

## NEH PLANNING GRANT: *INTERPRETIVE PLAN FOR “A WORLD BEFORE CARS” GALLERY*

### 1. THE NATURE OF THE REQUEST:

The Long Island Museum seeks \$40,000 from the National Endowment for the Humanities (NEH) to cover a portion of the costs associated with the planning of a new core interactive exhibition space in our Carriage Museum, *A World Before Cars*. Scheduled to open in March of 2020, *A World Before Cars* will help extend and deliver the humanities themes of our renewed Carriage Museum to the broadest possible audience, through a variety of engagingly-interactive learning experiences.

The Long Island Museum owns one of the largest and finest collections of horse-drawn vehicles and related transportation artifacts in the country. The collection includes nearly 200 examples of horse-drawn conveyances, mostly American – pleasure driving vehicles, coachmen-driven vehicles, sleighs, freight and trade wagons, public transportation and fire-fighting carriages. From 2003 through 2013, the museum engaged in the major redesign, reinterpretation, and reinstallation of its Carriage Museum, made possible in large part to substantial NEH support, over several project phases. In this process, the museum converted the Carriage Museum from a static display of horse-drawn vehicles into a lively exhibition experience where visitors can explore carriages in their social and economic context as key components of the transportation systems that shaped America, from the nation’s westward expansion to the growth of urban areas, from the 18<sup>th</sup> century to the first stages of the automobile era. The revamped Carriage Museum includes a 30-foot fiber-optic map exploring the evolution of 200 years of Long Island’s transportation routes, vehicles placed in life-like historic settings (for instance, New York City in the 1890s), and a series of audio, manual, and video interactives integrated throughout. However, an even more robust and sophisticated level of interactivity is a major goal of this current proposed project.

To build upon the success of our reinvigorated Carriage Museum and to further improve the overall visitor experience and humanities content, the museum now turns to the last remaining 2,400-square-foot area on the lower floor of our Carriage Museum which did not change during the reinterpretation project. This space is to be re-envisioned and reinstalled as *A World Before Cars*, an interpretive gallery and activities area that, through a series of immersive interactive exercises and content delivery kiosks, will emphasize the following humanities themes:

- **Just as automotive experiences of 21<sup>st</sup> century America reflect a broad range of socioeconomic realities, carriage riding and driving mirrored and influenced a diverse set of economic, social, and cultural features of 19<sup>th</sup> century life:** through a ride simulation incorporating a combination of actual carriage interiors and virtual reality techniques that provides visitors a chance to roleplay alternative experiences and choices—from a scenario of privilege and comfort, reflected by a ride in a brougham, to the more common and austere frugal experiences of a farm wagon and horsecar—visitors will gain first-hand knowledge

of the different types of carriage travel experiences, and how such travels resembled choices and restrictions that travelers face in their daily lives today.

- **Horses were the motive power of the American economy and society before the automobile:** through harnessing/reining and other activities, as well as a digital content interactive kiosk, visitors will learn about the functions, purposes of, and the different breeds of horses essential to society during America's pre-automotive era.
- **Carriages underwent enormous design revolutions in the 19<sup>th</sup> century and the American automobile owes much of its design and earliest technological innovation to the carriage:** through several carriage design interactives and a large-scale comparative display between carriage and automotive parts, visitors will see correlations and distinctions between cars and carriages, making physical and technological connections to their own lives.

In completing this new area, the museum will enlarge and reinforce the scope of our Carriage Museum's humanities themes, and also present new material in a vivid and compellingly hands-on way to appeal to family audiences and visitors of all ages. The new gallery will dovetail neatly with the rest of the Carriage Museum's efforts to explore themes of class, technological change, and the multiple ways that carriages were essential to 19<sup>th</sup> century American life. However, it also advances the museum's overall narrative to cover important topics that need more attention: namely, the actual physical realities of carriage travel, which were a function of class, locale, and other experiences; the centrality of horses to 19<sup>th</sup> century American transportation and life; and the strong foundation that carriages provided for the automobiles that we drive today.

Further, we will address some of the strongest desires that visitors have expressed since the redesign of our Carriage Museum: the need for more interactive exercises and activities that provide an immersion into the world of carriages and give them the feel and experiences of riding carriages, handling horses, and exploring carriage design and its relation to cars. A large number of visitors have expressed this sentiment over the past 18 months in our Carriage Museum's comment book, and in audience surveys – as indicated in our response to question 7 of this narrative:

- "I wish there was one carriage to sit in to see how it felt. Otherwise very interesting. This museum had a lot of different types of carriages, which was nice."
- "Great exhibits...Need interactive/kid-friendly exhibits."
- "Very nice presentation. Would love to see a horse and carriage ride available!"
- "Amazing! Wish there was at least one carriage we could go in. Very enjoyable."

This grant will make it possible for the museum to take the next step and plan this new hands-on learning and activities space through expert outside consultation, working with outstanding scholars in the fields of transportation and equine history, as well as with a nationally-leading architectural firm and expert interactive designer in the creation of executable plans to be utilized in the implementation phase.

## 2. HUMANITIES CONTENT:

- **Just as automotive experiences of 21<sup>st</sup> century America reflect a broad range of socioeconomic realities, carriage riding and driving mirrored and influenced a diverse set of economic, social, and cultural features of 19<sup>th</sup> century life:** through a ride simulation featuring real and reconstructed carriages combined with virtual reality technology, visitors will be able to learn about and choose between the alternative experiences of three distinct carriage ride scenarios.

Much as the experiences of riding in a plush, expensive luxury automobile today can be sharply contrasted with that of an affordable compact car, carriage rides of the 19<sup>th</sup> century spanned a wide gamut that depended largely upon the vehicle's functional purpose, its locale of use, and the owner and user's economic level. People in society were judged by their mode of travel; horse-drawn transportation became a very precise and visible marker of status, over time. Just as today we judge distinctions between a small and boxy Nissan Versa and a sleek and elegant Mercedes-Benz S Class, late-nineteenth century pedestrians could instantly assume the rank of passersby by a glance at their horses and carriages.

