The final question asked "What would you like to discover in the museum?" 156 people answered the question.

21% of the responses were about the local history

17% said racing and motor history

13% said land speed records and Babs

12% said I'd like to learn something new or find something I didn't know

6% said film and historic photographs

6% said information or displays about VHRA

6% said the development and technology of engines and cars (and bring the story up to date)

4% said WWII and Llanmiloe

3% said interactive exhibits and things to do

3% said anything related to the subjects

3% said the geology and natural history

3% said a sense of discovery and opportunity to learn something

1% said a café

1% said the passion and enthusiasm of the people involved

Two people said that they would like to see their cars on display!

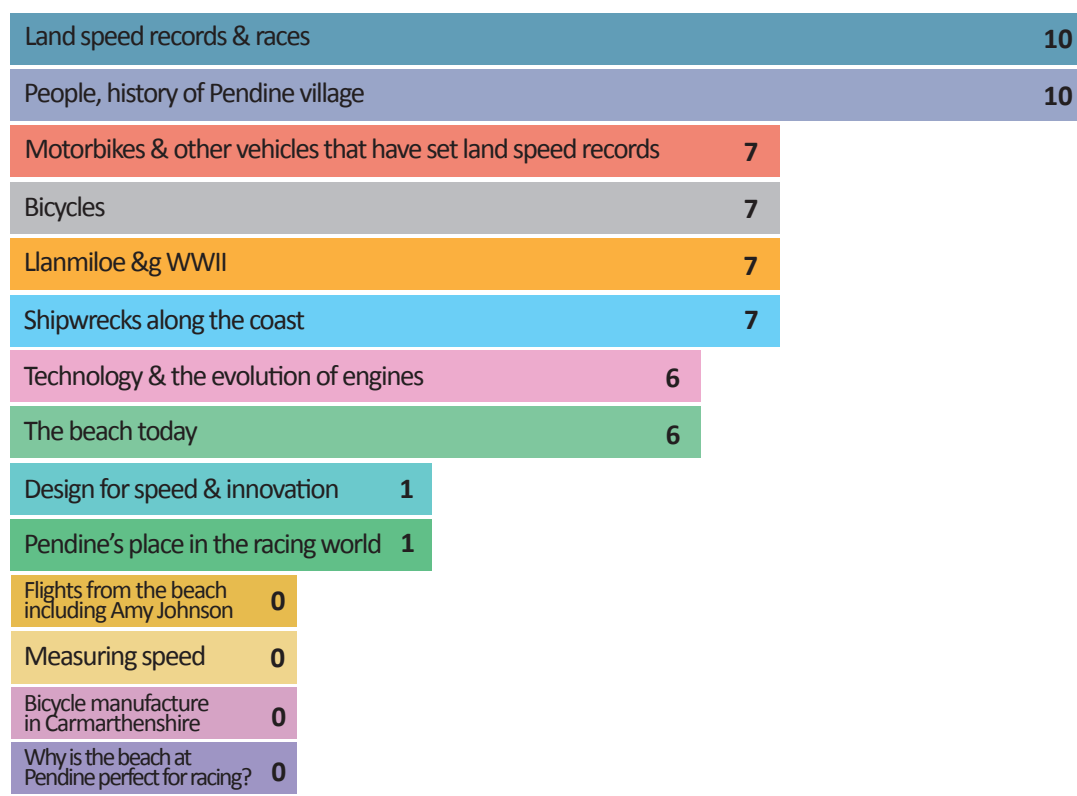
***Being an old car buff, if it has wheels, I'm normally happy.***

***I don't know about bicycle production locally (was there anything in the old museum) and I'd never even thought about shipwrecks.***

### 3.2.4 Consultation with families

During the February half term holiday surveys were carried out with families enjoying the unseasonably warm weather at Pendine. 11 groups were asked questions about the proposed stories and proposals. Seven of the groups included children or young people, three included people over 65 and six adults aged 51-65. They were asked if they had visited the Museum of Speed in the past, 36% said yes in the last three years, 27% said yes but it was more than 10 years ago (these people live locally) and 36% said they had not been. All but one respondent said that they would visit the new museum. They were asked to say why they would visit responses included: Interesting to learn new things, because it's new, interest in old cars, fan of motor racing, to see Babs and the Douglas motorbike and one respondent said they had come today to see Babs only to find the museum closed.

Respondents were asked which topics they found most appealing. The results are in the chart below:



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Respondents were asked, how could we make the story appealing to families and school pupils? Over half (8 out of 11) of the respondents suggested interactives or hands on or things to do. Other responses included design a car activity, a nice café or coffee shop, a playground, something that you can sit in and have a go, archive films. They were asked what would you like to discover or learn at the museum? Five people answered the question and the responses suggested the real things, historic objects such as advertising signs and engine parts and fast cars. They were asked how much they would be prepared to pay for admission, 66% said £4, 5% said £6 and one person (11%) said £8.

Four people (36%) said that they would prefer a donation but did not specify how much they would give.

### 3.2.5 Consultation with schools

#### Llanmiloe School

The deputy head discussed the new museum with her class to find out which topics they find interesting and what they would like to discover at the museum. The pupils enjoy visiting museums with family and friends and like to read things, look at real objects, have a go and touch things. The topics that they found most interesting were

- Why the beach is long and flat and good for racing
- What it takes to make a car or bike go fast
- The records for the fastest car, shed, bike and lawnmower and who set them?
- How an engine works and how they have changed to go faster
- How do they measure speed?
- The topics that they found least interesting were: people coming on holiday and why the MoD are based at Llanmiloe.

They would like to know why Pendine is used for speed records?

The teacher was asked if the school had visited the old Museum of Speed or any other museums in Carmarthenshire. The school have in the past walked to the Museum of Speed but don't visit any of the other Carmarthenshire museums. They have been to Scolton Manor and the National Woollen Museum to study Victorians; Caerleon Museum (Newport) to study Romans; Casetell Henllys to study Celts and the trench at Morfa Bay for the Second World War. She agreed that the museum could link to the following suggested curriculum subjects:

- Natural history and geology of the local area,
- Social and local history (including the role of the area in WWII and the Ministry of Defence, as well as the area as a holiday destination)
- Land speed records (including forces, aerodynamics, vehicle design and engineering, safety)
- Development of the car, motorbike and bicycle
- Maths linked to motoring (including speed, forces, friction, measurement etc)

She also suggested that the museum would need to cover a wide range of topics and make sure that exhibits can be used by more than one pupil at a time. There could also be practical experiments, linked to science - forces, sound, light. Exploration of sea life and rock pool creatures, tides and tidal patterns. The interpretation should be bilingual to encourage our children to read in Welsh as well as English.

Notes to follow **after consultation with and Llys Hywel Primary School, Whitland.**

### 3.2.6 Stakeholder organisations

In addition to the stakeholder workshop the consultant team also spoke to and met with people who are connected to the story or have an interest in the museum.



### **Geraint Owen: Owner of Babs**

Geraint is one of the three owners of Babs and son of Owen Wyn Owen who dug up Babs in 1967. The terms of the trust that was founded after Babs was dug up is that she is available for display at Pendine during July and August each year. This has often been extended, but Geraint takes Babs to events and she is on display at other museums throughout the year including Brooklands and Beaulieu. At Beaulieu Babs is currently part of an exhibition about the film Chitty Chitty Bang Bang, as she was originally owned by Count Zeborowski, who owned Chitty Chitty Bang the car on which the film was based. It would be hard to have a Babs centred museum as the car will not be there all year. The aim should be for a fabulous museum that looks even better when Babs is there. Museum visitors today have high expectations and expect lots of things to do. It would be great to have a simulator that allows visitors to experience the drive.

The story of Babs is a well known one especially in Wales, where people are proud of the connection with Parry Thomas. Although Parry Thomas left Wales when he was 18 and Babs was only at Pendine three times the two are forever connected to Pendine. The story of digging up Babs was in the national news and has remained in local folklore, but this may be diminishing as the older generation dies.

The story of the conservation of Babs would be an interesting one that could link to STEM and the national curriculum. When Babs was dug up some of the metals were corroded and some parts survived intact.

### **Neil Fretwell: The Vintage Hot Rods Association (VHRA)**

The group has run an annual racing event on Pendine beach since 2012. The association was started in the 1990s and now has over 500 members. Hot rods are typically old, classic or modern American cars with large engines modified for faster speed.

The racing at Pendine takes place over two days and is one of the most important dates on the hot rod calendar, with participants coming from all over the world to take part in what is described by the association as the world's fastest and most exciting beach racing competition. The races are open to traditional hot rods and customs, with speeds exceeding 120 mph. In past years the event has drawn up to 3,000 spectators.

Neil Fretwell organises VHRA events and is keen for the association to be involved with the new Museum of Speed. He noted that the previous museum displays were disappointing; there needed to be more content and more interactivity to draw in and interest a wide variety of visitors, including families. As a car enthusiast he said that he was disappointed when Babs was not on display but stressed that if the overall story was better presented and was more engaging then the lack of Babs would not be as much of an issue. Displaying alternative cars, linked to the land speed records story and to Pendine Sands, would be a good way to manage her absence. He felt that the story told was difficult because it only covered a limited period of history; he suggested that the scope of the story should be widened out considerably.

Neil noted that VHRA members have their own 'collections' of car components and parts (for example pistons and cam shafts) and that there is potential for them to loan or donate items which could be put on display. These items have no intrinsic value but could be cleaned and painted and displayed and/or handled to help visitors understand the technology and design of vintage cars. There is a particular sense of style associated with the hot rod car scene, derived from the rock and roll scene and car boom in America of the 1940s and 1950s. Some of the members dress to fit with this era. VHRA has club t-shirts and members may be able to help with suggestions for fashion and style associated with the car scene/community that could be used in the new displays. They may be able to loan clothing and memorabilia for display. They also produced a film about racing a few years ago which might also be used.

