National Watch & Clock Museum

Five-Year Plan

2024-2029

Table of Contents

Introduction

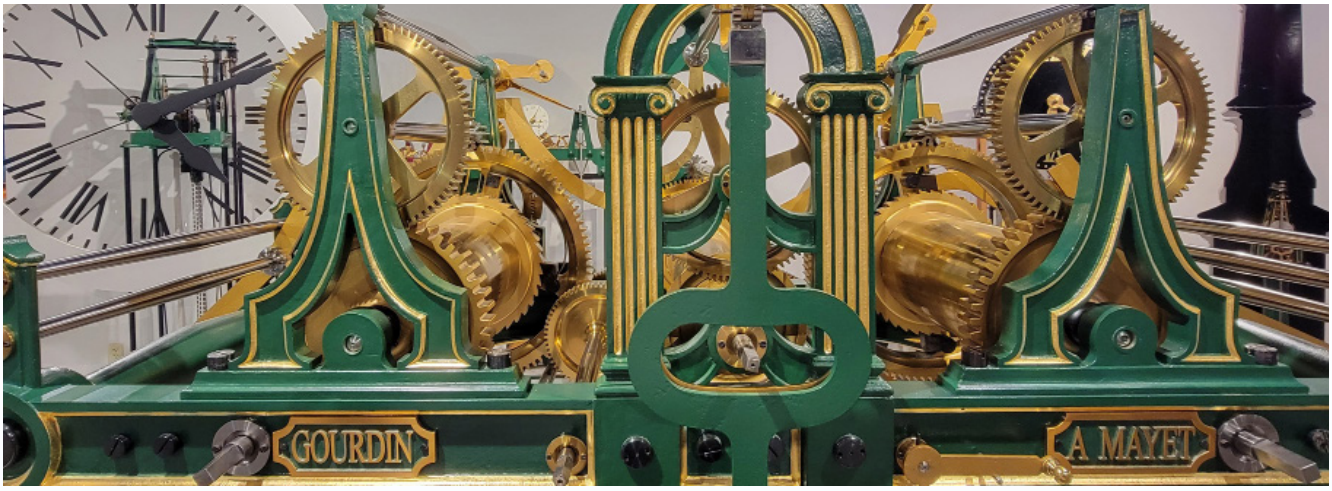
This five-year plan presents details for reinvigorating the Museum galleries and preparing them for use by the next generation. The vision is to make a visit here an inspirational, educational experience for the uninitiated and a must-see destination for professionals, collectors, and enthusiasts. Our approach to the Museum's revitalization is to work strategically, being mindful of the critical importance of careful conservation of objects, clear and factual storytelling, and meticulous stewardship of donations.

The next steps in the Museum's evolution will need additional support from members and friends who are committed to helping preserve the skills, history, artistry, and science of the horological craft. We invite you to join us on this journey by contributing financially or in-kind to the vital work being done in the Museum.

5-Year Overview

In 2020, the galleries were around 20 years old and showing their age through general wear and tear and some cosmetic damage to walls and flooring due to old leaks in the roof. A new roof was installed in 2021, protecting the galleries from rainwater. Further challenges remained with the failing components in the heating, ventilation, and air conditioning (HVAC) system. Since 2023, NAWCC staff have tackled the problem of managing relative humidity in the galleries by using portable humidifiers and dehumidifiers, depending on the seasonal conditions. Staff and volunteers continually watch for and treat surface rust that develops on ferrous parts of collection items. Given the breadth of the collection, this is a constant challenge.