A certain stratification and distinction between vehicles had existed from the very dawn of the carriage era in America – in the 17<sup>th</sup> and 18<sup>th</sup> centuries – but increased during the Civil War and the years that followed, as the explosive growth of industrialization and big businesses spurred the rise of a millionaire class, who craved creature comforts. As elaborate palaces were built for societal elite along New York's Fifth Avenue and in country house enclaves like Long Island's North Shore, carriages became an increasingly sophisticated portable extension of this luxury. The wealthiest members of society often owned more than a dozen vehicles for every purpose, including coachman-driven park drags, broughams, and enclosed coaches of every description. The finely-trimmed interiors of these vehicles were outfitted in the most elegant fabric and material combinations available at the time: broadlace and diamond-pleated silk harmonized with ivory, brass, and mahogany fittings. Luxurious interiors included heavily-padded backrests, to better cushion the ride, calling card compartments, fine clocks, mirrors, and pneumatic pull string devices to notify the driver if a stop was needed. Naturally, the luxury features continued outside and included smoother, better suspensions, facilitating a safer, quieter, and far less bumpy ride. The prices on a coach-class or larger vehicle in the 1870s and 80s ranged from \$1,200 to \$2,500 or more—vastly exceeding the average annual working man's wages (\$400).

As the trade journal *The Carriage Monthly* explained, in 1889, high-end carriage makers gave “their attention and best thought and energy to bring their vehicles up to the highest standard known to the art, combining elegance and perfection of design, strength, durability and comfort.” In a public setting such as Manhattan's Fifth Avenue, the carriage maker's art went beyond creature comfort and entered the realm of public spectacle, which reinforced class distinctions. Edith Wharton, born into wealth and privilege, recalled in 1938 that *In my seventeenth year* [1879], *there*

*suddenly appeared in Fifth Avenue a very small canary-yellow brougham with dark trimmings, drawn by a big, high-stepping bay and driven by a coachman who matched the brougham in size and the high-stepper in style. In this discreet yet brilliant equipage, one just caught a glimpse of a lady whom I faintly remember as dark-haired, quietly dressed, and enchantingly pale, with a hat brim lined with cherry color, which shed a lovely glow on her cheeks. It was an apparition surpassing in elegance and mystery any that Fifth Avenue had ever seen.*

However, for the vast majority of Americans who experienced it, carriage rides meant and felt something quite different. Vehicles made for the use and ownership of working and middle class people were fitted with far less ornamentation and elements of comfort. Wheels, springs, and all major parts of a vehicle—from seats and interior upholstery to door panels—were produced primarily with cost and basic necessity in mind. Travel journals and first-person accounts of rides in farm wagons and other ubiquitous vehicles provide insight into the realities and challenges of horse-drawn transportation for most. Contrast Wharton’s description with the experience of 21-year-old Abbie Bright, a young teacher who set out to see the American West in the spring of 1870, riding in a farm wagon. In her diary, she wrote, from a trail in Kansas: *After dinner the horses were hitched to the big wagon again, and off we started for Red Oak Shelter eight miles farther. We sat on a spring seat, which was untop of the wagon-box. My feet did not touch the floor, and when the horses went faster than a walk, I had to hold fast to the seat, to keep from bouncing off. It would have been less tiresome to have sat on my trunk, and rested my feet on the floor.* The pickup trucks of their day, farm wagons were owned by every farmer who could afford at least one kind of horse-drawn vehicle; they provided basic transportation for people and cargo, whether on the farm, riding into town, or overland trips.

While most Americans lived in the countryside in the nineteenth century, American urban and suburban residents of all classes were also regular carriage riders in the form of the horsecar. A carriage on steel rails pulled by one or two horses along a regular route, they began a new era of mass transit when first introduced in New York City in 1832. As Mrs. N. T. Munroe of Boston observed in 1871, *It is unromantic, it is plebeian, it is terribly democratic, yet I like it. It is open to all classes.... We call upon it as freely as upon a hired servant. If we wish to go a block or two, we step into a horse-car; if we wish to cross the city from one depot to another, we take a horse-car; if we are to go a mile or two into the country, we take a horse-car. It isn’t the winged chariot, and it has no fiery steeds; it isn’t even an imposing equipage, but it is cheap, it is convenient, it will rest our weary limbs, carry us along easily on our daily errands, and is indeed more fitted for those errands than would be the chariot of the gods or car triumphant.* While supplemented by first cable cars and then electric streetcars and the subway, the horsecar survived in New York City until 1917.

**How the research ties into our new gallery plans:** Visitors will be able to learn, experience, and appreciate the very different scenarios of carriage riding and driving in the 19<sup>th</sup> century, whether that be the experience of a luxurious brougham, a farm wagon, or a trip aboard a horsecar. Each of these different carriages and the rides that

they provided meant extremely separate experiences, and visitors will be able to recognize those differences by the role-playing ride simulation exercises described below.

**Relevant Scholarship:** Daniel Claro, “Bodies in Motion: Material Culture and the Experience of Mobility, 1803-1851,” Ph.D. dissertation, 2013, University of Delaware; Roy Rosenzweig and Elizabeth Blackmar, *The Park and the People*, 1988; Jessica Ellen Sewell, *Women and the Everyday City: Public Space in San Francisco, 1890-1915*, 2011; T. Veblen, *The Theory of the Leisure Class*, 1899; Sam Bass Warner Jr., *Streetcar Suburbs: The Process of Growth in Boston, 1870-1900*, 1978.

- **Horses were the motive power of the American economy and society before the automobile:** through harnessing/reining activities and a digital content interactive kiosk, visitors will learn about the functions of, the purposes served by, and the different breeds of horses essential to society during the pre-automotive era of American history.

In 1903, a new Detroit automobile company, Oldsmobile, predicted, in a boldly-headlined advertisement, “the Passing of the Horse.” The ad’s illustration featured a well-dressed matron sitting in a runabout automobile and waving a handkerchief goodbye at a paddock with two mournful horses being left behind. The copy contrasted the car’s “silent horse power” as “measurable, dependable and spontaneous,” all a superior step up from the old horse power “generated by supplies of hay and oats” that was “variable, uncertain and irresponsive.”

But the moment of the horse’s “passing” had been a long time in coming, and, just a few years earlier, perhaps unthinkable. As one transportation historian writes, we should “remember that the horse’s replacement by a mechanical contrivance was by no means a universally shared anticipation.” And that was predominately due to the horse and carriage’s integral roles in all aspects of 19<sup>th</sup> century American life. Far from being incompatible with the rise of industrial America, horses played a key role in shaping it. The horse and mule population grew at twice the rate of the human one between 1840 and 1910. Horses were relied upon in both urban and rural settings—for work, for moving daily provisions, and for getting around. And in addition to their innumerable services, horses needed to be fed, bedded, and housed, and there was important business to be had in supplying oats, barley, hay, and straw, with providers of this as common as gas stations are today.