In his report 'Towards a new museum complex for Pendine' Chris Delaney suggests that a key aim of any new exhibition should be to bring to life the experience of racing from a driver's perspective. He suggests engaging with hot rodders and recording filmed oral histories that could be included in the new interpretation:

*"The modern events are like the earlier ones in that they are about pushing your vehicle as far and fast as you can. There is a shared root to the desires and needs of the participants in both eras. What the racers of today can tell us is how it feels to race, what drives them to spend long, cold, dark hours in a garage, wet nights in a tent and a lot of personal money to achieve success in a vehicle. They can articulate how the sand feels beneath their wheels. They have experience of something theoretically open to everyone but experienced by so few, The Museum should capture this intangible heritage in voice and film to echo the unrecorded feelings of Parry-Thomas et al."*

#### **Chris Delaney: Pendine Community Council**

Chris was involved with the Museum of Speed when he worked for Carmarthenshire County Council museum service. He was also the author of one of the reports that was part of the development of the new museum. Chris has provided information about the geology of the coast and took part in the stakeholder workshop.

#### **Lynn Hughes: Author of Pendine Races**

Lynn took part in the stakeholder workshop and has offered to review the historical notes once complete. He is keen to see the new museum tell a range of stories and has a particular interest in the history of the beach used for motorbike racing.

## 4. The story we want to tell – summary



The long straight beach at Pendine Sands was used for racing and land speed records, including those set by Malcolm Campbell and Parry Thomas, who was killed on the beach attempting a land speed record.

### **Pendine Sands and Carmarthen Bay**

The sands are a 7 mile (11km) long, straight, level strip of sand that is exposed at low tide and stretches from Gilman Point to Laugharne Sands. The sands are part of Carmarthen Bay a

landscape that is described as having the most varied assemblage of coastal features in the British Isles. The area has been designated a Special Protection Area due to the geology and natural history of the coast and the diversity of marine life. There are major dunes, sand spits, barrier beaches, hard rock and easily eroded cliffs; raised beaches, sand flats and salt marshes. Behind the Pendine Sands lie a system of dunes known as the Pendine Burrows. This is essentially a formation of sand or shingle jutting out into the sea from land, called a land spit.

Carmarthen Bay has been shaped by seawater and weathering throughout the geological period called the Quaternary period. This period began 2.6 million years ago, includes the last Ice Age and is still changing the landscape today. In the last 12,000 years the coastline and sand dunes around Pendine have continued to change.

Carmarthen Bay was a dangerous place for ships. It faces the prevailing south west wind and lies at the mouth of three rivers. Sailing ships could not sail out of Carmarthen Bay into the wind, and the bay has very high tides. The remains of the wrecks can occasionally be seen today and there is no commercial shipping in the area.

*'like an immense desert of barren sands, miles upon miles of which [are]...to be seen with the melancholy mementoes of wrecked ships, their bleached, rotten timbers...just appearing above the sands, marking the spot where perished the unfortunate mariners...'* The sand bar at low tide described by Captain Armstrong 1878.

*Teviotdale in 1976 (Photo: T. A. James)*



Ships wrecked off the coast were commemorated in models which are part of the museum service's collections. One of these ships was The Nautilus. This brig was captained by Captain J. Thomas of Laugharne. His navigator was John Thomas who was immortalised by Dylan Thomas as Captain Cat in Under Milk Wood. The ship was owned by the

modeller's family. The Nautilus sailed to India and China with grain and malt. It carried masonry block from Bristol on its return. This ship was not wrecked but was finally broken up at Green Banks, Laugharne in 1913.

### Pendine Beach

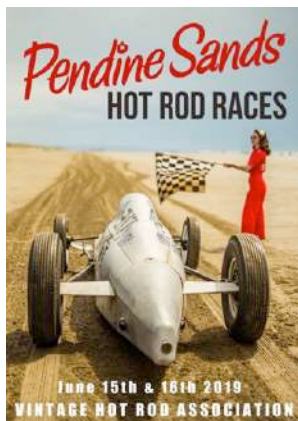
From the mid 1700s there was a growing interest in sea bathing for health benefits, it was during this period that nearby Tenby developed into a seaside destination. Pendine was smaller scale and provided a sea-bathing resort for people staying in Laugharne. During the late 1800s the Beach House Hotel opened, and local inns and pubs provided further accommodation. The railway line did not come as far as Pendine and this had an impact on the popularity of the village for a seaside resort.

Analysis of historic maps shows the changing environment around Pendine. Before the 1900s the area is largely agricultural with most buildings on higher ground. Llanmiloe was a small settlement with a couple of houses clustered near to Llanmiloe House. The 1912 map shows new buildings on the beachfront at Pendine and the construction of Marsh Road. By the 1940s there are significant numbers of caravan sites on what was farmland and there are more buildings along Marsh Road. The boundary of the beach is marked clearly showing MoD ownership.

During the 1800s the long beach was used for horse racing, bicycle racing and athletics events. The horse racing event - Pendine Races was an annual event and took place between the hay and corn harvests. The Carmarthen Journal recorded 500 people watching in 1884.

The first official motorbike race at Pendine took place in August 1905 and was won by Mansel Davies of Llanfyrnach on a Humber motorbike borrowed from his brother. Mansel went on to establish a haulage firm, which still operates today. The Pembrokeshire Automobile Club was one of the earliest motorists' clubs and organised hill climbs and speed trails at Pendine. The first motor rally in Great Britain was held in Swansea and Pendine in 1909. In the early days the cars were driven by chauffeurs or motor mechanics while the owners watched. The early events included cars and motorbikes, and Pendine was described as the finest natural race course.

The beach is still used today. The Vintage Hot Rod Association hold an annual event at Pendine. There are strict regulations and all vehicles must be pre-1949 originals of USA manufacture and must be styled to fit within the period of 1910 – 1960s. Members and spectators come along, dress the part and races are against the clock over a half mile or one mile from a standing start. The cars reach speeds of up to 120 mph.



Straightliners is a motorsports events company that organises motorbike racing events all over the UK. They organise an annual event on Pendine Sands. Helen Lincoln Smith set a recent record at Pendine during a Straightliner event in May 2017 when she became the world's fastest woman riding a motorbike on sand at 137.093 mph she is known as Queen of the Sand. The current world record for a man on a motorbike on sand was set at Pendine in May 2016 at 194.59 mph. Guy Martin set

the speed record for bicycle at 112 mph in 2015 and Kevin Nicks set the land speed record for the fastest shed, at Pendine going 101 mph. The beach is regularly used for filming, including the S4C and BBC series Keeping Faith. The beach featured in the film Pandora and the Flying Dutchman (1951), a film that probably features Dylan Thomas. A recent BBC programme found a photograph that shows Dylan Thomas stood alongside the director of the film and Pendine and close examination of the film shows Dylan Thomas as an extra on one of the scenes filmed at Pendine.

### **Land speed records at Pendine**

#### **Records set 1924 – 1927**

From 1903 to 1930 the speed limit on public roads was 20 mph and long straight sections of roads were often the focus of police traps, so car owners keen to put their vehicles to the test used race tracks.

In order to measure one mile, at speeds of over 150 mph a smooth, flat surface of at least 5 miles (8km) is needed. For a time, records were set at Brooklands on the race track, but as cars went faster the track was too small for recording the flying mile so car racing drivers began to look for other locations.

The first land speed record attempt at Pendine was by Malcolm Campbell on 25<sup>th</sup> September 1924 when he set a record of 146.16 mph in his Sunbeam 350hp car called Blue Bird.

Four other record breaking runs in cars were made on Pendine Sands between 1924 and 1927. Two of these were by Malcolm Campbell and two by Parry Thomas. In July 1925 Campbell broke the 150 mph barrier. In April 1926, Parry Thomas added approximately 20mph to break the land speed record at 169 mph and later that year 171 mph. Campbell raised the record to 174.22 mph in February 1927 with his second Blue Bird. On 3 March 1927 Parry Thomas attempted to beat Campbell's record. On his final run while travelling at about 170 mph the car crashed, killing Parry Thomas. He was the first driver to be killed setting a land speed record. There is a lot of controversy over Parry Thomas' death and whether there were issues with his car, the wheels and even his health on the day of the attempt.

Competing against Campbell and Thomas was Harry Seagrave who set a land speed record on 16<sup>th</sup> March 1926 in his Sunbeam Tiger on the beach at Southport, and on 29<sup>th</sup> March 1927 set the land speed record for 200 mph on Daytona Beach (In the US). Malcolm Campbell's land speed record set at Pendine in 1927 was, for 90 years the British land speed record and was held until 2015 when Idris Elba set a new record at 180 mph at Pendine.

Wilfred Morgan the local coast guard played an important role in providing information for the racing drivers about the tides, conditions and the state of the sand. The beach was best for racing during the spring tide period, these high tides leave the beach smooth and level and because the tide takes longer to come back in the sand has more time to dry out. Today it is the Community Council that assess local conditions for contemporary speed or race events.

The speed and racing events were watched by large crowds and reported in the motor racing, local and national press. Toy models of the cars were popular toys as were games featuring the cars and their drivers. The drivers were well known personalities and the sport was seen as glamorous and those competing celebrities.

### Measuring speed

In the 1920s the land speed record was measured using a flying mile. This takes the average speed of a vehicle across the two rolling start runs of a mile each. The two timed runs (one in each direction) must take place within one hour.

## Parry Thomas and Malcolm Campbell

### Parry Thomas

JG Parry Thomas was born in Wrexham in 1884. His father John William Thomas was curate at St James' Church Rhosddu. He was known by his family as Godfrey and on the race track as Tommy, but in posterity he became Parry Thomas. He went to school in Oswestry and college in London to study electrical engineering. It was while at college that he met Ken Thomson, his business partner, and bought his first motorbike. Parry Thomas began his career working at Siemens and then worked for Clayton and Shuttleworth Ltd where he built tractors and threshing machines.



He moved to Leyland Motors and by 1917 was Chief Engineer. The directors at Leyland inspired by early motor racing directed Thomas to build a perfect motor car and not to worry about the cost. He worked with Reid Railton to build the Leyland Eight motorcar. This was first shown to the public in 1920 at the London Motor Show. The car was called by the press the Lion of Olympia and was an open four seater, the first British motor car with an 8-cylinder in-line engine. Thomas persuaded the Leyland directors to let him race the car at Brooklands, and won races, but this did not continue, and Thomas left Leyland Motors in 1923 to continue with his motor racing career. He continued work on the Leyland Eight car renaming it Leyland-Thomas and on 26<sup>th</sup> June 1924 he broke the land speed record at 129.73 mph on the Brooklands racing track. He was a technically brilliant engineer and registered 24 patents including ones for electric power transmission (1910) and method of testing gear wheels (1920).