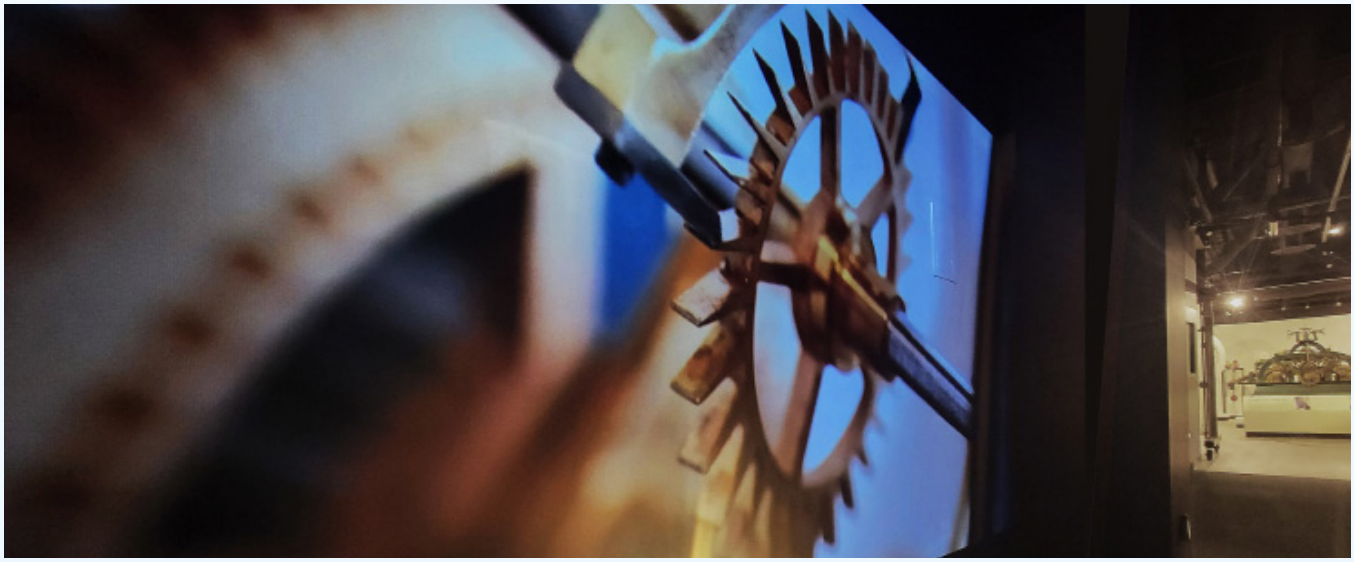
The application for a Pennsylvania Local Share Account (LSA) grant for $1 million to renew and repair the Museum's HVAC systems was successful. As of October 2024, engineering work is in progress with an anticipated completion date in spring 2025. The scope of the project goes far beyond the replacement of worn-out components. It will provide additional equipment to increase efficiency by enabling separate climate control systems for the Museum and the reserve collection area.



A 4-train tower clock made for Buffalo Cathedral, NY.

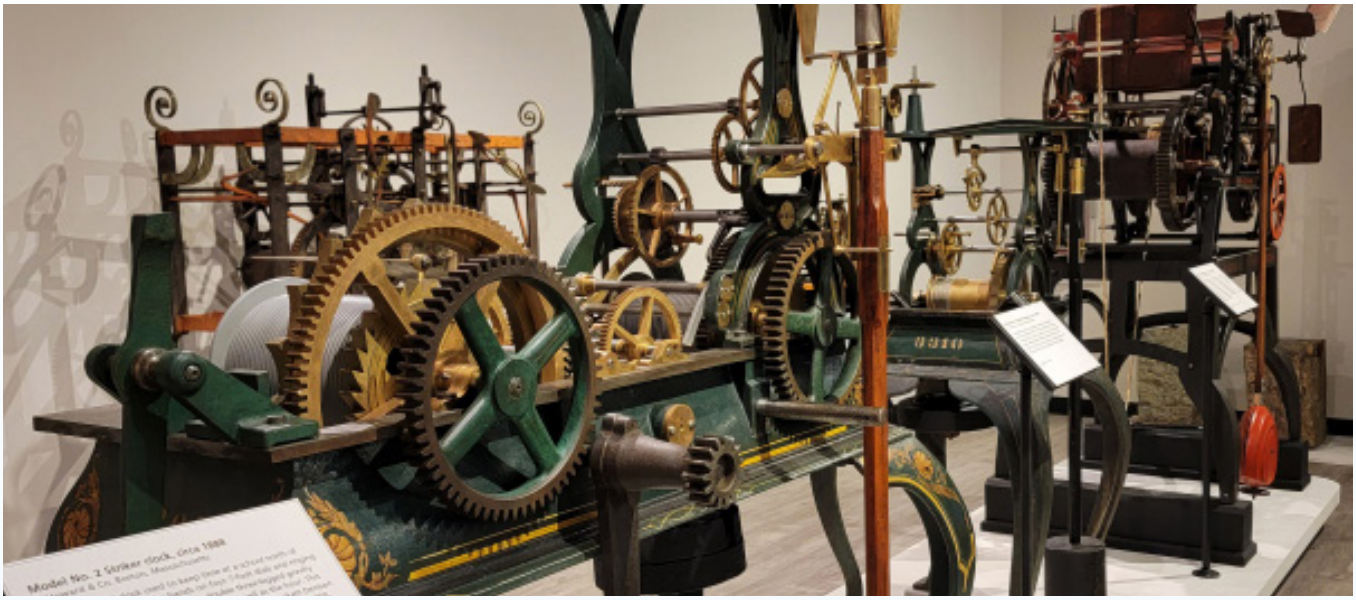
The first major alteration to the galleries was the removal of the introduction to early time measurement in 2021. This was replaced with a display of tower clock movements, titled Public Time. Since then, six tower clocks have been conserved and serviced. During opening hours, we run twelve movements. The tower clock movements are displayed on matching risers to add drama and presence as well as to add a subtle barrier to prevent visitors from getting too close. With some significant incoming donations, this gallery will be developed with a view to completion in June 2025.