Horses were bred for both work and pleasure. Draft breeds, including the Percheron, Shire, Clydesdale, Belgian, and Suffolk, hauled omnibuses on city streets, helped to power steam machinery, and transported massive loads of goods. In the context of pleasure, horses such as the American Standardbred, English hackney, and other breeds of lightweight horses were paired to drive broughams and sporty owner-driven vehicles, in park thoroughfares, along fancier urban drives, and around estates.

Despite their critical economic and cultural significance to 19<sup>th</sup> century America, horses faced increasing scrutiny for their liabilities as both a source of urban environmental pollution and the interruptions they could sometimes pose due to health vulnerabilities. In the fall of 1872, a severe horse influenza outbreak, which became known as the Great Epizootic, left much of the eastern United States at a standstill. One historian describes Philadelphia as completely paralyzed by the episode: “Streetcar companies suspended service; undelivered freight accumulated at wharves and railroad depots; consumers lacked milk, ice and groceries; saloons lacked beer; work halted at construction sites, brickyards and factories; and city governments curtailed fire protection and garbage collection.”

By 1900 (when the U.S. census first counted horses by locality), New York County (Manhattan) had over 130,000 horses, more than any other county in the country. These huge urban herds posed problems of cost, pollution and traffic congestion. Living and dead, horses were everywhere. Urban horses lived on average only four years, and by the 1880s New York City was removing 15,000 bodies annually. Beyond this, horse pollution was a serious health concern since each horse daily dropped between 10 and 20 pounds of manure, much of it on city streets. New York City horses produced between 800,000 and 1,300,000 pounds of manure daily, or 150,000 tons each year.

**How the research ties into our new gallery plans:** Through a series of different hands-on activities, visitors will gain access to the 19<sup>th</sup> century world of the horse and will learn and experience care and interaction with horses, as well as a better understanding of how horses provided the motive power that made carriages and early industrial America go. They will also learn more about the different breeds of horses.

**Relevant Scholarship:** M. Berger, *The Devil Wagon in God’s Country*, 1979; Ann Norton Greene, *Horses at Work*, 2008; R. Howard, *The Horse in America*, 1963; Clay McShane and Joel Tarr, *The Horse in the City*, 2007; Catherine McNeur, *Taming Manhattan: Environmental Battles in the Antebellum City*, 2014.

- **Carriages underwent enormous revolutions in design in the 19<sup>th</sup> century. Importantly, the American automobile owes much of its design and earliest technological innovation to the carriage:** through a carriage design digital interactive and a large-scale interactive comparison, visitors will see correlations between cars and carriages, making physical and technological connections to their own lives.

On the upper floor of our Carriage Museum, in our *Making Carriages* gallery, a Studebaker Victoria, 1903, sits at the end of a long line of vehicles made by that company. From a distance, most visitors see it as just another carriage, until they come closer and see the steering tiller, a front-end battery box, and chain drive shaft. It makes a vital point, one that we plan to vividly explore in our planned interactive gallery: the automobile that is essential to our daily existence, evolved directly out of carriage design and technology. Although few would recognize it, our 21<sup>st</sup> century cars are descendants of the vehicles that once dominated America’s 19<sup>th</sup> century streets.

It is the great irony of the carriage industry in the latter portion of the 19<sup>th</sup> century that its moment of highest economic strength – the 1880s and 90s – came just prior to its downturn and eventual replacement by the automobile. The post-Civil War success of the carriage industry depended upon rapid advancements in the industry’s design, technology, and professionalization. Advancements in the carriage trade during these years can be seen by every measure. In 1860, one of the nation’s largest carriage producers, Connecticut’s G. & D. Cook & Company, turned out one vehicle per hour; by 1880, the behemoth Studebaker Brothers Manufacturing Company in South Bend, Indiana, averaged one hundred wagons per day, or one every six minutes. Standardization of parts and mass production revolutionized the carriage industry, made vehicles more affordable to the general public, and helped create conditions for a new form of transportation, the automobile, to become preeminent.

The demise of horse-drawn vehicles started in the late-19<sup>th</sup> century with the gradual transition to other forms of transportation, particularly motorized streetcars and automobiles. The change from carriage to car did not happen overnight. From the late 1890s to the 1920s, carriages and automobiles overlapped on city streets. Early cars were expensive and unreliable, regarded more as amusing novelties than as a serious means of transportation. But by 1910 innovations in mass production and four-cycle engine technology had created a vehicle that was both more reliable and more affordable; it soon became clear that the car was here to stay. While there were still more than 4,600 carriage companies operating in the United States as late as 1914, by 1925 there were less than 150. By 1929, there were fewer than 90. Despite this tremendous fall off, as late as 1935, there were still nearly 3,000 buggies manufactured each year for use in rural areas.

Ironically, in many ways the new automobile industry was the child of the older carriage industry. Studebaker, for example, began as a carriage manufacturer and retooled its production to manufacture automobiles. Other early automobile companies were essentially assemblers, using parts often produced by carriage makers. Interestingly, following the precedents of 19<sup>th</sup>-century carriage factories, auto manufacturers such as Henry Ford succeeded through vertical integration—bringing all parts and processes under one roof.

So many parts integral to or associated with the automobile that we have come to take for granted originated in carriages: the foundation of our braking systems, which relies upon a brake shoe or block that applies friction or braking pressure to the wheel, emerged out of carriage manufacturer’s similar parts and realized efforts in the 19<sup>th</sup> century; the dashboard and windshield evolved out of earlier carriage features—known as “dashes” and “shields”—that were small panels affixed to the front of a vehicle to deflect the mud and water thrown up by the horses’ feet; our car trunks are descendants from carriage boots, compartments for storing luggage, provisions, and tools (the English still refer to this part of their car as a boot). Even the names of carriages migrated into the automobile industry. Once types of carriages, the station wagon, carryall, brougham, and runabout became car body styles. The brougham in

particular was also used as a model name by Cadillac, Daewoo, Holden, and Nissan, and as a luxury trim level offered on Ford, General Motors, and Chrysler automobiles throughout the 20<sup>th</sup> and early 21<sup>st</sup> centuries.