He was known as a man of few words, usually dressed in baggy trousers and a fair isle jumper, he lacked the glamour of Seagrave or Campbell but was famous for his fearless driving. He bought Babs

in 1923 and raced her until his death at Pendine in 1927. His death on the beach, was recorded on the front page of the Daily Mirror.

### **Malcolm Campbell**

Malcolm Campbell was born in 1885 in Scotland. He began motorbike racing competing in long distance trails and winning successive events in 1906-08. During the First World War he joined the Royal Flying Corps, and later set up a business manufacturing aeroplane parts. He began to race cars at Brooklands and was the first driver to give his cars names. His first was Flapper. Campbell's friend named his Chitty Bang Bang.

Campbell attempted land speed records at Saltburn and Skegness in Blue Bird 1924 and on the Faroe Islands without success. At the latter event his car lost a tyre at 150 mph and injured a boy spectating. In September 1924 he came to Pendine and set the first land speed record set at Pendine with a speed of 146 mph. Malcolm Campbell went on to set further land speed records and speed records on water. He died in 1948 after a series of strokes. His son Donald Campbell went on to set land and water speed records and was killed on lake Coniston in 1967. Don Wales grandson of Malcolm and nephew of Donald has set land speed records and has driven Malcolm Campbell's Sunbeam at Pendine.

### **The cars**

#### **Malcolm Campbell's Sunbeam Blue Bird**

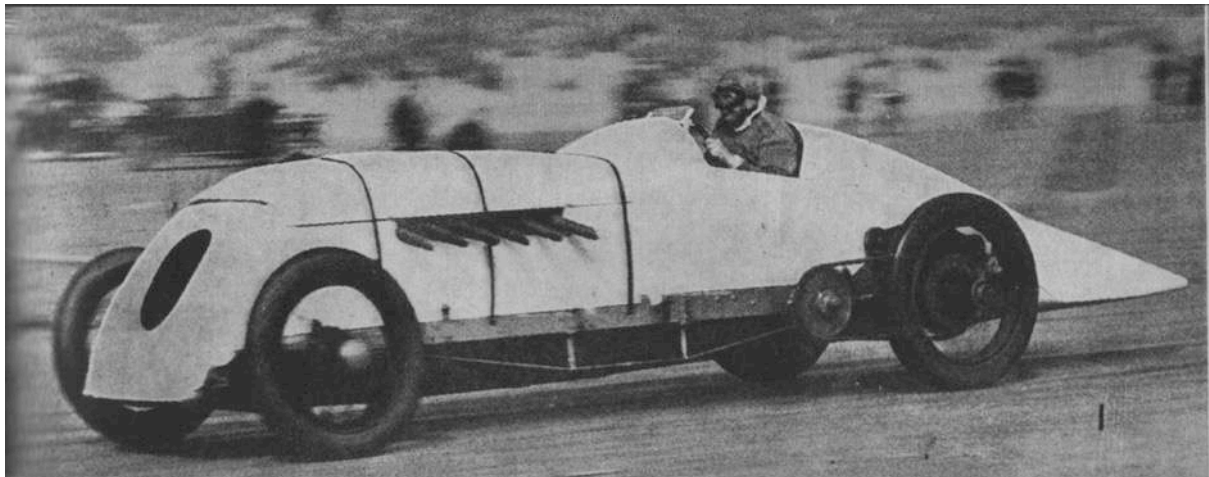
Malcolm Campbell set a record for 146.16 mph in his Sunbeam Blue Bird in 1924 and again in 1925.

The Sunbeam had been used by KL Guinness in 1922 to set the first flying mile record at Brooklands. Campbell named the car Blue Bird after a play he had seen at Haymarket and called all his cars after this Blue



Bird. The car was designed by Louis Coatalen and built in 1922 the first land speed record car to be built with an aircraft engine. The only brakes were drum brakes on the rear wheels. Campbell had the engine modified and added a streamlined nose cowl and pointed tail. After his land speed record in 1925 when he reached 150 mph, he fitted a new purpose built engine.

## Parry Thomas' Babs



Parry Thomas set his first land speed record in the Leyland-Thomas car in 1924 at Brooklands. His first record at Pendine was in 1926 in Babs.

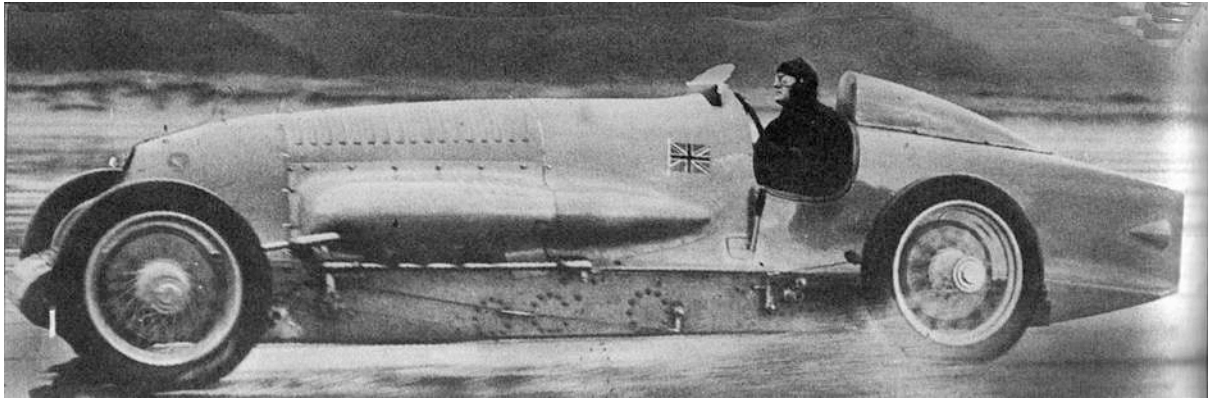
Babs began as the Higham Special built by Clive Gallop for Count Louis Zborowski in 1923. When the Count was killed in 1923 Parry Thomas bought the car and rebuilt it during 1925 -26. In order to achieve higher speeds Thomas installed a 27 litre V-12 Liberty aero-engine (made by Lincoln Motor & Company) which was a modular design using components that could be built up into a variety of engine sizes. The body design was changed to incorporate the engine but the chassis, axles, steering, and suspension systems were those he had used in the Leyland Eight. The car is white with blue – Thomas' racing colours. Babs weighed 1 ton 14,5 cwt (1,750Kg) and it runs on 60% Shell Aviation spirit and 40% Benzole. Parry Thomas modified the car and added self-designed pistons, revised carburation and a higher compression ratio. Babs weighs 1,750Kg about the same as an adult rhino.



There are many theories about the name Babs which during the 1920s was used like the nickname Babe, so it could have been named after any number of women or local girls. The cost of buying and converting the car was probably about £850. After Parry Thomas' death the car was buried on the beach. In 1969 Owen Wyn Owen, an engineering lecturer at Bangor University obtained permission from the MoD and the Thomas family to excavate Babs.

Once Babs was out of the ground ownership was disputed and in the end was split between the National Museum Wales, the local council and Owen Wyn Owen. The restoration of Babs took 16 years and components had to be made or sourced from different places. A replacement V12 Liberty aeroplane engine came from America, Dunlop provided new tyres and a Tomas clutch and a pre-1914 Blitzen Benz gearbox were sourced from the UK.





### Malcolm Campbell's Napier Campbell Bluebird

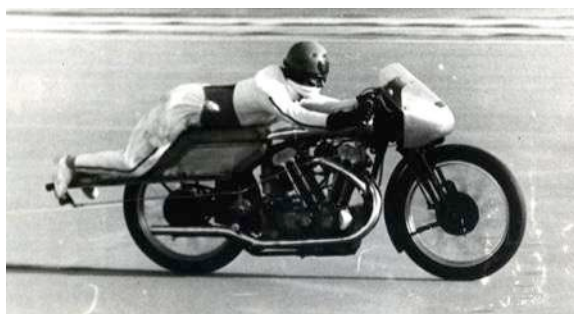
In February 1927 Campbell set the record for 174.233 mph. The car weighed over 3 tons and required steel duckboards to stop it sinking in the sand. Purpose built from scratch the bodywork was made by specialist coachbuilders. At the first attempt in Pendine in 1926 the gear box failed and despite work in the garage at the Beach Hotel the problem was not resolved, and Campbell took the car home. He returned three weeks later. He achieved 172.869 mph over the mile but only in one direction, so the record remained with Parry Thomas.

### Motorbike racing at Pendine

#### The heyday of racing at Pendine



Motorbikes played an important role in the First World War, they were critical for communications and the men who had ridden them came back with new skills and enthusiasm. Soon after the end of the war there were over a hundred British companies manufacturing motorbikes. The first event after the war at Pendine was in August 1919 and was advertised as Motor Cycle Competition at Pendine. The era was dominated by the motorbikes of George Brough. The Brough Superior was capable of 110 mph and the SS100 model was called the Pendine.



The first Welsh TT took place in August 1922 in appalling weather conditions. Ivor Thomas won on a Scott in the 500cc class over 50 miles and CP Wood on a Scott 596cc in the 100 miles unlimited. CP

Wood son of a farmer worked for Scott Works in Shipley where he became a member of the trials team. In the following years the Welsh TT was won by riders on Brough motorbikes. Many of the riders were works riders, employees of the companies. Others like Handel Davies and Billy Edwards were mechanics. George Dance was a well-known rider and won fifteen sprint races at Pendine, but often the well-known and professionals were beaten by local riders. The big races were at Whitsun (May) and August Bank Holidays. The economic depression affected the Pendine Races and as unemployment rose entries declined and by the 1930s speed limits on public roads were increased.

### **Racing in the 1930s**

During the 1930s the races at Pendine continued with well-known figures such as Jack Carr a butcher from Skipton, and Ronnie Parkinson, a tailor by trade who rode in tailored white earning him the nickname 'the man in white'. Eddie Stephens from Carmarthen was another regular, he began racing at Pendine in 1924 on a 125cc Aerial and raced until the 1940s. He was also the club secretary and in the late 1920s he set up a garage business with his brother Iago in Carmarthen called Eddie Stephens Motors Ltd. During this period races were dominated by Norton 'International' motorbikes.

