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***The Singing Wire***

This newsletter is produced and published collaboratively by volunteer members of the Pikes Peak Historical Street Railway Foundation. We welcome submittal of articles of interest to the membership. All articles are subject to editing. Mail input to above mailing or email address.

The PPHSRF is a Member of:  
HeritageRail Alliance  
Colorado Springs Chamber of Commerce

Coalition of Pikes Peak Historical Museums

Friends of the Cumbres & Toltec Scenic Railroad

## Letter from the President

Hello members and friends:



Since our last issue of the Singing Wire, we have settled on a track and building layout for the portion of the Nevada property we hope to occupy, a 100' wide strip of land between the U-Haul business north of Fillmore and Winters Drive. It would consist of a single track with a loop at each end, and in the middle, a storage/maintenance facility with tracks to hold six to eight cars, a separate museum/office building and offstreet parking. We are slowly building a reserve of funds that would pay for its construction and our move there. In the meantime, we await the City's purchase of the property from the BNSF Railroad and an agreement that would allow us to use the land; so narrow that there would be very few alternative uses for it.

We continue to make improvements to our museum and our fleet of wheeled vehicles and to sell items that are surplus or do not relate to our missions of educating the public of our city's streetcar history, or of restoring historic cars to eventually run on the streets. I am also encouraged by the number of community service ordered folks that have been given meaningful work at our facility, and have decided to stay on after their service is completed.

This issue of *The Singing Wire* spotlights the history of PCCs and provides a brief look at where PCCs operate in the U.S. today. And, we congratulate all those who helped restore the McClintock clock plus we help you keep up to date on our operations and restoration activities. Volunteer if you can! For those of you that receive our newsletter and read it but are not members, we would welcome you joining in our efforts. Please give it serious consideration.

Thank you.

David Lippincott

## Upcoming Events

### **STREETCAR MUSEUM YARD SALE**

**Saturday, June 23, 2018**

(same date as annual Old North End Sale)

**2333 Steel Drive** (south off of Fillmore)

**9:00 a.m. until close at 4:00 p.m.**

The museum will be disposing of excess streetcar and railroad items in our inventory.

Come see what treasures we dig out!



## John's History Corner

by John Haney

### VINTAGE TRAMS OF THE BRITISH ISLES

Inspired by my favorite trolley book, *The Golden Years of British Trams*, as well as others' enthusiastic recommendations, my wife Betty and I visited England's Crich Tramway Village in 2006. It is the home of the National Tramway Museum, a major contributor to - and promoter of - the book. We timed the visit to coincide with the Museum's annual "Tramathon" on June 11th. Several dozen cars, many over 100 years old and maintained in perfect condition, were brought out to give rides and show off for tram buffs like ourselves.

The balance of our trip was on the Isle of Man, home to a two-mile long original operating horse tram, along with the Manx Electric Railway (an 18-mile long interurban), the Snaefell Mountain Railway, the Isle of Man Steam Railway (15 miles long), the Groudle Glen Railway (steam - 3/4 of a mile long), and the Laxey Mines Railway (1/4 mile long). The Isle of Man equipment is also about 100 years old and in fine operating condition. Except for the Groudle and Laxey operations, all are government-owned, with permanency pretty much assured. We saw and rode everything and were well received, especially as tram/steam enthusiasts.



During John's visit to England in 2006, he met Winston Bond, founder, board member, and chief researcher at the National Tramway Museum. John's invitation to visit Colorado Springs was accepted, and on July 18<sup>th</sup> of 2006, Mr. Bond and two-term board member David Russell, a transportation consultant, and his wife Julie made a stop at the Pikes Peak Trolley Museum.

They very much enjoyed their tour of our facility and commented that we had reached a credible level of acceptance, a stature most museums have to work for a long time to achieve. They were also impressed with the work done on the Birney, especially the roof.

Our colleagues from Crich are delightful people, truly professional and experienced in trolley museum operation, and most worthy to keep in touch with.



National Tramway Museum car, Crich Tramway Village



Horse tram on the Isle of Man



Winston Bond, Julie and David Russell

Note: John and Betty plan to visit Crich later in 2018; stay tuned for their report in Vol 28 No 4 of *The Singing Wire*.

## McClintock Clock Dedicated on April 28, 2018

In 1891, a trainman's watch being four minutes late caused a disastrous collision between a mail train and a passenger train. So, railroad officials commissioned Chief Time Inspector Webb C. Ball to establish precision standards and a reliable railroad timepiece inspection system.

