

# **Riverside Museum - Building a new state of the art Transport and Technology Museum in Glasgow, Scotland**

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This paper presents the new Riverside Museum - a new build museum for small and large technical objects, displayed in new exciting ways. The old Museum of Transport in the Kelvin Hall was one of the most popular museums of transport in the United Kingdom, attracting half a million visitors a year and housed many exhibits of national and international importance. The Riverside Museum is one of 10 museums operated by Glasgow Life on behalf of Glasgow Museums which all boast free admission.

History.

Since 1870 Glasgow had been collecting objects from a technology and early transport field, most of which were displayed in the Kelvingrove Museum and Art Gallery from 1901, but in the early 1960's Glasgow Museums were donated a collection of trams and looked for a new home for the growing collection of Transport objects. After discussions with the council it was chosen that an old tram maintenance workshop on the south side of the city would be used by the museum until they out grew it and moved to the old Scottish Exhibition Centre called Kelvin hall in 1988. This museum became very popular among the residents of Glasgow. Despite its popularity, the former Museum of Transport at Kelvin Hall was never meant to be a permanent home for the city's transport treasures. Fluctuating temperatures, humidity and damp had caused problems to many of the 1500 objects on display and to the hundreds of thousands of objects kept in the stores behind the scenes. In addition to this the building also didn't have the IT infrastructure required to bring the museum into the 21<sup>st</sup> century.

The Collection Effect.

The Transport and Technology collection itself dates from 1700 right through to present day, and ranges from the most delicate prisoner of war ship models crafted for bone and hair through to the biggest and heaviest 179tons 22.5m long Glasgow built South African Locomotive, from Lowry paintings to prams, Velocipedes to Voiturettes, there is something for visitors of all ages, what it all needed was a new purpose built home. In 2002 the project started and it was soon identified that as well as a new state of the art museum a purpose built storage facility and workshops were going to be needed for the 450,000 objects also in store in the Kelvinhall these objects ranged across every spectrum imaginable from fine art through to Giraffes.

New Storage Facility.

The current and newly built Resource Centre in Nitshill Glasgow was identified to be extended with a three floor extension to house the T&T collection in store, and also the workshop, but before it could even be moved a full inventory and photographic survey of the complete collection was carried out. Within this extension there were numerous stores required such as a tall vehicle store, a large vehicle store, small vehicle store, ship model store a technology store to name a few. These now house all of the objects that used to be hidden away and are now in fully public accessible and environmentally controlled stores and of course the same as all other Glasgow museums it's free to come in on guided tours. In addition to this the workshop was also designed to take the longest object, the widest object, tallest object and the heaviest object and also a fully functioning extraction room large enough to take a large car. A vast paper and photographic archive at MoT was also assessed, largely by Glasgow Museums volunteers and library staff. This archive has now been relocated to GMRC as well.

## The New Museum

The Riverside Museum itself has been designed to give the objects an environmentally friendly and stable home, while also celebrating the magnificent influence the city and its people have played upon the world through travel, trade and transport, and all within the context of the River Clyde. The controlled environment is vital to ensure the transport and technology collection's long term survival, while the flexible, accessible and dynamic displays ensure their enjoyment for future generations. The museum itself is part of the new Clydeside redevelopment project. Glasgow's Riverside Museum is one of the UK's newest and most exciting visitor attractions. After nearly 10 years in the planning and construction, Glasgow's Riverside Museum opened its doors on the 21st of June 2011. Located on the banks of the River Clyde the world-class Riverside Museum is a marvel of design and engineering. Moored outside is the 19th-century sailing ship Glenlee, creating an iconic destination that explores our histories and embraces our future. Inside £ 74 million museum (funded by Glasgow City Council, Heritage Lottery Fund and the Riverside Museum Appeal) designed by architect Zaha Hadid, visitors are struck by the stunning displays, packed with fascinating exhibits, high-tech and hands-on interactives, and inspiring and moving stories. They are able to walk down our recreated 1900s street or drive a locomotive.

## Design Process

For the project it was decided by the project leader that it was going to be run by a project management team. In this team there were various groups represented from designers, to curators from education to decant, but most crucially there was a conservation manager on the team. Everyone around that table had an equal say, and due to this process we were able to have a true undiluted conservation input at every level. Conservators were inputting into the Building Management System, Heating and Ventilation Systems, glass specs for all the windows including the North and South Facades, size and location of loading bay doors and all story displays to name a few.

For the story display design process, conservators were at every stage of this, from concept through to detailed carrying on through install and signing of on the build. This helped us ensure that the designs always had the objects safety at the centre of their ideas. The conservators built a fantastic working relationship with the external designers, by not only saying no you cant display that car like that but offering a range of parameters that it could be displayed in.

During the design and construction of the phase of the project, the project faced many different challenges such as the price of steel dramatically increasing, the development that the new museum was being built in being put on hold due to the current economic constraints. Due to these to museum had to adapt, and also there was more pressure put onto the fundraising team to raise £5 million pounds.

## Conservation.

All the 3,000 objects going in to Riverside Museum were assessed and conserved prior to their move to the new museum. The assessments looked at objects' condition as well as the amount of conservation work required to bring them up to display condition. Some objects also underwent a variety of scientific analysis. For example, all of the cars on the Wall of Cars had accelerated light-ageing evaluations to see what, if any, impact being so close to a south facing window would have. We also tested all the materials used to construct the museum, showcases and displays – around 100 in all – to make sure they wouldn't cause any deterioration of the objects.