During the Second World War racing stopped and the MoD took over the beach. Despite petrol shortages the Swansea Motor Cycle Club arranged the first race at Pendine at Easter in 1946. Motorbike racing on the beach has continued with Straightliner events.

### **Carmarthen bicycles**

The Defiance Cycle Works, later the Royal Defiance was founded by five Williams brothers in Glanaman. It was the first and only bicycle company in Wales and one of only a few, outside of Coventry that made safety bicycles (bicycles with equal sized wheels which were considered safer than the high penny-farthings). the company had shops in Ammanford, Llanelli and Swansea and their bicycles were exported to Australia and South Africa. In South Africa CJ Kruger won over £400 prize money in five months riding Royal Defiance bicycles.

Bowden Engineering was in Llanelli from 1963 until 2006 and made Bowden cables for motorbikes, technology that was first used on bicycles. It is not clear who invented Bowden cable. It was a flexible cable that provided a much improved system of braking for bicycles and was later adapted for motorbikes.

The development of motorbikes was closely connected to the development of bicycles. The Defiance Cycle Works in Carmarthenshire made the first Welsh motorbike in 1901 at the smithy on the family's smithy close to the farm in Carmarthen.

### **Design and technology**

#### **Developing cars to go faster**

As drivers and owners competed to make cars faster, they had to consider the shape of the car, and the design of the engine. The modern car evolved from attempts to motorise horse drawn carriages and the size of an engine is still measured in horse power.

The rise in speeds from 1894 – 1914 charts the change from 1 cylinder to 12 cylinders, two to four wheel brakes, and from solid axles to pneumatic suspension, and from speeds of 12 mph to 120 mph. Although Parry Thomas was the first person to be killed setting a land speed record there were plenty of injuries to both racers and spectators. Setting land speed records was not for the faint hearted.

The engineers had to consider the weight of the vehicle over power, and questions such as would the tyres stand up to the new speeds and what about the driver? The speeds being discussed were faster than aeroplanes flew.

### **Bodywork design**

The durability of the bodywork was very important due to the rough surfaces. The cars were designed to be aerodynamic and wing biomimetics – human design mimicking natural design found in nature.

More recent vehicles that have set or will be attempting land speed records such as Thrust 1 and 2, Thrust SSC and Bloodhound are shaped more like a rocket. Aeroplanes and rockets can go faster than vehicles on the ground because they achieve fast speeds higher in the atmosphere where there is no or little air resistance (or drag).

### **Engines**

The development of motorbikes followed the development of bicycles, early motorbikes were essentially bicycles with engines. Some early cars followed the same principle and used chains to transfer the power from the engine to the wheels. Babs used chains (covered with a fairing) to drive the wheels.

Car engines are built around a set of cylinders (anything from two to twelve). Fuel and air are ignited in the cylinder. The cylinders open and close (like a bicycle pump) so that the pistons can slide up and down inside. At the top of each cylinder there are two valves that allow fuel to enter and exhaust gas to escape. A spark plug at the top of the cylinder sparks to light the fuel and at the bottom of the cylinder the piston makes the crankshaft rotate. The crankshaft turns the transmission, which transmits that power to the car's wheels. The principles of the engine have remained the same but have become more efficient, more powerful less noisy and less polluting.

The development of aeroplane engines during the First World War provided new technology that would help propel cars to 150 mph and beyond. These motors were lighter and more powerful than piston engines. The cylinders in an aeroplane engine were often set radially round the clock, in a traditional motor car engine the cylinders are arranged in a line in a block.

### **Other adaptations**

Dunlop tyres began when John B Dunlop created a rubber tyre that could be inflated (using the teat from a baby's bottle) for his son's tricycle. Dunlop patented the pneumatic tyre in 1888 and set up the Dunlop pneumatic Tyre Company in Dublin. They made tyres for bicycles and by 1900s tyres for

cars. In 1922 a steel bead wire and textile cord were incorporated into the production of tyres, which trebled their strength. Together with a sunken rim, this became a standard for the market.

Early mechanical drum brakes comprised steel cables wrapped around the drums of the rear wheel and pulled on by a hand lever. The problem with this type of drum brakes was that they were external, and dust, heat and water all affected the efficiency. Later drum brakes used internal shoes which expanded on the inside of the brake drum.

### Flying sweethearts



In 1933 the flying sweethearts Jim Mollison and Amy Johnson came to Pendine Sands to start their world record for a round the world flight. Both pilots had already set world records and were as famous (and glamorous) as film stars. The first stage of their round the world flight was from Wales across the Atlantic to New York. They were based at Pendine for three weeks while they

waited for the right weather conditions and hundreds of people came to see the pilots and their plane – called Seafarer. Finally, on 22<sup>nd</sup> July 1933 they took off. The plane was fitted with extra fuel tanks, but they ran out of petrol before they reached New York and had to crash land in Bridgeport Connecticut. Both Amy Johnson and Jim Mollison were injured. They did become the first couple to fly across the Atlantic, and had lunch with the President and Amelia Earhart, the first woman aviator to fly solo across the Atlantic.

### Weapons testing on the beach



In 1938 the MoD moved its School of Musketry from Hythe on the Kent coast to various safer locations around the UK. This included Pendine on the Pembrokeshire coast to test and develop small arms. The staff from Hythe relocated to Pendine under Captain S A Pears. A temporary headquarters was set up in the Beach Hotel and then moved into Llanmiloe House. Other buildings were requisitioned to provide accommodation for personnel and

equipment. The village garage became the official workshops area. This was all temporary until the prefabricated bungalows were built in the grounds of Llanmiloe House in December 1941.

Pendine was to be a temporary location, but it soon became a permanent establishment for the testing and evaluation of a wide variety of weapons. In 1945 the Armament Development Board undertook a review of all ranges and it was decided that Pendine would be a permanent establishment. The Decision was approved in 1948 and Pendine became an official Experimental Range.

During 1944 – 45 a welfare centre and church were built adjacent to the housing estate and included a doctor's surgery that cared for local people as well as military personnel. The MoD reclaimed marsh land in order to create a larger sports field with a bowling green, and they built shops and the Pendine Social Club. By the 1950s Llanmiloe was a much larger village and the MoD ranges had also grown substantially, employing up to 2,000 people. Cuts during the 1990s reduced the numbers of employed staff.

In 1951 work began on a 1,500 m test track to be used in the development of dynamic missiles. The test track consists of two parallel, narrow gauge, lengths of precisely aligned railway track. It is used today to enable complex photographic and telemetry data systems to monitor trials. Today the site is managed by QinetiQ which conducts work at MoD Pendine on behalf of the MoD, under contract with the Secretary of State for Defence.

The testing site was used as part of the research for a later land speed record, set by Andy Green in 1997 (763 mph). The team developing Thrust SSC used the MoD testing site at Pendine to check the calculations and modelling. At the testing ground, 13 rocket powered runs were performed, using a 1:25 scale model of the vehicle.

Morfa Bychan to the west of Pendine was part of a project called Jantzen to test the British approach to the beaches in France. The remains of the dragon's teeth, concrete wall and iron girders can be seen at low tide on the beach.

## 5. Collections for display

### **Museum of Speed - collections for display**

Carmarthenshire County Museum's collection includes over 70,000 items. These are mainly stored or displayed at Carmarthenshire County Museum, Parc Howard Museum, the Museum of Speed and Kidwelly Industrial Museum. The collections are of regional and national significance and have been collected from across the whole county. They include fine and decorative arts, costume and textiles, antiquarian books, archaeology and numismatics, ethnography, material culture, natural history, geology, photography and local history.

The original Museum of Speed opened to the public in 1997 and it does not have a dedicated collection. Babs, the 1920s land speed car, is available as a loan each summer and the majority of the other items on display are also on loan. A small number of items are drawn from the County

collection, this includes a motorbike. Many of the items on display were acquired as donations or loans specifically for display within the museum and to complement the display of Babs.

There is scope for the new displays currently being developed for the new Museum of Speed to draw material from all parts of the county collection, and also from other museums, archives and private collectors. Opportunities for loans which have already been identified are incorporated within the summary below, as are additional sources of material which are yet to be fully explored. This demonstrates the wide range of material that is available to tell the key Pendine stories.

### **Car racing and land speed records**

In the original Museum of Speed the primary focus of the land speed record story was on the display of Babs, the car in which Parry Thomas set records in 1926 and 1927. Owned and managed by the Babs Trust the car is available for display at Pendine in July and August each year. The Babs Trust consists of a partnership between Pendine Community Council, Geraint Owen (son of Owen Wyn Owen who recovered the care in 1967 and restored it) and the National Museum of Wales.

Following the restoration and rebuilding of Babs certain original parts of the car were deposited with the National Museum of Wales. These evocative items include an aluminium body shell which is folded into a roughly 1 square metre package, and one long thin detached piece of body shell which was conserved in 2013. There is also an aluminium wheel hub, a steel strut and a box of small ferrous parts. Attached to the body shell are two straps and the panel also shows where the driver will have accessed the car. The car's engine, a V12 Liberty aero-engine is also part of this collection, as well as the crankshaft, and what appears to be part of the tail cone of the car.