**How the research ties into our new gallery plans:** The new gallery and activities area will feature a 12-foot wall of three dimensional artifacts from both a modern automobile and a 19<sup>th</sup> century carriage; parts such as axles, springs, wheel hubs, and other items. Visitors will be able to visually connect the evolution of automobiles to their carriage precedents. Nearby, hands-on activities stations and an interpretive computer kiosk will feature carriage design activities and detail more of the backstory behind the transition between carriages and cars.

**Relevant Scholarship:** Thomas Kinney, *The Carriage Trade*, 2004; Paul A. Kube, *Wagon-Making in the United States during the Late-19th through Mid-20th Centuries: A Study of the Gruber Wagon Works at Mt. Pleasant, Pennsylvania*, 2005; Steven Lubar, *Engines of Change*, 1989; Museums at Stony Brook (now the Long Island Museum), *19<sup>th</sup> Century American Carriages: Their Manufacture, Decoration and Use*, 1987; Museums at Stony Brook, *The Carriage Collection*, 1986. Clay McShane, *Down the Asphalt Path: The Automobile and the American City*, 1994; Ward John Regan “Carriage Trade in Gilded Age America,” 2000 Ph.D. dissertation, Stony Brook University; Kathleen Franz, *Tinkering: Consumers Reinvent the Early Automobile*, 2005.

### **3. PROJECT FORMAT(S) AND PARTICIPANT EXPERIENCE:**

The new gallery will tie beautifully to the rest of the reinterpreted Carriage Museum and will carve out a unique and lively new space of learning, fun, and shared family visitor experiences. *A World Before Cars* will also work naturally with and help to extend our education programs (three separate successful school programs now run out of the Carriage Museum). The museum staff has begun some preliminary planning, devising ways in which visitors would be able to approach, learn, and explore this proposed core interactive exhibition space. With the guidance of the consultants and scholars for the *A World Before Cars* project, this planning process will help to refine, revise, and produce the most effective methods of conveying these vignettes of 19<sup>th</sup> century life and transportation to our 21<sup>st</sup> century audience.

**CARRIAGE RIDE AREA:** The centerpiece of this space will be a carriage ride simulation involving a brougham, a farm wagon, and a reproduction of part of a horsecar. This area will include a multi-sensory experience where visitors will be able to climb into the vehicles and will include sight, sound, touch, and smell to make it a truly immersive experience.

Through virtual reality technology and video projection, this activity will have several discrete scenarios which will involve preparing for and embarking on a horse-drawn road trip with your family in late-19<sup>th</sup> century America. Here, visitors may have a chance to visit several kiosk stations to feed, harness and prepare their horses and vehicles for a selected journey. Choices about what vehicle to choose would be hinged on



the economic position of the rider, location, purpose of journey and weather conditions ahead. Roleplay in the journey – the choice of actual characters for each scenario – will be based upon actual archival material identified from the Museum’s Carriage Reference Library and other archival sources, based upon diaries, letters, and other original source material. Possible options will include: a wealthy family traveling in a high-end customized brougham from their suburban home into the city; a family boarding a public horsecar to get from their apartment building into the city center for work and shopping; and a farmer and his family taking a ride to move produce to market on their farm wagon. Visitors would have a chance to make decisions on what equipment to pack, what vehicle to choose, what horses (and how many) would be best suited for the trip. The actual rides would provide the combination of several physical carriage interiors (some reproduction) that visitors will be able to climb into and also utilize virtual reality headsets, video projections, and motion to simulate their ride. Sometimes they would have to face the frustration of obstacles that could hinder their chances of reaching the desired destination. A common thread that would be emphasized throughout the entirety of the experience would be the social and economic differences between these travelers and how much of an impact these factors would have on their transportation options and comfort.

#### ***HORSE ACTIVITIES AND LEARNING AREA:***

In order to explore and interact with a horse, this station will feature an articulated and lifelike horse mannequin, replete with a bridle and harness for visitors to manipulate and attempt to properly connect. Providing visitors the opportunity to handle real leather and metal equipment will facilitate learning through tactile experience. A positive reinforcement (possibly a green light or an audible sound) will indicate if visitors have completed each step correctly (or a red light or negative audible sound) will direct them to trying it another way to correct their mistake. They will gain insight into the depth and complexity of what may initially seem like a simple task.

An additional station will allow visitors to try their hand at shoeing a horse, as a farrier would have done in this time. With a chance to handle the metal shoe and nails that would have been used, several size hoof models would be presented to enable visitors to learn about the skills a farrier would need in order to apply the mechanics of accurate nailing techniques.

At a touch-screen computer kiosk nearby, visitors will also be able to learn more about different horse breeds and try their hand using digital grooming tools, such as brushes, combs and hoof picks, to complete basic grooming needs and learn why such care was essential in keeping a horse healthy. Taking on the role of a farmer’s child or the groom of a wealthy city dweller, visitors could learn how these tasks would be essential to their everyday lives. For juxtaposition, a separate screen at this station will feature fancy bridle rosettes, horse costumes and instructions on how to braid a show horse’s mane. Here visitors would also learn about another side to horse grooming, but one that would only exist in a world of wealth and leisure.

Although the horse will be the primary focus of this area, other animals that were used to pull wagons and carriages would be mentioned here as well. Oxen, dogs, goats and even people would have been selected for specific vehicles, such as an oxen for a covered wagon; a dog or goat for a child's cart; men for a firemen's parade hose or street vendor's carts. A touch screen area would include their images, and visitors would try to pick the best mode of power for each potential vehicle. This activity could include some incorrect options to choose from to make it more challenging as well as further information about each animal/person.

### ***CAR COMPARISON AND CARRIAGE DESIGN ACTIVITY AREA:***

The chance to compare and contrast carriage and car parts – arranged dynamically on a large gallery wall – will powerfully visually emphasize the connection between the automobile and carriage (*\*note: the LIM owns many relevant carriage parts in its permanent collections to choose from for this display area*). In an additional adjacent area, various parts of each vehicle could be hidden in drawers that visitors might open to explore and possibly connect to a large car/carriage model to find out each object's name, purpose and how it evolved.