In the early 1900s, a lack of personal time pieces made public clocks very important. They were built into towers in railroad depots, banks, museums, and other public buildings. In Brush, Colorado, the restored bank clock dedicated on April 28th at the Pikes Peak Trolley Museum was one of those outdoor public clocks.

After a series of owners and locations, the clock was relegated to a barn in Boulder. Once rescued, a three-year restoration was begun, involving people with specialized knowledge from the NAWCC and trolley museum.

John Bartos of the Colorado Chapter 21 (Denver) of the National Association of Watch and Clock Collectors (NAWCC) spoke at the formal dedication, which occurred precisely at noon as the clock struck 12 times and the chimes played "Westminster."

One of the interesting revelations made by Bartos involved the operation of the 400-pound clock now attached to a column in the trolley barn: the actual operation of the clock is controlled by a master clock (left) inside the museum!

Bartos recognized the skilled volunteers who collaboratively worked an estimated 3,000 hours to complete the restoration.

See more on the dedication on page 7.



## Friends of the Cumbres & Toltec Car 470 Restoration Visited by PLHS Members by John Engs

Following a presentation about Car 470 to the Palmer Lake Historical Society on February 15, 2018, some of those attendees toured the restoration site (photo below) the following Saturday. They were amazed to see the work involved in bringing the 130 year-old car back to life.



Restoration work undertaken over the past three months:

- The end walls have been paneled with vertical Red Oak T&G on both sides of the door above the chair rail.
- Under the windows on both side of the car, horizontal Red Oak T&G was installed to the support beam.
- Under the car, the support brackets for the coupler pocket are completed on the west end and work continues on the east end.
- We now have a prototype seat setup in the car for people to see. Half of the seat castings will arrive in the next week or so. There is a lot of work that needs to be done before they can be assembled.
- The cab for Engine 168, being restored in Antonito, now has a new cab constructed of White Oak - made here in Colorado Springs - and awaits completion of the engine.

Come see the progress for yourself! We work on the 1st, 3rd, and 5th Saturday of the month from 9 a.m. to 3 p.m..



**A look back** published in the Friday, April 13, 2018, *Gazette*  
Photo courtesy of Pikes Peak Library District, 001-2518

The caption reads: *Streetcar No. 10 of the Colorado Springs & Manitou Railway Co. is seen in this 1900 photograph. The sign on the post reads "City Property / Injuring any tree or... positively forbidden." The Colorado Springs and Manitou Street Railway began horse car trolley service in 1887, according to an article at trainweb.org. "It ran between the Colorado Springs business district and Colorado College. The following year the route extended north and west with a total of 10 horse-drawn trolleys. The Colorado Springs Rapid Transit Railway, chartered in 1890, bought the system and established the first electric trolley line to Manitou Springs in October 1890, as they transitioned from horse-drawn to electric trolleys." Old streetcars can be seen at the Pikes Peak Streetcar Museum; go to <https://coloradospringstrolleys.com/> for details.*

## The Rolling Spotlight featuring Philadelphia PCC Cars

In this issue, we continue the series of articles in which we share photographs and interesting information on one or more of our historically significant pieces of rolling stock in the museum's collection.

### The PCC Streetcar

*Note:* This article is adapted from "PCC Streetcar" on Wikipedia. The complete article and photos can be found at [https://en.wikipedia.org/wiki/PCC\\_streetcar](https://en.wikipedia.org/wiki/PCC_streetcar).

#### Origin of the Name "PCC"

The unusual name comes from the fact that the car was designed by a committee, formed in 1929, representing various electric street railways. The **Electric Railway Presidents' Conference Committee (ERPCC)** met to fend off competition from buses and automobiles and produced a high-performance design used for more than two decades. The cars were popular because of their distinctive streamlined design and smooth acceleration.

#### Successful Design - Sturdy and Long-lasting

Unlike many other things produced by committee, the PCC streetcar was a very good basic design, sturdy and long-lasting. Cars could be altered by individual street railways to fit their specific needs. Eight companies placed orders in 1935 and 1936 with the first batch of 100 cars built in 1936.

The Los Angeles Railway (LARy) was one of the first to purchase units, but it was Brooklyn & Queens Transit Corp that received Car #1001 in May 1936 - the first PCC car delivered in the world. It is owned, preserved, and still operated consistently by the Branford Electric Railway Association (BERA), East Haven, Connecticut.

Production in North America continued until the early 1950s, with 4,978 units built. Thousands more PCCs and direct descendants were produced in Europe through the 20<sup>th</sup> century. Most PCC cars functional today in North America are operated by museums and heritage railways.