*Section of Babs' aluminium body shell, National Museum of Wales*



*Babs' V12 livery aero-engine, National Museum of Wales*

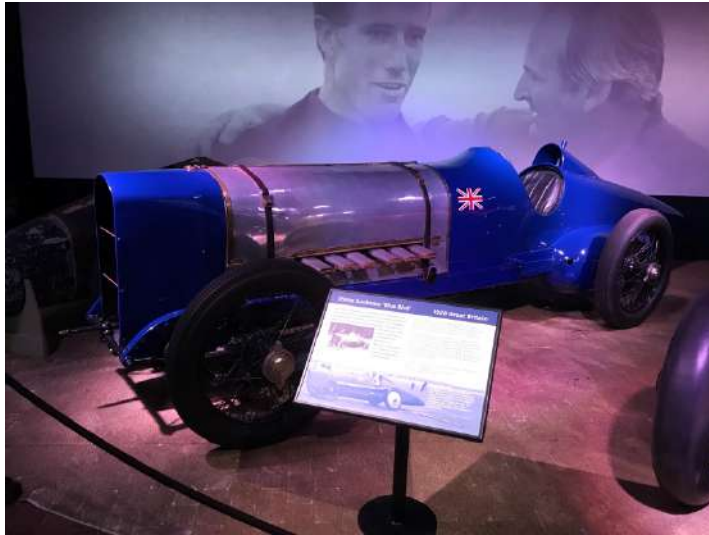
The Parry Thomas story can also be told through a variety of social history items within the county museum collections. Objects include a cigarette card of Parry Thomas dating from 1926, a commemorative plate marking the Parry Thomas centenary, newspaper cuttings relating to record attempts of both Malcolm Campbell and Parry Thomas. There is a large collection of photographs which includes images of Parry Thomas and Babs at Pendine, as well as images depicting various stages throughout his life. There are also a selection of images that show the burial, recovery and restoration of Babs. The excavation of Babs was captured on film by the MoD Photographic Section and a copy of this silent film is held in the British Film Institute archive and can be viewed here: <https://player.bfi.org.uk/free/film/watch-babs-recovery-1927-1969-1969-online>



*Recovering Babs in 1967*

The story of the rivalry between Parry Thomas and Malcolm Campbell as they competed against each other to be the fastest is documented by images, objects and archive material which is available to loan from Beaulieu Motor Museum. These include the Sunbeam Bluebird 350hp, which was the first record breaker at Pendine in 1924 and the first car to exceed 150 mph. The car held the land speed record three times, with a top speed of 150.76 mph. Beaulieu's collection also includes a pair of goggles which belonged to Campbell as well as his helmet. These items, along with a variety of photographs, original adverts and archive film footage, can be made available for loan for inclusion in the new displays.





*Malcolm Campbell's Sunbeam Bluebird*



*Malcolm Campbell's goggles, Beaulieu collection*

Within Beaulieu's collection there are also a number of toy cars, which are models of land speed record setting cars. Amongst these is an example of the Pendine Super Racer. There are similar items within the V & A collection, which includes a lead die cast Blue Bird toy with a lift-off body dating from 1935 and a Napier Campbell Bluebird Racer. These contribute to the story by showing the popular appeal of the cars and the land speed records and their place in the public imagination at the time.



*Toy car from Beaulieu collection*

Additional items within the Carmarthen County collection include a photograph of Campbell in the Sunbeam at Pendine, a signed photo and also commemorative stamps produced to mark the 50th Anniversary of Campbell's death

Within the Beaulieu collection there is also a diagram which shows how the trip wires which were used for measuring the speed of cars was set up.

### **Motorcycle racing**

The racing and speed story best represented within the county collection is that focussed on motorcycle racing, which took place at Pendine from 1919 up until the present day in various forms. There are a number of motorcycles within the collection, including a Sunbeam Sprint motorcycle model 10 and the Douglas SW6 ridden by CP Wood to win the Welsh TT in 1929. There is also a 1903 Bowden motorised bicycle which is accompanied by its insurance and registration documents.



*Bowdon motorised bicycle*

The collection includes a wide variety of material relating to races and to a lesser extent also to speed record attempts. This material comprises trophies, plaques, tankards, cups, badges and medals belonging to a number of motorcyclists who competed at Pendine. A full list of these items can be found at the end of this report in Appendix B. Key items for display include the Welsh TT Trophy from 1922, won first by CP Wood and awarded to other motorcyclists in subsequent years. The trophy was rediscovered in 2001 by historian Lynn Hughes. Other items of note include a medal belonging to Mansel Davies who won the first motorbike race to take place at Pendine in 1903, a range of National Welsh trophies and medals as well as motorcycle helmets: Silver 'Everoak' TT helmet, White BSA 'Centurion' helmet, c 1950-60.



#### *Motorcycle helmets*

There are significant collections of items relating to certain riders such as Fred Rist, Alex Grey, RM Rees, Morris Isaac, AS Griffiths as well as CP Wood, Handel Davies, W Edwards and Eddie Stephens. Of particular note are the assemblages relating to Alex Grey (helmet, cigarette case and cake stand), a silver tea service awarded at the 1925 Open Championship (and other items) belonging to W Edwards. The collection also includes a competitor's entry badge and medal from a competition in 1950 and belonging to Fred Rist.



*1925 Open Championship silver tea service*



*Fred Rist entry badge and medal, 1950*



*Welsh TT Trophy*

In addition there are items that tell the story of motorcycle speed record attempts, such as that by Bob Berry. A former amateur racing motorcyclist, he sought to set a motorcycle World Land Speed Record in Britain with a British made machine. He experimented with a modified Brough Superior on Pendine from 1949 to 1953, and then again in 1959 but was unsuccessful. Photographs in the Carmarthen County collection show these attempts.

### **Bicycle manufacture and racing**

Bicycles were raced on the beach and the Defiance Cycle Works (later Royal Defiance and the first and only bicycle manufacturer in Wales) was based in Carmarthenshire. There are several early examples of bicycles within the county museum collections along with photographs and other items that relate to the history of racing and manufacture. The collection includes several bicycles:

- Penny Farthing (x3)
- Velocipede or 'Bone shaker'
- Sunbeam bicycle about 1914
- Royal Defiance women's bicycle (1930s model)
- Delivery bicycle 1930s
- Raleigh 'Sports' men's bicycle 1950s
- Motorised bicycle c 1903.
- Bowden bicycle style handlebars



*Royal Defiance ladies bicycle*



*Racing at Carmarthen Velodrome*

The collection also includes a cycle helmet, cycling shoes and bicycle lamps along with other accessories. In addition there is a collection of images of the Carmarthen Velodrome which opened in 1900, showing the venue, racers and spectators.

### **Geology, natural history and the coastline Carmarthen Bay and Pendine**

There are numerous photographs of the cliffs and caves near Pendine and of Carmarthen Bay within the collection which provide insights into the unique geology and landscape of the area. There are several samples of millstone grit carboniferous coarse sandstone and carboniferous limestone found on Pendine beach within the collection which could be used for display to aid an understanding of the geology of the area and the properties of the sand at Pendine that provides an ideal racing surface.

There are also a range of natural history specimens (birds, fish and eggs) which could be displayed to highlight the variety of wildlife that is common to the beach and also to demonstrate principles of speed, aerodynamics and natural design which can be linked thematically to an understanding of vehicle design. The birds represented include Manx Shearwater, Gull and Guillemot.

The social history of Pendine is brought to life by photographs and artwork. These include views of Pendine Sands and Carmarthen Bay and postcards and photographs showing holidaymakers in the area and the local campsite and the dunes as well as several of a family outside caravan at Pendine in the 1930s.

Wrecks of ships lost in Carmarthen Bay can still be seen at low tide and there are 18 models of ships wrecked off the coast at Carmarthen Bay within the collection. These include:

- **The Francis Beddoe** - built on Saundersfoot Beach in 1873. It was wrecked in fog on Pendine Sands in 1923.
- **The Nautilus** - a brig which was captained by Captain J. Thomas of Laugharne. His navigator was John Thomas who was immortalised by Dylan Thomas as Captain Cat in Under Milk Wood.
- **The Australia** - a three-masted Norwegian coal-carrying ship which was wrecked on Laugharne Sands in 1901
- **The Eliza Priscilla** – a sloop built in 1840 which was wrecked on the Middle Patch sands between Ginst Pint and Pen Towyn on 26th December 1851.
- **The Lena** - a trading smack at built at Laugharne at the Roberts shipyard. It carried coal to and from Llanelli, Swansea and Cardiff.
- **The Avola** - a barquentine which was wrecked on Pendine Sands in 1899. No lives were lost. The Avola was carrying timber which washed onto the beach. The timber was used in several buildings. Buildings named Avola in and around Pendine are named after the ship.
- **The Paul** - a German four-masted fore-and-aft rigged windjammer. It was carrying timber when a severe storm drove it onto the sands. It was wrecked at Pentowyn point on October 30th 1925.
- **The Teviotdale** - a four-masted iron barque. It was built in 1882 at Glasgow. It was wrecked in October 1886 in gales.
- **The Sarah Ann** – a brig wrecked on the Middle Patch sandbank. Its wreck was watched by Laugharne residents from Sir John's Hill.

- **The Lion** - an Elizabethan galleon which was one of two ships wrecked on Cefn Sidan Sands in May 1578.

### **Ministry of Defence and Llanmiloe Village**

The role played by Pendine and Llanmiloe village in World War II and the Cold War is documented through a number of collections.

The county collections include ten Ministry of Supply Ejection Seat posters, the seats were tested at the MoD site near the sands. There are also photographs showing views of Llanmiloe village, including Llanmiloe House and Gardens which was requisitioned when the MoD first came to the area.

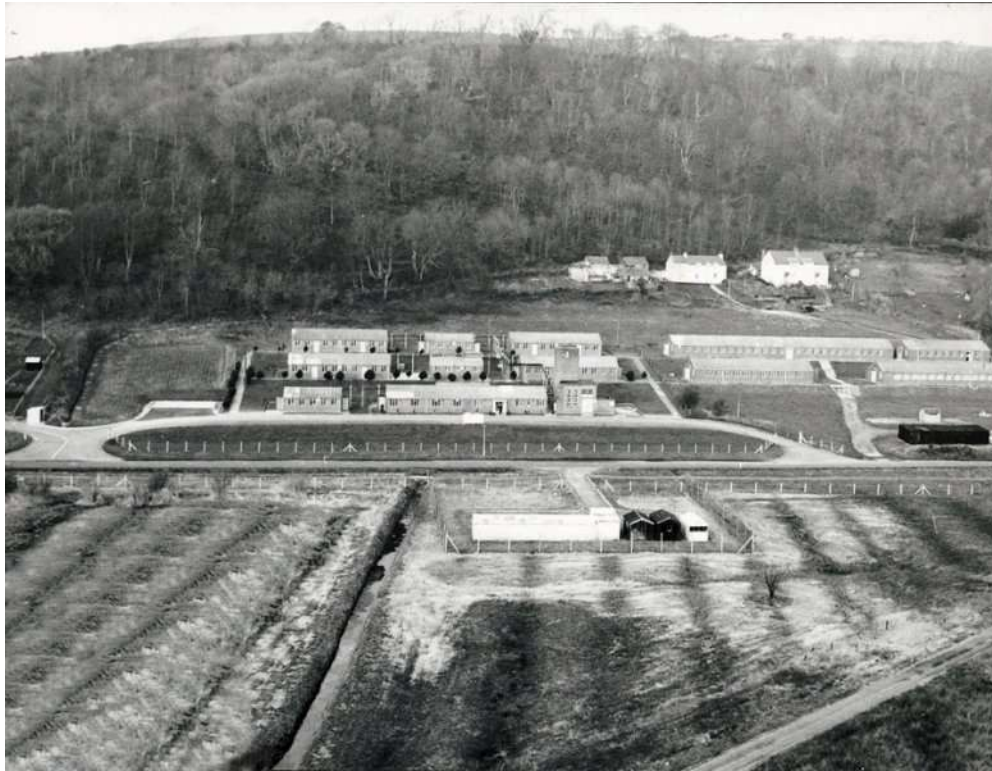
Today the testing site is managed by the QinetiQ technology defence company. They have an online gallery of photographs showing a range of MoD buildings and personnel