Right beside this, an interactive kiosk and additional activities station will give visitors the opportunity to explore carriage design and recognize some of the ways that creation of carriages changed over the 19<sup>th</sup> century. A successful carriage designer required a unique combination of skills including an aesthetic eye, scientific precision and a skillful hand to render the desired functions and visually appealing pieces that culminated in a fine carriage. By using primary sources from prominent carriage designers in our collection, such as drawings and design templates from the successful Brewster & Company designer and German immigrant Herman Durholtz (1864-1935), this station would allow visitors to try their hand at the various tasks involved in this intricate design field and assemble their ideal carriage from top to bottom. By combining tactile and virtual options, visitors will have a chance to compare a variety of carriage bodies available and calculate their weight, size and overall carrying capacity. Scenarios of what goods would be carried in each wagon could be presented on a screen. Dependent on the selections made, visitors would base their final choices on overall weight and passenger capacity, how many horses would be needed to pull a carriage of certain weight and how the weight and horses would affect their carriage traveling speed. They would learn about the importance of precision for a wheelwright and how to measure the wheel size, which would make a difference in speed and agility. By having a cast iron "traveler", a tool used by blacksmiths or wheelwrights to measure the circumference of the outside of the wheel to determine how long to cut the iron for the rim, visitors could try this task on a sample piece of iron and then use their findings to decide on the overall size of the wheel.

Aesthetics would be a primary concern for the carriage trimmer and painter, so visitors will also have a chance to sample swatches of fabric to pick for their carriage interior, paint colors to consider for their exterior and decide whether or not to include accessory options such as a glovebox, a lantern or whip socket. Cost would always be a

consideration for any carriage designer. Prices and currency of the era and our modern year could be analyzed on comparative screens, paired with average household salaries for common occupations and the cost of carriages and customized options. After all practical, financial, and style considerations have been made, their design and all of its specifications could appear on screen for a virtual ride and sent to them via email.

For the youngest visitors, an area will be set aside for a large scale block-like puzzle with carriage/car parts to assemble. An audio story kiosk will contain a carriage and also an old-fashioned car ride, complete with sound effects and music.

#### **4. PROJECT RESOURCES:**

The best resources to support humanities research for this project springs from our large Carriage Reference Library. Materials in the Carriage Reference Library support the museum's horse-drawn vehicle collection, the finest in the nation. Its holdings include over 1,200 titles, 1,500 volumes, 600 trade catalogs, 12 unpublished monographs on vehicle types, 1,100 bound and unbound volumes of nineteenth-century trade and 15 linear feet of carriage trade-related business records, archives and ephemera.

A majority of books, catalogs and periodicals in the library were published during the second half of the 19th century and reflect the period of peak production and use of horse-drawn vehicles as well as the mass production and distribution of printed material in the United States. Some of the items relate directly to the manufacture and decoration of horse-drawn vehicles, such as the James Marsh Whitehead trimmer's patterns, the Dreese brothers carriage and sleigh ornament patterns and the customer specification drawings for Brewster & Company. These publications are invaluable resources that document business activities of specific firms and provide technical and aesthetic information, nomenclature, and statistics on the manufacture and distribution of horse-drawn vehicles and are frequently consulted by museum staff and outside researchers.

The Carriage Reference Library also contains a significant holding of pre-1850 trade literature that is an especially rare and significant resource for the study of early forms of road transportation, theories of draft (the exertion of the horse and resistance of the vehicle) and how these factors influenced carriage designs and construction methodology. These volumes have been used by researchers (from The Colonial Williamsburg Foundation and Ashlawn Plantation) for special projects relating to the interpretation of eighteenth century horse-drawn vehicles. Museum staff often refer to these holdings when developing exhibitions and educational programs.

The library also includes a rich collection of more than 1,000 technical and presentation drawings, customer specifications, carriage designs in preliminary and complete renderings, and lesson plans in carriage drafting which represent the process of designing, making, and marketing carriages. Among the major firms represented are: Henry Hooker and Company, New Haven, Connecticut; Brewster & Company, New

York; Hooper and Company, London; James Cunningham Sons and Company, Rochester, New York; and the Studebaker Brothers Manufacturing Company, South Bend, Indiana. Some of these materials are reproduced and used as graphics in the Carriage Museum exhibitions. They are often consulted by scholars and conservators for their descriptive information regarding original materials and design.

Additional significant archival material and ephemera relating to specific employees engaged in all aspects of the carriage trade provide a unique perspective on this complex industry and are one-of-a-kind research resources for the study of horse-drawn vehicles. These items include: account books and patterns; the tools and implements of James Marsh Whitehead, trimmer for the Charles Grube Carriage Company, Rahway, New Jersey; journals, letters, drawings and watercolors, crest and monogram patterns sketch books, and carriage designs from Herman Durholz, designer and limner for Brewster & Company; and published design books, prick patterns and renderings of carriage, wagon and sleigh decorations from Jean Pierre and Fred Dreese, carriage painters from Franklin, New York. These primary materials are used by museum staff for development of exhibitions and programs.

The recently acquired business records of the Graves Carriage Shop (16 bound volumes) help to document the day-to-day operations of small, family owned carriage shop, much of which is installed in the *Making Carriages* exhibition in the Carriage Museum. The records were frequently consulted during the development of the exhibition.

Documents of related industries such as harness making are also well-represented. Serial titles such as *The Harness-Gazette*, *The Saddler's and Harness-Maker's Journal*, and the company records of the Smith-Worthington Harness and Saddlery Manufacturing Company, which were microfilmed and distributed to other libraries holding Smith-Worthington records as a cooperative project organized and funded by the National Museum of American History.

## **5. PROJECT HISTORY: Brief history of the project to date**

The project for which funding is sought represents an important next step in the comprehensive undertaking of reinterpreting and reinstalling our Carriage Museum, the largest and finest in the nation. The overall effort, which began in 2003, has been recognized by the museum's board and staff as one of its top institutional priorities. The result so far provides an entirely different, and infinitely better, experience for visitors. The reinstalled galleries are bold and exciting, as well as effectively informative; the design is inviting and flows in an audience-centered manner; the stories of the vehicles and the people who created and owned them are told in unique and compelling ways. The project to date – 22,600 square feet, spread over six separate galleries – has been solidly successful, by almost every measure. However, by one measure—audience interactivity—we have learned from experience that we still have a ways to go. *A World Before Cars* will help to take us there.