The time tunnel entrance to the Museum originally incorporated objects in window displays that led the visitor back in time. These displays were replaced with creatively lit quotations on time and timekeeping and immersive video content, encouraging visitors to enter a reflective mood as they begin their journey through the galleries.



An immersive film experience that greets visitors.

The final section of the Museum benefited from a private, anonymous donation to replace the tired flooring and layout. NAWCC staff pulled together to repair and repaint the gallery walls, and a new floor was laid. Currently, the gallery features three temporary displays: a wristwatch exhibit, a display of unique and innovative clocks made by James Arthur in the early 1900s, and a member-curated display of 400-day clocks.



Running clocks help to spark curiosity in visitors.

Where We're Going

In planning changes to the Museum, sustainability and longevity of displays are priorities, as are security measures, preventative conservation, and accessibility. We are actively replacing old labels and signs with material of consistent quality that conforms to ADA standards for accessible design.

Recent donations of quality pieces help guide the development of the displays and storytelling in the Museum. We are taking a little-and-often approach to minimize periods when the galleries are inaccessible to visitors due to renovations. To date, changes in the Museum have been undertaken by NAWCC staff and volunteers, with the exception of flooring and some of the larger display furniture. Where possible, we seek to repurpose and renovate old cabinets and plinths by using vinyl graphics and/or painting to give them a new lease on life.

In the same manner, we rebuilt the conservation studio on a shoestring budget, restoring donated tools to enable staff and volunteers to clean, repair, and conserve watches and clocks. Having running, dynamic objects in the Museum is essential

to inspiring and educating visitors. Furthermore, the studio has enabled us to train student interns in the basics of object handling and, more recently, in the science of conservation of watches and clocks.

We have developed curatorial skills from the talent within the team in Columbia. All NAWCC staff go through introductory horological training and are invited to participate in the development of the galleries. Our small team's efforts have already yielded changes that have been met with resoundingly positive visitor feedback.

We have positive, fruitful relationships with other organizations to improve our visitors' experience. We are grateful to Hamilton for designing and furnishing the new Hamilton galleries and look forward to working with other industry partners. Our goal is to make the Museum a prime destination for every visitor to Lancaster County.

Work has already begun to renovate and improve the HVAC system that is so critical to preserving the word-class collections at the Museum. Other grant applications are in place awaiting approval. If we are successful, it will enable us to complete the HVAC project and reconfigure the Public Time Gallery and Museum object storage area to allow the indoor display of the iconic Ansonia street clock, known affectionately as Quincy (see page 12 for project details).

Four clocks from the Hal and Maida Cherry Skeleton Clock Collection.

This generous state support gives us confidence that the Museum can continue to fulfill its purpose for at least another quarter of a century. Museums and art galleries rarely make good business sense, but they do perform an essential educational and cultural function. Coupled with the NAWCC School of Horology, the Museum is in an enviable position of being able to educate in the care and preservation of antique clocks and watches. This is already happening with annual visits from students in the Winterthur University of Delaware Program—Art Conservation (WUDPAC), as well as other college student placements and internships.