<https://pendine.qinetiq.com/history/gallery.aspx> . There is also a film of Operation Jantzen which is available on line at <https://www.awm.gov.au/collection/F05047/>



*Pendine entry post 1940*





*Pendine range camp, 1963*



*Pendine landing strip, 1943*

Material relating to the old MoD Pendine Establishment is held by the Imperial War Museum. There are 92 items in total of a variety of different types. Photographs include images of ejector seat testing, fuse and rocket trails and other test equipment and weapons. There is an oral history of a British civilian technician who worked for the Rocket Development Department in which he describes the work undertaken at Pendine. There is also a memoir of the Deputy Superintendent at the Establishment in 1940, and other papers and a cartridge of a type tested at Pendine. There are also a number of films showing testing. The full list of items can be found here [http://www.iwm.org.uk/collections/search?query=Pendine&items\\_per\\_page=10](http://www.iwm.org.uk/collections/search?query=Pendine&items_per_page=10)

In addition discussion with Aerospace Bristol has provided an opportunity to loan examples of the types of missiles which were tested at Pendine. These include??

### **Flying sweethearts**

During the summer of 1933 thousands of people were drawn to Pendine to see Amy Johnson and her husband Jim Mollison. Known as the Flying Sweethearts, the Mollisons, attempted to fly across the Atlantic to New York from Pendine's sands. This was part of a long distance record attempt that should have ended in Baghdad. The county collection includes a variety of photographs of the Mollisons, showing the couple, crowds of people spectating, the plane the 'Trail of the Caribou' on Pendine Sands in about 1935 and miscellaneous memorabilia relating to the couple's endeavours. In the National Museum of Wales collection there is also a souvenir memento of the flights. This comprises a piece of plywood on red fabric, what appears to be a patching piece from the Seafarer plane which was flown from Pendine Sands to Bridgeport in Connecticut where it crashed.



*Seafarer and crowds on Pendine beach*

### **Modern record attempts and the culture of racing**

Racing speed record attempts have continued in various forms at Pendine since the heyday of the 1920s. A few items documenting these exist within the county collections, such as images of Don Wales setting a new electric land speed record in 1998. However there is significant scope for acquiring photographs and objects in order to bring the story up to date. Records include Guy Martin's world speed record for bicycle in 2015 and Idris Alba's 'flying mile' record set in the same year.



*Guy Martin setting the bicycle world land speed record*

There are a number of annual racing and motoring events which take place on the sands. The Vintage Hot Rods Association (VHRA) holds annual race days, and the Straightliners run a yearly Top Speed event. The Pendine Dash is run by Pembrokeshire MG Car Club and there is a sign for the 2005 Pendine Dash in the county collection. VHRA have expressed interest in supporting the new museum development by loaning objects relating to their events. There is also potential to acquire material relating to development and racing of the new land speed cars Thrust and Bloodhound. At an early stage of development testing for Thrust took place at Pendine, and there is a Thrust 2 poster in the county collection.



*VHRA event on Pendine Beach*

Bringing the story of early racing to life as well as widening its appeal is essential. The county collection includes a range of items of men's and women's costume dating from the 1920s and 1930s which could be used to place the races in social and historical context. The VHRA have also offered photographs, memorabilia, event guides, posters, film and interviews relating to their events that could be used within the new exhibition as well.

### **Technology, design and innovation**

There is potential within the existing county collections to explore the developments in technology and design which enabled vehicles to achieve record breaking speeds. This could make use of the collections of bicycles and motorcycles as well as other items.

There is an example of a Stepney Spare Wheel in the county collections. These wheels were invented by Thomas Morris Davies in Llanelli in 1904. In the early days of motoring cars were not fitted with a spare wheel and so punctures were not easily dealt with. The spare wheel designed by Morris Davies was a spoke-less wheel rim fitted with an inflated tyre. Morris Davies and his brother manufactured these wheels at their works in Llanelli. By 1909 Stepney Spare Wheels were fitted to all London taxis.



*The Stepney Spare Wheel*

Supplement to The Motor-Car Journal. Saturday, April 6th, 1907.

## STEPNEY SPARE MOTOR WHEELS

**ON SHOW AT STAND No. 275,  
The Gallery, Agricultural Hall.**

Over 12,000  
already in use,  
giving  
wonderful  
satisfaction

Hundreds of  
Testimonials  
from  
Hundreds  
of delighted  
Owners.



THE COMBINATION STEPNEY WHEEL IN USE.

A Combination Stepney Wheel can be adjusted to fit either Front or Back Wheels of a Car having smaller size wheels in front than back.

**Stepney Wheels in stock at—**

Messrs. Maison Talbot, 1, Long Acre	London
" A. W. Gamage, Ltd., Holborn	
" Harrod's Stores, Ltd., 87, Brompton Road	
" Argyl's, Ireland, Ltd., 102, Grafton St., Dublin.	
" John Croall & Sons, Ltd., Castle St., Edinburgh.	

Manufacturers—  
**STEPNEY SPARE MOTOR WHEEL WORKS (Dept. A), LLANELLY, WALES.**  
Also at BERLIN.

*Trade show advertisement for the Stepney Spare Wheel*

The original Babs engine provides insights into engine design and customisation. There is also potential to source material from the Vintage Hot Rod Association, including engine parts and components which could be used to show the mechanics of the cars and explore principles of movement and speed. It would also be possible for these to be used within the new interpretation as hands-on interactives or handling material.

## 6. Interpretive Framework Document

### Interpretive Framework Document

The overarching key interpretive message or big idea is:

The unique nature of the sands at Pendine are synonymous with exhilaration and danger, used to test the limits of human ingenuity and speed.

The first land speed record at Pendine was set by Malcolm Campbell. Four others were set here by him and Parry Thomas from 1924 – 1927.

	Key story	Key points	Heritage Assets
	Malcolm Campbell set the first land speed record at Pendine	Pilot and set up business selling aeroplane parts Cars named Blue Bird First LSR at Pendine 1924– 146.16 mph in Sunbeam 350hp – Blue Bird Set more land speed records and water speed records His record in 1927 was last British land speed record until 2015	Loans from Beaulieu: - Goggles and helmet - Sunbeam Bluebird available for special loan - Photographs, original adverts and archive film footage CCM collection: - Photo M Campbell in Sunbeam at Pendine - Signed photo of M Campbell at Pendine - Commemorative stamps – 50 <sup>th</sup> Anniversary M Campbell's death
	Parry Thomas raced Babs at Pendine and set two land speed records here	Born in Wrexham and worked at Siemens and Clayton & Shuttleworth and Leyland Motors – by 1917 he was Chief Engineer Developed Leyland Eight for Leyland Motors and left to pursue career in racing and built Leyland-Thomas cars for racing	Loans from Babs Trust: - Babs - Babs' original engine - Babs' original bodywork CCM collection: - Cigarette card Parry Thomas c 1926 - Cigarette card Sunbeam 350 LSR car - Commemorative plate Parry Thomas centenary - Newspaper cuttings relating to M Campbell and Parry Thomas
	Parry Thomas was killed in 1927 while racing in Babs	Babs began life as Higham Special car Bought by Parry Thomas after Count Louis Zbrowski killed. Buried on the beach and uncovered in 1969. It took Owen Wyn Owen 16 years to restore Babs and he sourced parts from all over the world including part of the engine that was originally used	CCM large selection of photographs including: - Parry Thomas and Babs at Pendine - Parry Thomas racing against Eldridge - Young Parry Thomas - Parry Thomas and family - Parry Thomas grave - Burial, recovery and restoration of Babs
	There were five land speed records set at Pendine 1924 – 1927	1924: Campbell 146 mph 1925: Campbell 150 mph 1926: Thomas 169 mph 1926: Thomas 171 mph 1927: Campbell 174 mph The next land speed record was set by Seagrave in March 1927 on Daytona Beach at 203 mph. He also set a LSR at Southport in March 1926 in his Tiger Sunbeam Idris Elba record in 2015 broke Campbell's British land speed record of 1927	
	Parry Thomas' LSR attempt 1927	Cause of the accident – myths and facts – depth of information for those interested	

		<p>Burial of Babs The story of Parry Thomas and Babs linked inextricably to Pendine</p> <p>The first driver to be killed setting a land speed record (check?). The only other casualty on the beach was a bus driver who died when the brakes of the bus failed as he came down the hill. All the passengers survived.</p>	<ul style="list-style-type: none"> <li>- MoD film showing excavation of Babs</li> <li>- Selection of men's and women's costume dating from 1920s and 30s may be used to place the races in social/historical context (est. 200 relevant items, research and visual check required)</li> </ul> <p>Loan from Beaulieu:</p> <ul style="list-style-type: none"> <li>- Toy cars – variety of LSR cars including Pendine Super Racer</li> </ul> <p>Glamorgan Archives</p> <ul style="list-style-type: none"> <li>- Coroner's report and press cuttings for the accident</li> </ul>
	Recent land speed records set at Pendine	<p>Helen Lincoln Smith – 2017 world's fastest woman riding motorbike on sand – 137.093 mph – Queen of the Sand</p> <p>Zef Eisenberg - 2016 fastest man on motorbike on sand at Pendine 194.59 mph</p> <p>Don Wales (grandson of M Campbell) set UK electric LSR at Pendine in June 2000</p>	<p>Potential to interview Lincoln Smith and acquire relevant items for display</p> <p>LC to meet Don Wales to discuss potential loans</p> <p>TV programme about current LSR</p>
	How fast did they go?	<p>Measuring the speed using tripwire</p> <p>Campbell and Thomas were driving cars faster than aeroplanes went</p> <p>Flying Mile – speed over 1 mile going both directions</p> <p>Dangers of driving this fast – what could go wrong?</p> <p>How fast do other things go? A cheetah can run 75 mph</p> <p>Safety equipment and safety of spectators</p>	<p>Beaulieu collection</p> <p>Diagram showing set up for trip wire</p>

The cars used to set the land speed records made use of the latest technology.