Our long-term goals when we embarked on the project more than a decade ago were:

- To provide a museum of transportation history rather than just a showplace for carriages;
- To make collections more accessible to the general public;
- To create an engaging family-friendly experience for visitors.

Front-end research as we were beginning the Carriage Museum's renovations provided critical information on audience interest in the old carriage exhibition and asked visitors what new stories and topics they wanted to see. We found that visitors wanted to learn more about the people connected with the vehicles and about horses as well. Many visitors noted the absence of audio/visual enhancements, and hands-on features. We were struck by the high percentage of visitors who found the exhibition "interesting" and the low percentage of those who found it "fun" or "enjoyable." For many visitors, the overall experience of the Carriage Museum was simply overwhelming (too many vehicles; too little to do).

The NEH has been involved in the overhaul from the outset; indeed, the Long Island Museum launched its reinterpretation project with an NEH consultation grant in 2003, which enabled the museum to assemble a team of humanities scholars who worked with the project team to develop the interpretive framework to recreate the Carriage Museum. (A NEH "We the People" implementation grant followed.)

The project team developed an interpretive approach that was thematic, organized around key themes that provided context for visitors to understand the economic, technical, social, and other external influences that affected horse-drawn vehicles. A major goal of the project was to explore the human dimensions of the production and use of these vehicles by bringing attention to the lives of the people who built, owned, and used them.

This approach guided this project over four separate previous phases of redesign and reconstruction of the Carriage Museum:

- **Phase One**, completed in 2004, provided an orientation gallery, *Going Places*, with nine iconic vehicles and a large interactive transportation map of Long Island, introducing visitors to the many purposes carriages played in American life;
- **Phase Two**, finished in 2006, revealed to visitors how carriages were manufactured and sold. *Making Carriages* includes an authentic working small-town carriage shop, with moving machinery and parts, juxtaposed with the story of mass industrialization. In the next area, the *Carriage Exposition Gallery* explores how the vehicles were sold to consumers, set within the backdrop of a 19<sup>th</sup> century world's fair;
- **Phase Three**, completed in 2010, was the *Gentleman's Coach House*, the realistic recreation of a 19<sup>th</sup> century carriage stable that explores the lives of

immigrant stable hands, coachmen, and grooms, contrasted with those of wealthy estate owners.

- **Phase Four**, completed in 2013, the LIM introduced the story of horse-drawn transportation to urban and park-like settings in two new galleries, the *Streets of New York* and *Carriages for Sport and Pleasure*.

Since the winter of 2014-15, museum staff began thinking carefully about the next steps for completing the Carriage Museum with a new interactive core area. We conducted audience evaluations throughout 2015 and 2016 and spoke to the members of our consultant team to begin putting the pieces together for this next phase, ***A World Before Cars***.

## **6. AUDIENCE, MARKETING, AND PROMOTION:**

The museum will develop a comprehensive marketing plan that builds upon prior successes in marketing the Carriage Museum, in an effort to publicize the new exhibition and related programs. The plan will include the use of television, radio, print media, and creation of a special brochure. The new exhibition will be promoted on the museum's website and we will work with other websites throughout the region to cross-promote the exhibition. A weekend family festival celebrating the opening of the exhibition will include carriage rides throughout Stony Brook village where the museum is located. The museum will work with tour operators and tour group planners to develop packaged tours and themed itineraries in cooperation with other transportation-related attractions.

The use of social media to promote the new exhibition will include announcements on the museum's Facebook, Instagram and Twitter pages, as well as on carriage-related sites. We will send e-blast notices to our database of more than 3,900 museum contacts throughout installation of the new galleries to keep them apprised of our progress, as well as announcements upon completion of the exhibition with an invitation to visit.

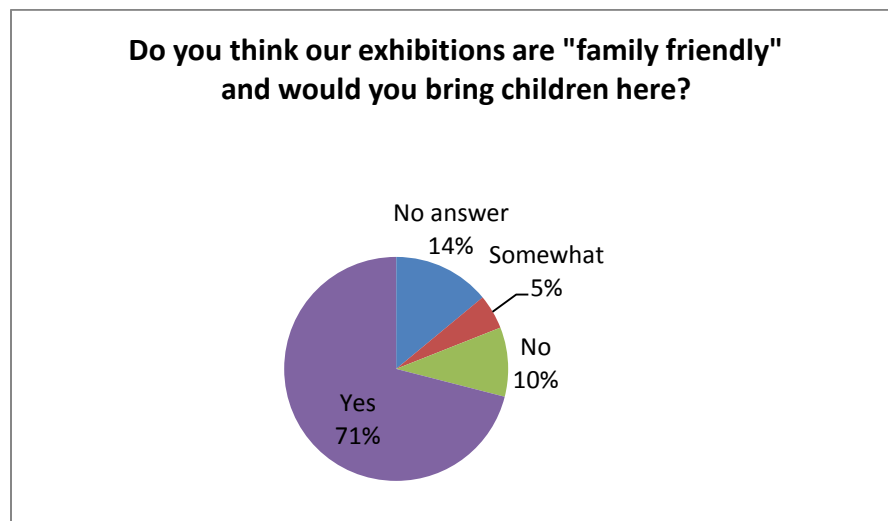
Media coverage of new carriage exhibition openings has been consistently successful in the past in local area newspapers as well as regional media outlets such as the *New York Times*, *Newsday*, *The Carriage Journal*, *Carriage Driving Magazine* and other carriage-related publications. The Project Director, Joshua Ruff, will also publish articles related to the new work in *The Carriage Journal* and will present a lecture springing from the effort at the CAA/CWF International Carriage Symposium, an event held at Colonial Williamsburg every two years, that is normally attended by 500-1,000 people (Mr. Ruff most recently presented at this conference in early 2016).

## **7. AUDIENCE EVALUATION:**

As the museum's staff began discussing this project in the spring of 2015, it was realized that new audience evaluation data was critically needed to help us begin to guide this process. In order to assess how well the Carriage Museum is currently doing and to determine what kinds of changes visitors would like to see, LIM undertook a

series of front-end evaluations on three separate occasions, involving a total of 112 different visitors. The evaluations used a mixed-method approach (consisting of both interviews—44 respondents—and surveys— 68 respondents) aimed at collecting qualitative and quantitative data; the methodology was designed by the curatorial and education staff at LIM. The interviews were conducted during two of our Family Fun Days (July 26 and October 25, 2015); the survey was administered and collected during two major public symposiums, both of which also took place in the Carriage Museum (October 3, 2015 and October 22, 2016). In addition, an online survey was posted on our website in December 2016.