When you visit the Museum, you will see that it is in good hands. We sincerely hope that you will consider contributing to its endowment to ensure that it can continue to grow, educate, and inspire many generations to come.

Showing the improved display with acrylic shelving and new lighting.

Short-Term Projects

Completion in 2025

The gallery as seen in summer 2024, while the Stevens tower clock movement (foreground) was being conserved.

Public Time Gallery - Tower Clock Movements

Function

This space is a great first impression for visitors. The sound and motion of varyingly complex escapements provides an exciting and intriguing experience. It provides an introduction to how clocks work, showcases the tower clockmaker's artistry, and provides historical information about the clocks and their makers.

Overview

This gallery was the first major change to the Museum since its expansion in the late 1990s. It replaced the early history of time measurement and features some of our more spectacular tower clocks. In 2023, the gallery was enhanced by the installation of eight tower clock movements on tailor-made plinths. This simple change greatly enhanced the presence of the clocks. In 2023 and 2024, six of the movements were completely overhauled and conserved. This work was carried out largely by skilled volunteers. At any given time, there are twelve clock movements running in the gallery.

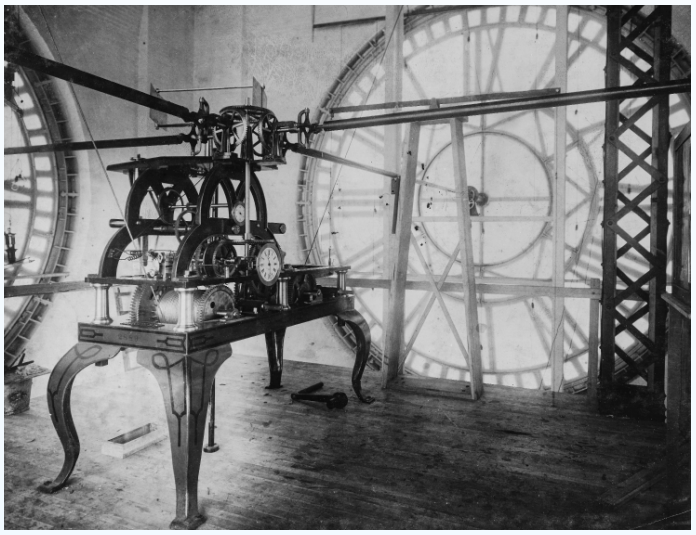
Work is underway in the following areas of this gallery:

- Display of weights
  - Explain why tower clocks and their driving weights need to be so heavy
  - Provide understandable comparisons. For example, the ¼ chime weight for the Westminster clock in London weighs the same as a Toyota Corolla. Big Ben weighs the same as three fully grown African elephants (14 tons)
  - Show alternatives to cast iron—boxes for stones and scrap, granite blocks, etc.

- Invention display – To complement the Crane and Stevens clocks
  - Automatic crib-rocking machine
  - Floating hammer by Stevens, to be connected to the Stevens clock by cable routed along the ceiling and down to the hammer
  - Daisy cam motion work interactive demonstration

- E. Howard history
  - Evoke the inside of a clock tower using old, rough-hewn timber
  - Install the first E. Howard clock movement of 1842
  - Install a miniature striking E. Howard tower clock and its Meneely bell

- Provide interpretation to demonstrate how tower clocks connect to the dials



ANTICIPATED COSTS	
Riser and guard rail for the weights display	**$4,000**
Timber platform and framework to display E. Howard clocks	**$20,000**
Signs, wall graphics, and labels	**$5,000**
AV cabinet and touchscreen for models of escapements etc.	**$5,000**
Additional riser and guard rail for 3 smaller tower clock movements	**$5,000**
TOTAL	**$39,000**

Wristwatch Gallery

Function

Our collections show the history of the transition from pocket to wrist. This display will be placed inside an early 20th-century display cabinet to add authenticity. A long vitrine will provide a bright and modern display for the different types of watches. We have a strong jewelry watch collection and some brand-specific collections: Grand Seiko, Gruen, Hamilton, Jaeger LeCoultre, with numerous individual examples from other brands. The display will differentiate between luxury, tool, and fashion watches. Children's watches will be featured on the lower levels of the display case.