	Key story	Key points	Heritage Assets
	Racing cars were often sold on to other racing drivers	<p>Campbell's Blue Bird Sunbeam was used by KL Guinness to set the first flying mile record at Brooklands in 1922</p> <p>Babs was originally the Higham Special owned by Count Louis Zbrowski and sold in 1923</p>	<ul style="list-style-type: none"> <li>- Items relating to Sunbeam Bluebird (as above)</li> </ul>
	Engineers and mechanics worked out how to make cars go faster	<p>Development of aeroplane engines in WWI provided new technology that helped cars reach 150 mph</p> <p>More cylinders made more powerful engines</p>	<ul style="list-style-type: none"> <li>- Babs original engine (as above)</li> <li>- Babs body work</li> <li>- Potential loan/donation of material from VHRA – engine parts and components to show mechanics and principles and for interactives/hands-on/handling activity</li> </ul>
	Cars were designed to be more streamlined	<p>Malcolm Campbell added a streamlined nose cowl and pointed tail to his Sunbeam</p> <p>Principles of aerodynamics etc – biomimetics (human design mimicking natural design)</p>	<ul style="list-style-type: none"> <li>- Babs original body parts including rear cone</li> <li>- CCM collection:</li> <li>- Natural history specimens (birds and fish) to demonstrate principles of aerodynamics etc –</li> </ul>

			biomimetics (human design mimicking natural design) Loan from Beaulieu (as above): - Toy cars – variety of LSR cars including Pendine Super Racer
	Brakes and wheels	Dunlop tyres invented by Dunlop to improve his son’s tricycle Pneumatic tyres quickly replaced solid wheels Drum brakes used cables wrapped around rear wheels	CCM collections - Stepney spare wheel
	The best materials to go fast	When Babs was uncovered some parts had survived remarkably well, other parts had been corroded by salt and sand Racing drivers and riders found they had to constantly mitigate the effects of sand and salt water on their vehicles	
	Thrust 1 & 2 and Thrust SSC and Bloodhound	Modern land speed attempts – the story continues	CCM collection: - Thrust 2 poster Potential to acquire material relating to development and testing of Thrust and Bloodhound

The long flat beach at Pendine is part of Carmarthen Bay, a Special Protection Area. The geology that formed the long flat beach makes the coast treacherous for ships.

	Key story	Key points	Heritage Assets
	Why are Pendine sands perfect for racing?	Long flat sands – 7 miles long Brooklands Race track not suitable for recording a flying mile – needed long flat surface During the 1920s Wilfred Morgan the local coast guard played a vital role providing information about the tides, conditions and the state of the sand.	CCM collection: - Photographs and artwork showing Pendine sands, beach and Carmarthen Bay - various
	The geology of Carmarthen Bay created the perfect conditions	The geology has formed long wide bay The shape of the grains of sand at Pendine help create the good racing conditions on the beach Special Protection Area – significant area with important geology and natural history	CCM collection: - Photographs of the cliffs, caves and the bay area - Samples of sandstone and limestone found on Pendine beach
	Carmarthen Bay is dangerous for ships	Bay faces prevailing winds and is at the mouth of 3 rivers The high tides make it dangerous for ships Nautilus ship – character of navigator used by Dylan Thomas in Under Milk Wood	CCM collection: - 18 models of ships wrecked off the coast at Carmarthen Bay
	Pendine did not become a Victorian seaside resort, but from the 1940s was a popular family holiday destination	Pendine was beach for holiday makers at Laugharne Railway did not come this far so didn’t grow as a seaside resort – plans show that route considered that would include Pendine 1940s caravan sites on farmland Families come back to Pendine year after year	CCM collection: - Various views of Pendine beach, local area, Pendine village including photographs and postcards - Photograph of Pendine, campsite and dunes - B&W photographs of Evans family outside caravan at Pendine, 1930s



			Glamorgan Archives - Maps and plans showing area changes and proposed railway line (Morrigan to check)
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Racing drivers and pilots were glamorous celebrities and drew huge crowds to Pendine beach. Speed related events still attract huge crowds.

	The beach was used for take-off by the flying sweethearts as they set off to become the ferts couple to fly across the Atlantic	Amy Johnson and Jim Mollison Seafarer on the beach and 100s came to see Local interest and excitement	CCM collections - Nine photographs of the Mollisons - Miscellaneous memorabilia relating to Amy Johnson and Jim Mollison at Pendine, 1933 - Photograph showing plane 'Trail of the Caribou' on Pendine sands, c 1935 - Postcard showing Amy and Jim Mollison - Photograph of a crowd around a plane NMW collection - Plywood and sailcloth from Seafarer plane
	Motor racing events at Pendine were well known and featured in the national press	Land speed records set at Pendine Death of Parry Thomas and uncovering of Babs both made national news Role of Pendine beach, land speed records and connection to Babs and Parry Thomas has remained in collective memory of older generations	Press articles Photographs
	The beach today is used for motor events by Vintage Hot Rods and Straightliners	Vintage Hot Rods Straightliners Fastest lawnmower and shed Many local people learnt to drive on the beach	CCM collection: - Sign – Pendine Dash, 14 <sup>th</sup> August 2005  Potential loans/acquisitions from VHRA – photos, memorabilia, event guides, posters, film, interviews
	The beach at Pendine has been and is still used for filming	1951 film Pandora and the Flying Dutchman was filmed at Pendine and featured Dylan Thomas as an extra Current BBC series Keeping Faith filmed on beach Speed events and record attempts are filmed here often involving celebrities	Film

Pendine beach was at the heart of Welsh motorbike racing. It was used for the Welsh TT and was the location of the latest speed records for motorbikes on sand.

	Key story	Key points	Heritage Assets
	Early racing	First official motorbike race at Pendine – 1903 won by Mansel Davies First motor rally (cars and motorbikes) at Swansea and Pendine 1909	CCM collection: - Sunbeam Sprint motorcycle model 10 - Douglas SW6 ridden by CP Wood to win Welsh TT
	Impact of WWI on motorbike ownership and use	Before WWI motorbikes were owned by only a few wealthy people Speed limits on the roads was 20 mph so drivers and riders sought flat land for racing	- 1903 Bowden motorised bicycle
	Motorbikes	After WWI there were over 100 British companies making motorbikes Brough Superior dominated racing at Pendine after the WWI	- Insurance and registration documents for

	Welsh TT	First Welsh TT August 1922 in appalling weather Races over 50 and 100 miles	<ul style="list-style-type: none"> <li>Bowden motorcycle</li> <li>Mansel Davies medal</li> <li>National Welsh trophies/medals – 4 items</li> <li>Helmets belonging to Alex Grey and JV Evans</li> <li>Motorcycle helmets: Silver ‘Everoak’ TT helmet, White BSA ‘Centurion’ helmet, c 1950-60</li> <li>TT trophy or trophies??</li> </ul>
	Well known motorbike riders raced at Pendine	<p>CP Wood – Scott Works company rider Ivor Thomas – won first Welsh TT Handel Davies &amp; Billy Edwards – mechanic riders Jack Carr – butcher from Skipton Ronnie Parkinson – tailor who rode in tailored white overalls Eddie Stephens – owned local garage George Dance – won 15 sprint races at Pendine Fred Rist, Alex Grey RM Rees Morris Isaac AS Griffiths W Edwards</p> <p>1949 Land speed attempt at Pendine by Bob Berry using a 3 foot long Dunlopillo too allow him to lie flat minimising wind resistance</p>	<p>CCM collection:</p> <ul style="list-style-type: none"> <li>Trophies, plaques, tankards, cups, badges and medals belonging to several motorcyclists who competed at Pendine</li> <li>Larger collections if items relate to Fred Rist, Alex Grey, RM Rees, Morris Isaac, AS Griffiths as well as CP Wood, Handel Davies, W Edwards and Eddie Stephens – see attached list to follow</li> </ul> <p>Of particular note:</p> <ul style="list-style-type: none"> <li>Helmet, cigarette case and cake stand belonging to Alex Grey</li> <li>Silver tea service (awarded at 1925 Open Championship) and other items belonging to W Edwards</li> <li>Entry badge and medal from 1950 belonging to Fred Rist</li> </ul>

Forerunners to motorbikes, bicycles were also raced on the beach and Carmarthen was home to the Defiance Bicycle Company.

	Key story	Key points	Heritage Assets
	Bicycle and horse racing at Pendine	Pendine’s long flat beach was used for racing before the invention of motorbikes and cars	
	Defiance Company made bicycles in Carmarthen	<p>Defiance bicycles were sold all over the world – they made safety bicycles (with equal sized wheels) The company was founded by five brothers who went on to build one of the earliest motorbikes in the smithy on the family’s farm</p>	<p>CCM collection:</p> <ul style="list-style-type: none"> <li>Sunbeam bicycle c 1914</li> <li>Penny farthing</li> <li>Velocipede/’Boneshaker’</li> <li>Royal Defiance women’s bicycle</li> <li>Raleigh Sports men’s bicycle, c 1950s</li> <li>Bicycle helmet, shoes and lamps</li> </ul> <p>Potentially additional material relating to Royal Defiance may be identified within the CCM collections</p>
	Carmarthen velodrome was used for	Opened in 1900 and recently refurbished and open again for cycling events and races	Glamorgan archives

racings		- Photographs
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The long straight beach has also been used to test weapons and missiles. The MoD started testing weapons here during World War II and built the houses in Llanmiloe for their staff.