Overall, what the museum found was both encouraging and also vigorously reinforced the need for us to find new and deeply immersive ways to make the Carriage Museum a more hands-on space. In general, a large majority of survey respondents did actually consider the museum to be a “family friendly” place:

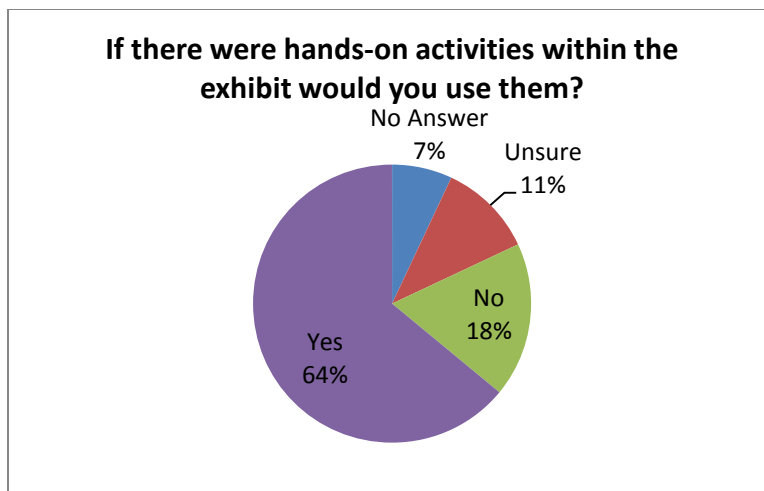


However, almost all the visitors who thought it was family friendly still had suggestions for how it could be better, or felt that hands-on activities could be more fully integrated into the entire museum. Many visitors gave more than one suggestion, while some gave none. Some of the most relevant and common suggestions appear below:

<b>Suggestion</b>	<b># of responses</b>	<b>% of visitors who gave this answer</b>
More hands-on would be helpful	24	21%
A carriage that visitors, or at least kids, could get into	21	19%

Exhibitions could be improved with more interactive or participatory activities	12	11%
Expressed an interest in models or things to assemble	8	7%
More shows and performances like those on Family Fun Days	5	4%
A dedicated activity area where they wouldn't have to worry about their kids breaking anything	2	2%
Some sort of brochure, guide or scavenger hunt for the galleries	7	6%
More for younger children	6	5%
Kids got bored	4	4%

Note that the most specific frequent suggestion was the carriage that visitors could climb into, which has become a very important element of this project. LIM's school and children's programs (which totals approximately 1/3 of our overall visitation) are very interactive and hands-on; however, there is less for regular visitors and families to do on their own visits. Visitors overwhelmingly felt that hands-on activities would be a good addition to the museum and that they would use them.



The museum has learned a good amount from these initial surveys, but this is just the beginning of our effort to carefully consider visitor opinions at every step of the planning process of *A World Before Cars*. Built into our planning project is continued audience evaluations, both front-end and preliminary formative, which will help to guide the careful formulation and completion of visitor-centered activities in the new gallery. Our designers, Paul Orselli and Lee H. Skolnick Architecture and Design



Partnership, both have extensive experience in audience evaluations and will be involved in the design and execution of it with museum staff.

## **8. ORGANIZATIONAL PROFILE:**

Now in our 78<sup>th</sup> year, The Long Island Museum (LIM) is dedicated to inspiring people of all ages with an understanding and enjoyment of American art, history, and carriages, as expressed through the heritage of Long Island and its diverse communities. Located in the village of Stony Brook (population 16,000) on the North Shore of Long Island, New York, the LIM was incorporated in 1939 as a non-profit educational organization, the museum was chartered in 1942 by the State of New York Education Department. Accreditation by the American Association of Museums was first received in 1973 and was most recently reaccredited in 2010. In 2006, the LIM was named an Affiliate of the Smithsonian Institution.

The LIM is privately supported with an annual operating budget of \$2.47 million in 2016-17. Twenty full time and eight part-time employees work with a thirteen-member board of trustees and over 200 volunteers to achieve the museum's goals.

The main complex is comprised of nine acres with three modern museum buildings and four historic structures relocated to this site in the 1950/60s. Overall, museum collections reflect the history and culture of 19<sup>th</sup> and 20<sup>th</sup> century America, with a strong emphasis on Long Island. The Art Museum has a permanent collection of American art (with emphasis on Long Island and New York) and two changing exhibition galleries used for Art and History exhibitions. The Carriage Museum is home to the finest collection of American horse-drawn transportation artifacts in the world. Roughly half of the collection is on permanent exhibition in this 25,000 square foot facility. The Carriage Museum has served as a vital research resource for scholars from a variety of disciplines; over the past several years, visiting researchers have come from diverse institutions including Colonial Williamsburg, New York University, and the Palace of Versailles.

The museum serves a regional/local audience of more than 35,000 visitors each year, not only from Suffolk and Nassau Counties, but also the New York metropolitan area. Museum audiences include individuals, families, and senior citizens. In addition, community, education and social groups visit with group tours.

Increasingly, exhibitions and public programs have built on topics that reflect the rich history and cultural heritage of the Island; exploring historical issues like suburbanization and new immigration to the area. A range of educational programs target different audiences with life-long learning opportunities that include workshops, family festivals, lectures, and demonstrations. The museum's school programs serve more than 12,000 students annually, drawing from schools throughout Suffolk and Nassau Counties.