The team of conservators included experts from across a range of disciplines, such as textiles, transport, natural history, paintings and frames, and spent more than 38,000 hours meticulously conserving the objects, these resources all came from a variety of areas such as fixed and temporary contracts, conservation packages, volunteers and apprentices from outside industry. They worked on objects from across the collection, from steam locomotives to toy cars, paintings to ship models – one ship model's rigging was literally being held together by dust! This extensive body of work was vital for the long-term preservation of the collection. For example, the leather seats in some of our oldest cars had worn so badly that the stuffing was starting to escape. Conservators also had to tackle a severe pest infestation: clothes moths, or rather their larvae, were slowly eating away the soft furnishings of the vehicles and other vulnerable objects. More than 100 vehicles were monitored as part of the pest-management programme, and those that were infested were treated to reduce the problem. Over the year before opening, the conservation team worked on installing the 3,000 objects into the displays at Riverside. They also continued to work with Riverside's exhibition designers, showcase manufacturers and mount-makers to ensure that the objects are displayed without any risk to their long-term care.

## Conservation of South African Locomotive.

The South African Railways locomotive 3007, built in Glasgow in 1944–45, was destined to become one of the highlights of the Riverside Museum. At almost four metres in height and 22.5 metres in length, it's not just physically impressive, it's also a magnificent testament to Glasgow's engineering legacy and the effect its people and exports have had – and continue to have – upon the rest of the world.

Locomotive 3007 was taken out of service in 1988 and lay neglected, awaiting the scrap heap for almost 20 years. Aesthetically the locomotive was in remarkably good condition when Glasgow Museums staff rescued it. Internally, however, Loco 3007 had significantly deteriorated. On its return to Glasgow in 2007, Loco 3007 underwent an extensive period of research prior to its conservation. Once the Workshop was completed in GMRC the locomotive was moved in. A very historic moment as three of the parameters for the T&T lab build had been fulfilled with the first object being conserved in there.

Once in the lab, SAR 3007 underwent considerable tests for the proposed conservation work. Once these had been completed a large and complex conservation package was put together to go out to tender. Once the successful bidder was chosen, their team together with two GM conservators, Six ScotRail apprentices, working in teams of three, external and internal volunteers over a period of 7 months brought the locomotive back to its working state. During the conservation the ferrous material had its corrosion treated, the copper alloys had some of the tarnishing balanced out and new pipe work fabricated to enable members of the public to fully understand how the object worked. Museum curators also tracked down some of the North British Locomotive Company workers who built the locomotive. Their accounts, experiences and memories are a key part of the displays surrounding this mighty machine.

## Conservation of Car Wall Cars.

One of the other 'key attracts' within the museum is the car wall, it is a high density display comprising of 31 cars mounted in 3 rows, 1 on the floor and 2 on the wall above.

Before any of the cars were even chosen a major survey of all the cars in collection was undertaken. This survey looked at all aspects of them from colour fastness of the paints, structural stability, their construction methods and materials, vulnerability to infestation and also if they had fragile parts, as well as the more obvious sizes and weights of them. Once all this information was gathered we then placed all this onto a matrix and worked out all the positions that each car in the collection could go, before passing this onto the designers so they could then place them how they would like them for aesthetic reasons.

Once this was done the conservation of the cars could begin. As some of the cars are being displayed at height the need for conservation of the undersides was even more important than normal. Prior the appointment of a Transport Conservator in Dec 2003 most of the vehicles had just been driven in of the street and only the bits that you could see were cleaned. Although we have a car lift to give good access to the undersides, we looked at and invested in a car body roller which involves taking off two wheels and bolting on two skids that then enable you to 'roll' the car on to its side. This gave us the best imaginable access to the undersides possible. Once the undersides were done then they put back onto all four wheels and the normal conservation could begin.

## Two Years on.....

During the design process some very brave decisions were made on how the objects were displayed, cars on walls, bicycles upside down on the velodrome, cars on angles, public onto trams, ship models on conveyor belts, to name a few. Now that two years have passed it has enabled us to reflect upon those decisions, of which there are only a couple of changes that need to be made and these are already being implemented. One of the things that was overlooked was the amount of wear to the 1960's reproduction flooring on the trams from the members of public as they get onto the trams as part of their visits. Just recently a display change of the last tram in Glasgow involving moving a large tram into the museum was completed. On this display a secondary and sacrificial floor was put onto the tram on top of the existing display and an interlayer, as well as this two sets of seats were replaced to allow the public to sit upon these new replica seats, whilst the original seats were removed and packed and placed into store. Throughout the whole project a list of maintenance issues and requirements were identified, and due to this an additional permanent Transport and Technology Conservator post was allocated and filled by one of the existing temporary conservators.

## In Conclusion

This massive conservation project, as well as the building's environmental conditions, will ensure the collection's long-term preservation, on the back on this Capital Project we also managed to purchase a variety of equipment, tools, and gain training and experience for the permanent team of conservators to help continue conserving the collection for the future redisplay. As part of the HLF funding Glasgow Museums are committed to 8 full and 8 partial story changes per year, to date the museum has achieved this. This project took what Glasgow Museums had learnt from the last capital project Kelvingrove and developed it, and now are looking at the next capital project and will take the lessons learnt along the way and will implement them in to this.