Overview

This gallery will be built around three key areas:

- History of technologies: what they are and how they work
    - A special feature of this gallery are two extraordinary clocks that will be delivered to the Museum in October 2024. These relate to John Harrison (1693-1776) and will be used to segue into the story of the wristwatch. The story will start with John Harrison's sea watch, known as H4 – introduced by a working replica of the clock he made to test the watch by. Through Harrison, the bimetal introduces the need to compensate for temperature change and thereby introduces the 20th-century story of material science. H4 was the first precision watch to use an 18,000 beats/hour train. This became standard in 20th-century watchmaking and will introduce the methods of testing watches. Here, we plan to install an interactive watch-testing device for visitors' quartz and mechanical watches. Watch jeweling will be explained with use of advertising material and historical demonstrations of the jewel-making process.
- History of design: the transition of the wristwatch from jewelry to the utilitarian gents' watch
    - This section will be displayed in a long artifact case and will use watches from the Museum's collection to show how function influences design. Jewelry, sports, dress, fashion, luxury, and tool watches will be included.
- The collector's perspective
    - These displays will be placed in tabletop cabinets and will be co-curated. Collectors will be encouraged to get involved with the Museum and to lend watches with labels that explain how they personally relate to the watch. There will be two tabletop cases that can reasonably display a total of around 60 watches.

ANTICIPATED COSTS	
Signs, wall graphics, and labels	**$5,000**
Artifact case laminated glass donated by G.B.	**$20,000**
AV cabinet and touchscreen	**$5,000**
Transport and installation	**$7,000**
TOTAL	**$37,000**

Bulova Gallery

Function

The gallery will tell the history of this important American brand using historical pieces from both the Museum and the Bulova heritage collections.

Sponsored by Citizen Watch Co.

Maker Gallery

Function

This gallery celebrates individuals who make clocks and watches.

Overview

This long-standing gallery will be updated and modernized. In this iteration, we would like to emphasize the stories of the makers themselves alongside the clocks and watches they made. Where possible, a portrait of the maker will hang next to the pieces along with biographical information and some context about the clock or watch.

Makers

- **David Munro**
- **Roland Murphy**
- **George Thomas**
- **Electric Time**
- **James Arthur**
- **David Walter**
- **Herschede (featuring engraver and painter involved in manufacture, pending donation)**
- **Elmer Stennes**
- **Randal Cleaver**
- **Joel Warren**
- **Pierre Boucheron**
- **Charles Smith**
- **Foster Compos**

ANTICIPATED COSTS	
Riser for the James Arthur Factory Clock	**$2,000**
Graphics and labels	**$2,000**
Built-in case for Thomas tourbillons	**$2,200**
TOTAL	**$6,200**

Precision Timekeeping

Function

This gallery tells a story of modern precision horology for industrial, scientific, and military purposes and provides a clear explanation of how quartz and atomic clocks work. The displays will introduce how these time standards affect our daily lives.

Overview

This small display replaces the old tower clock display. Key sections include:

- The commercial atomic clock – Atomichron, HP/Patek Philippe, and chip scale atomic clocks
- Quartz Mean Solar Standard for military use
- Precision pendulum systems
    - LeRoy tank regulator, Favag, and Littlemore

ANTICIPATED COSTS	
Graphics and labels	**$5,000**

Mid-Term Projects

Completion in 2026

Time and Astronomy

Function

This gallery will use museum objects and digital media to explain the planetary motion that gives us our concept of time.

Overview

This gallery will replace a somewhat confusing set of displays that made more sense when the original introductory gallery was in place (decanted in 2020). It will contrast the Public Time gallery by being a dark space using soft, in-case lighting to give dramatic presence to mechanical globes and orreries and backlit labels to maintain readability in a darker space. Early timekeeping devices—clepsydrae and sundials—will be explained and put into historical and social context. Tracking the position of the Sun with a sundial will be explained using simple lighting and segue into the story of the mechanical clock in the next gallery space.

Early American Clockmaking

Function

To provide a century history of American clockmaking from the mid-1700s. To display a diverse selection from our comprehensive collection to showcase different regional styles, individual makers, and cultural influence in the decorative arts.

A rare shelf clock by Joseph Ives, ca. 1818, that features his c-shaped cantilever springs that are secured to the inside of the pillar and scroll case.

Overview

The current layout intersperses European and American clockmaking with little explanation. The display areas group different types of clock (tall, shelf, wall, calendar, etc.), which fails to engage visitors unfamiliar with the subtle detail of each respective genre.