## 9. PROJECT TEAM:

The staff team is headed by **Neil Watson**, Executive Director at the Long Island Museum, who has nearly 30 years of professional museum experience and began his tenure here in October 2013, after previous directorships at the Katonah Museum of Art, New York, the Delaware Center for the Contemporary Arts, Delaware, and curatorial positions at the Museum of Glass, in Tacoma, Washington, and the Norton Museum of Art, in West Palm Beach, Florida. **Joshua Ruff**, the Director of Collections & Interpretation at the museum since June of 2013, has 18 years of experience as a curator at the LIM and was the interpretive team leader of the last two phases of the Carriage Museum's reinterpretation project, from 2010-2013. Ruff will serve as the team's project director. **Jonathan Olly**, Assistant Curator at the Long Island Museum since February of 2016, has a Ph.D. in American Studies from Brown University, and has previously worked at Brown University's Haffenreffer Museum of Anthropology and the New Bedford Whaling Museum. **Lisa Unander**, Director of Education, has been with the museum since 2006. Unander supervises 33 docents and 4 educators teaching in 9 programs, 3 of which relate to the museum's collection of horse-drawn vehicles and take place in the Carriage Museum. Unander, with her staff, will be especially crucial to guiding and executing the project's audience evaluations. **Beth Chiarelli**, Assistant Director of Education, holds an MA in Museum Education from Bank Street College. She has worked as a classroom teacher and as an educator for The Paley Center for Media and Theater for a New Audience. **Jessica Pastore** recently joined the staff as a Museum Educator. She has previously worked as an educator at the New-York Historical Society and the Intrepid Sea, Air & Space Museum, and holds an MA in World History from New York University. **Joe Esser**, the museum's Preparator and Exhibition Designer for 5 years now, is in charge of the mounting of on-site exhibitions and dealing with buildings and system issues. **Andrea Abrahamsen**, Curatorial Assistant, has worked with LIM since January 2015. She is currently working towards her master's degree in museum studies from Johns Hopkins University.

The consultants and outside design team for this project have a range of expertise and backgrounds which are strongly compatible for the museum's interpretive content and visitor experience aims. **Steven Lubar**, professor of history and American civilization at Brown University, was previously the chair of the division of technology at the Smithsonian's National Museum of American History, where he headed the team responsible for the permanent exhibition *America on the Move*; he has been involved with the reinterpretation of our Carriage Museum from the beginning, and provides a strong continuity to this current project. **Clay McShane's** scholarship encompasses mobility studies, urban studies, and transportation, through books that include *The Horse in the City: Living Machines in 19th Century America* (Johns Hopkins University Press, 2007), *Down the Asphalt Path: American Cities and the Automobile* (New York: Columbia University Press, 1994), and *Technology and Reform: Street Railways and the Growth of Milwaukee, 1887-1900* (Madison: State Historical Society of Wisconsin, 1975). From 1976 until retiring in 2012, he was a professor in the Department of History at Northeastern University. He is the only scholar to have published books on streetcars, automobiles, and carriages in the growth of American cities, and is in a unique position to advise on an exhibition that explores connections between these

three. **Ann Norton Greene**, the author of *Horses at Work: Harnessing Power in Industrial America* (Harvard University Press, 2008), is a Lecturer and Administrator in History and Sociology of Science at the University of Pennsylvania. Dr. Greene will be able to provide special guidance on the portions of the gallery focused on horses and carriage riding and driving. **Tony Scarlatos**, a professor in the Department of Computer Science at Stony Brook University and a specialist in multi-media, computer-human interaction, and multimodal interfaces, has worked with the Long Island Museum in the design and development of several digital-based interactives for temporary exhibitions. Scarlatos will be a crucial member of the team’s development of two new touch-screen computer kiosks for this gallery. **Paul Orselli**, principal behind the Paul Orselli Workshop, has worked for more than 30 years on the creation of innovative and immersive exhibitions at many different types of museums around the world, including the Brooklyn Children’s Museum, the Miami Museum of Science, and the Fashion Institute of Technology Museum. A native Long Islander, he has also worked on several previous projects for the Long Island Museum and has frequently collaborated with our chosen design firm for this project, **Lee H. Skolnick Architecture & Design Partnership**. In many ways, Skolnick is the perfect choice for this new gallery, with their diversified background as the award-winning designers of history, science, and children’s museums around the world. Previous projects include a nationally-touring exhibition on the Hubble Space Telescope, the DiMenna Children’s History Museum at the New-York Historical Society, and the Batsto Historic Village Visitor’s Center, in New Jersey.

**10. WORK PLAN:**

<b>DATE</b>	<b>ITEM</b>	<b>PARTICIPANTS</b>
June, 2017	In advance of grant notification, continue to collect audience feedback over the summer during the museum’s busiest period	Project team, some discussion/coordination with Lee H. Skolnick
September, 2017 (***notification and actual project start date)	Scheduling full meeting on-site at the LIM (2 days); disseminate preliminary packet for consultant review prior to meeting	Project team, consultants
September, 2017	NEH grant award announced to public and media	Project team, marketing
October-November, 2017	Full meeting on site with staff and consultants	Project team, consultants
November-December, 2017	Consultants provide initial notes/assessment prior to full project report	Project team, consultants

November-January, 2017	Museum, working with Paul Orselli and Skolnick, prepares and conducts preliminary front-end evaluations	Project team, Orselli, Skolnick
February, 2018	Review of collected audience data and comments from consultants	Project team, consultants
March-April, 2018	Follow up individually with project team and consultants (not on-site) regarding project status	Project team, consultants
Late April, 2018	Final consultant reports due	Project team, consultants
May, 2018	On-site concept design meeting	Project team, Orselli, Skolnick
Late June, 2018	Initial draft due of concept design plan	Project team, Orselli, Skolnick
July, 2018	Consultants and staff review concept design plan and work with Orselli/Skolnick on edits	Project team, consultants, Orselli, Skolnick
August-September, 2018	Orselli/Skolnick completes final concept design plan and creates preliminary budget for NEH implementation grant and materials	Project team, Orselli, Skolnick
October-December, 2018	Preparation for NEH implementation grant submission in Jan. 2019	Project team, Orselli, Skolnick

**11. COST SHARING PLAN:**

The LIM has a well-established track record of raising funds in support of the Carriage Museum and its exhibitions and programs from several sources, including the National Endowment for the Humanities, the Institute of Museum and Library Services, the Empire State Development Corporation, the New York State Council on the Arts, and corporate and individual contributors. The museum will provide project cost share for a small portion of the Skolnick team design fee, project team staff salaries, fringe benefits, and indirect costs from its general operating budget. The LIM will seek additional funding from corporations, private foundations and individual donors. Further, the museum will raise support from individual donors through its Adopt-a-Carriage program, which provides permanent naming opportunities on selected carriages in recognition of substantial donations to the project.