	<b>Key story</b>	<b>Key points</b>	<b>Heritage Assets</b>
	MoD school of musketry moved to safer locations including Pendine	Temporary move became permanent The MoD built houses and facilities and Llanmiloe became a substantial village At its peak the MoD employed 2,000 people Before the war Llanmiloe was a manor house and a few cottages	CCM collection: - Photographs of Llanmiloe, including Llanmiloe House and Gardens Quintiq collection: - Photographs IWM - Photographs, oral history and films of MoD involvement at Pendine
	Pendine beach is perfect for testing weapons and missiles and was used to research Thrust SSC before land speed record	The 1,500 m test track was built in 1951 Site still used to test weapons and missiles Testing of ejection seats by MoD on the beach Thrust SSC research took place on MoD test track	Loan from Aerospace Bristol: - Missiles that were tested on Pendine beach CCM collection: - Posters by Ministry of Supply about Ejection Seat testing (ten in total)

## 7. Vision for the museum

The project group developed a series of aims for the new museum:

### Long term

- Create an iconic visitor destination that brings more visitors to Carmarthenshire
- Deliver an additional economic boost to the regional economy
- Create a flagship all weather attraction
- To attract more visitors and to encourage them to stay longer and visit again
- Change perceptions of what a museum is and inspire people to visit more
- To create a space that is welcoming and accessible to everyone

### Short term

- To create displays that help visitors discover the history and heritage of Pendine
- To enable visitors to understand the scientific principles related to engineering and measuring speed
- To make a specialist subject appealing to families whilst not dumbing down information for others
- To encourage people to use the beach to improve health and wellbeing
- To create a museum that is inspiring and fun
- Change the image of the museum and create a museum that has a wide appeal and does not rely on one exhibit
- Encourage people to visit again or to take part
- To engender a sense of pride in local people for the role that Pendine played in the history of land speed records
- To ensure that the new museum meets national museum standards
- Use museum collections in an imaginative way that reveals the story

The vision for the new museum is:

To create an iconic visitor destination that tells the story of Pendine beach and the land speed records set here. It will engender a sense of pride in the significance of Pendine and draw tourists to this remarkable place.

The project group discussed the objectives for the interpretation using the generic Learning Outcomes. The Generic Learning Outcomes (GLOs) were developed as part of the Inspiring Learning For All Framework and are underpinned by a broad definition of learning which identifies benefits that people gain from interacting with arts and cultural organisations.

GLOs are a recognised method of planning for and providing evidence of impact of museum and heritage displays and activities. The GLOs emphasise the importance of consultation and will support the evaluation of the new interpretation, providing clear outcomes to be measured. The table below shows the outcomes for the interpretation matched to the GLOs.

## Generic Learning Outcomes

### Knowledge – what will visitors learn?

The competition between Parry Thomas and Campbell  
 - modifications to go faster  
 Conservation of Babs – materials  
 Why Pendine? What makes this place special?  
 Engineering and human endeavour  
 Chronology – placing cars in history  
 The natural history of area  
 Discovering invisible history (military)  
 Pendine is a place where exciting things happened  
 The shape of the grains of sand impact on the beach, allowing speed records  
 Danger and the thrill of danger  
 Understand the wider story of Pendine

### Skills - what skills will visitors develop?

Having a go with hands on interactive exhibits  
 Understand science capital and develop skills  
 Skills to understand science terminology  
 Measuring speed, air flow, dynamics and shapes  
 Aerodynamics - helmet shape and shape of Babs  
 Resilience – persevere - keep trying  
 Principles of movement and speed  
 Terminology – use and explain what we mean  
 How an engine works

### Creativity, inspiration and enjoyment

Have fun  
 Able to have a go  
 Accessible information  
 See the real thing  
 Human endeavour  
 Some of the racers were normal people who had day jobs  
 Familiar objects and old subjects presented in new ways  
 Multi-sensory experience including noise

### Attitudes and values – how will visitors feel?

People of all ages feel welcome  
 Accessible information balanced with information that is not dumbed down and technical information  
 Surprise all visitors – learn something new  
 Friendly  
 Local people feel pride in history  
 Wow!  
 Value for money  
 Able to get involved – enough interactive exhibits  
 Relaxed atmosphere

### Activity, behaviour and progression –

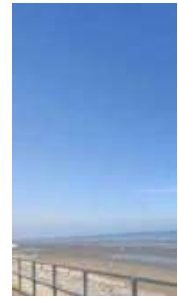
Visit again  
 Tell others (including social media)  
 Ambition to know more  
 Encourage women into STEM careers  
 Improve science capital  
 Inspired to visit other museums



## 8. Interpretive principles and constraints

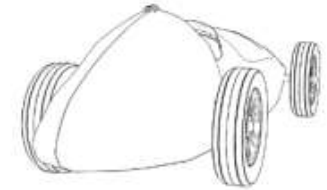
### 8.1 Design constraints

The museum development including the design and layout of the museum is well progressed. This means that although the interpretation is still being developed there are some constraints.



#### The position of Babs

The building has been orientated around the display of Babs, giving a diminishing view to create a feeling of distance and speed and to maximise the view of the beach.



#### Loan of objects

In order to be able to borrow objects from other museums it is essential that the museum building, showcases and displays meet GIS standards for museum display. This has necessitated some changes to the design of the building and will require adequate and appropriate showcases.

#### Getting vehicles into the museum

Babs will not be on permanent display in the museum. It is possible that other vehicles could be loaned but consideration will need to be given to the space needed for turning the vehicles, access into the museum and space required for display.

### 8.2 Interpretive principles and ideas

The interpretive principles have been developed through discussion with the museum staff, exhibition designers (Real Studio) and stakeholders.

#### 8.2.1 Guiding principles

##### Content development

- Showcase the museum service's collections linked to the themes
- Secure loaned objects to help tell the story
- Take a thematic approach to the story and include a timeline to locate the period of land speed records and to show the wider context
- Use contemporary costume and objects to introduce the social history of the period
- Explore the idea of human endeavour, determination and resilience through the themes
- Introduce and explain scientific principles

##### Exhibit development

- Use the collections to tell a thematic story and combine different types of objects that are linked through the story or person they are connected to
- Use real objects where possible to connect people to the story
- Introduce visitors to the people who came to Pendine for the racing events

- Combine different interpretive media within the space to engage different audiences
- Create multi-sensory displays that allow visitors to feel, smell and hear engines

### **Presentation and design development**

- Provide different experiences within the museum that engage a wide range of visitors, and appeal to people of different ages, knowledge levels and learning styles
- Provide a depth of information for enthusiasts alongside clear explanation for non-specialist audiences
- Create an exhibition that works without the car Babs
- Use activities to engage families and pupils with the wider natural history story and to encourage them to explore the beach.
- Use a tone of voice in the exhibition that is authoritative and informative and is family friendly

### **Developing the main message**

The overarching message or the big idea encapsulates in one sentence what will connect the visitors to the content.

The big idea for the Museum of Speed is:

The unique nature of the sands at Pendine are synonymous with exhilaration and danger, used to test the limits of human ingenuity and speed.

The stories have been gathered into a series of themes which are:

- The first land speed record at Pendine was set by Malcolm Campbell. Four others were set here by him and Parry Thomas from 1924 – 1927.
- The cars used to set the land speed records made use of the latest technology.
- The long flat beach at Pendine is part of Carmarthen Bay, a Special Protection Area. The geology that formed the long flat beach makes the coast treacherous for ships.
- Racing drivers and pilots were glamorous celebrities and drew huge crowds to Pendine beach. Speed related events still attract huge crowds.
- Pendine beach was at the heart of Welsh motorbike racing. It was used for the Welsh TT and was the location of the latest speed records for motorbikes on sand.
- Forerunners to motorbikes, bicycles were also raced on the beach and Carmarthen was home to the Defiance Bicycle Company.
- The long straight beach has also been used to test weapons and missiles. The MoD started testing weapons here during World War II and built the houses in Llanmiloe for their staff

## **9. Strategy for the display of Babs**

It has been helpful to discuss the importance of Babs and the issue presented by the fact that the car will only be available for loan for a few weeks (between 8 and 16) per year. Feedback from the design team, the museum staff and the three owners of Babs is that the museum must not be Babs centric and the museum experience be high quality and engaging when Babs is not on display.

Feedback with enthusiasts from the surveys shows that being able to see Babs would affect their decision to visit – 46% of respondents said they would not visit if they knew Babs was not on display and 43% would visit anyway although but over half of those people (65%) said that Babs was a very important part of the story.

Andrew Deathe makes the point in his report that “Babs is easily the most recognisable object to be displayed at the museum. A survey of comments in online public forums reveal that the museum is strongly associated with her, as much as being referred to as 'the Babs Museum'. There is also an identification of the car as part of a wider Welsh history. Examples of this, and the general affection for the car can be seen on the comments left on Babs' own Facebook page.”

In Andrew Deathe’s report there are three options suggested for when Babs is absent. They are:

1. Produce a replica of Babs which could be easily stored when Babs is on display and would allow visitors to get up close and sit inside the car. It would take up the same amount of space and ongoing costs would be relatively low.
2. Arrange the loan of another vehicle that was used to set a land speed record. Death lists 19 cars that could be considered but they don’t all have a connection to Pendine and there would be considerable costs incurred in transporting and loaning the vehicles, some of the later vehicles are much bigger than Babs so would need more space. The advantage would be that visitors can see a real car that is part of the history of land speed records.
3. Create a changing exhibition on subjects that are not part of the main museum. This would be potentially disappointing to people who have come because of an interest in land speed records and Babs.

There are a few other options:

4. Create a display of motorbikes that raced at Pendine or set land speed records here. There are some motorbikes in the museum collection and others may be available from private collectors. These would link into the story of speed records on the beach but might be a disappointment for motor enthusiasts.
5. Rather than a replica a model of Babs could be created and combined with digital technology to create an exhibit that brings the Babs story to life
6. A model or replica could incorporate a driving experience, but if this was only available when Babs was not on display this might be a disappointment to visitors.

Creating a display of other vehicles when Babs is absent presents additional costs and creating an exhibit that has a wow factor will also be costly and its absence might also disappoint a different part of the audience. it will be critical to be up front with visitors and

These options need to be assessed against the following criteria:

1. Initial costs
2. Ongoing costs for changing display as Babs comes and goes
3. General visitor appeal
4. Appeal for enthusiasts
5. Appeal and interest for families



6. Connections to school curriculum and appeal for school visits
7. Wow factor