The proposed gallery will present different stories and help answer frequently asked questions in blocks using around 10 feet of wall space. Each section will be clearly titled and designed to help the visitor learn from the display. Each component of the gallery will include a selection of different types of timepiece complemented with good visual material to deepen explanations and provide context.

The launch of the gallery will be set to coincide with the 250th anniversary of American independence. In keeping with this theme, clocks celebrating the heroes of the Revolution will be prominently curated.

The reorganization of the displays necessitates moving the European clocks. This will allow us to tell the story of trans-Atlantic trade and the exchange of manufacturing technologies, as well as providing the opportunity to curate a new European display.

Children’s Activity Gallery

Function

This area will cater to children ages 5 to 12 to introduce timekeeping and how clocks and watches work.

Overview

The existing Education Zone has four central interactives and a good collection of escapement models. Only one of the large interactives works reliably. Visitor feedback suggests that they are not very engaging or effectively educational. The wall panels in this space feature printed information on time zones, historical quotes on time, which are somewhat dry, wordy, and not targeted at young readers. We propose to remove the old interactives, repair the cracked concrete floor, and lay new, colorful vinyl flooring.

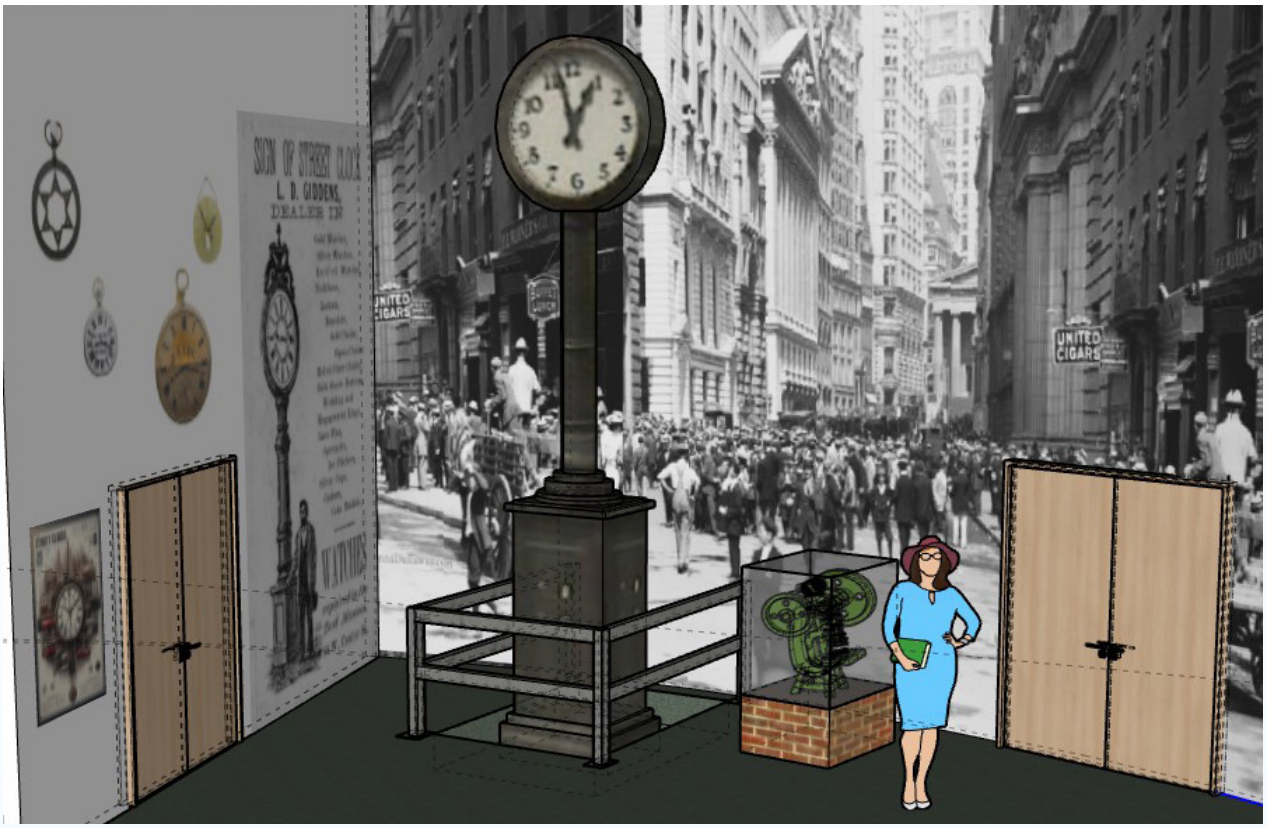
There will be seating and a table for activities such as drawing, coloring, clock building, and other hands-on activities. We propose to introduce durable, interactive educational activities. We are developing the following ideas:

- A wall with pegs to receive toothed wheels to experiment with transfer of power through geared mobiles
- Various build-a-clock activities
- Reaction timer
- Time finders – sundials and nocturnals

We plan to engage experts in children’s education to get this gallery right. It needs to be fun, engaging, and educational by using simple and robust designs.

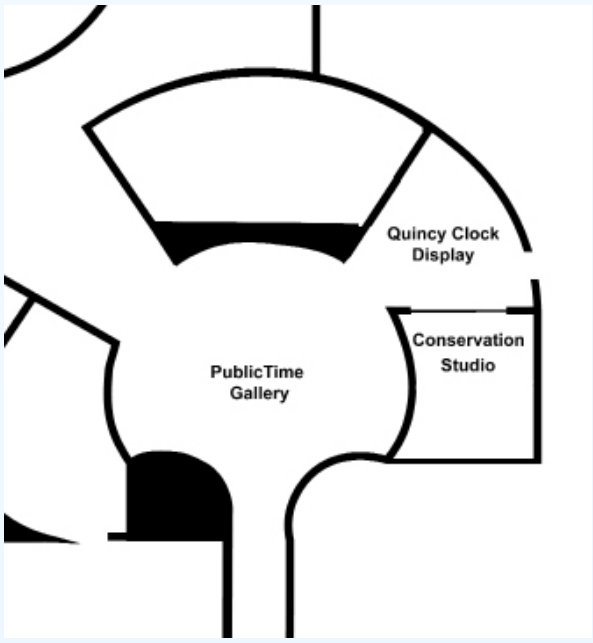
Long-Term Projects

Ansonia Clock (Adjunct of the Public Time Gallery)



Function

The extension will serve primarily to display an extraordinary—and very tall—street clock made by Ansonia Clock Co. circa 1900. This will also provide space to display a collection of horological shop signs and give visitors an opportunity to see activity in the conservation studio.



Overview

This project has undergone several iterations, and there has been considerable debate as to whether or not it should be placed outdoors or indoors. The current solution is the best in terms of preventative conservation and effective display. We are already taking steps to make this happen. The current HVAC project will remove some large air ducts that would otherwise compromise the view of the street clock.

This project is planned but requires more

substantial funding, hopefully to be raised as part of an ongoing Redevelopment Assistance Capital Program (RACP) state grant application. The majority of the expense lies in preparing the gallery space. It requires cutting into the concrete slab floor to lay a foundation for the Ansonia street clock. Additionally, the shape of the Public Time Gallery needs to modified to extend into what is currently the collection storage area.

ANTICIPATED COSTS	
Preparation of the space including: • *Removal of the existing wall* • *Rebuilding the wall* • *Cutting the floor* • *Laying the slab foundation* • *Flooring* • *Decoration* • *Lighting*	**$96,000**
Graphics and labels	**$10,000**
Installation of the clock	**TBD**

*The $96,000 is for all works to be carried out with appropriate tenting to prevent problems with dust.

The contract was put to bid with three seperate general contractors.

Sundial Garden

Function

A sundial garden will introduce our basic connection to time and enhance the parking lot area.

Overview

There is currently a raised bed in the visitor parking lot that takes up approximately three parking spaces. We propose to remove this raised bed and replace it with a paved square with four sundials in the corners, flower borders, and a central human analemma dial. By standing on the current calendar month, the visitor's shadow will tell the time against the numerals marked on the pavement. There is scope for commissioning different types of sundials.

An analemmatic sundial, where a person becomes the gnomon and their shadow tells the time. © North American Sundial Society.

An example of a scratch dial from the Museum collection that could be replicated to demonstrate different types of sundials.