The early pre-World War II PCCs were known as **air cars** and used a belt-driven air compressor to open the doors and operate the brakes. Later models were entirely electric, replacing the noisy compressor and air brakes with electrically-activated brakes on the motor shafts. Both pre-war and post-war cars used dynamic brakes to provide added stopping power. Air, drum, or electric brakes bring the car to a complete stop.

In North America, there were two main body standards, 1936 and 1945, sometimes called pre-war and post-war. The most prominent differences are the windows. The museum has examples of both. Pre-war cars usually had a right side arrangement of front door, five windows, center door, five windows, a large rear quarter window. Post-war cars had a rationalized window arrangement: the windows and pillars were narrower and there were small "standee" windows above each window. The car lengths were very similar: 46 ft. versus 46 ft. 5 in.

### TRC: Controlling Patents, Refining Technology

Design patents resulting from the work of the ERPCC were transferred to the Transit Research Corporation (TRC) when ERPCC expired in 1936. Its primary purpose was to control the patents and promote standardization. The TRC was funded by the patent royalties it collected from the railways which bought PCC cars.

The TRC continued to research and improve the basic design and issued sets of specifications three times in the ensuing years. A significant contribution to PCC design was noise reduction, which provided a level of comfort not known before. Rubber in springs and movable truck parts prevented rattles and vibration. Hypoid gears, mounted at a right angle to the axle, reduced play between the teeth and main gear.

Carlson and Schneider in the "PCC-The Car that Fought Back" observe "The PCC car was not just another modular vehicle but the result of the only systems engineering approach to mass producing a rail car." The research encompassed numerous aspects of passenger comfort, even spacing windows to match seat location.

While some PCC car components had been used before, the ERPCC redesigned, refined, and perfected many of these while developing new acceleration and braking controls and putting them all in one package. The result was an excellent design which utilized the most recent technology.

### Manufacturing

In the United States, PCC cars were initially built by the St. Louis Car Company and Pullman Standard. PCC cars for Canadian cities were built jointly by St. Louis Car Co. and Canadian Car and Foundry in Montreal. The first PCC cars in Canada were operated by the Toronto Transit Commission (TTC) in 1937. By 1954, Toronto had the largest PCC fleet in the world and continued using PCCs in regular service until the mid-1990s. The TTC retains two for charter purposes.



Left: Former LARy PCC Car No. 3101 - a "War Baby" - built during WWII



Right: PPHSRF's operating PCC Car No. 2129, built in 1948, shown running on Track #2

## PCC Cars Still in Revenue Service in the U.S.

Especially on routes through historic city centers, PCC cars are an attractive option because of their relatively low cost as transit vehicles and as tourist attractions.

- The Ashmont-Mattapan High Speed Line in Boston from the Ashmont terminus of the Red Line to Mattapan runs PCCs exclusively.
- The F Market Line in San Francisco, opened in 1998, runs PCCs along Market Street from The Castro to the Ferry Building, then along the Embarcadero north and west to Fisherman's Wharf.
- The Kenosha (Wisconsin) Electric Streetcar has been operating five PCCs, acquired from Toronto, since 2000. It is unique among modern PCC operations in that the original rail system was shut down in 1932, before any PCC cars had been built.
- SEPTA restored trolley service to the Route 15 Girard Avenue line in West Philadelphia in September 2005. Restored and modernized at half the cost of new cars, the PCC cars are painted in their original green and cream Philadelphia Transit Company livery.
- McKinney Avenue Transit Authority's (Dallas) Toronto Car 4614 is currently undergoing major renovations, and is expected to be running sometime in early 2018.
- San Diego currently uses two PCCs, Nos. 529 and 530, on its Silver Line. SEPTA PC No. 2186, purchased from the National Museum of Transportation, is currently being rebuilt.
- The El Paso Streetcar Project is months ahead of schedule and is expected to be completed by the end of 2018. Six vintage PCC cars that were used in El Paso until 1974 are being restored at Brookville Equipment (PA) to operate on the 4.8 mile downtown route.

## PCC Cars at the Pikes Peak Trolley Museum

The Pikes Peak Trolley Museum's collection of PCC cars includes nine ex-SEPTA PCCs, acquired in 1995, an LARY "war baby" PCC purchased in 2008, and a Pittsburgh Rapid Transit PCC No. 4002 Interurban purchased in 2013. These cars represent the three major iterations of PCC cars.

Much needed maintenance on the operational car, No. 2129, is scheduled for the coming months.

Right: Some of the trolley museum's fleet of nine former SEPTA PCCs before being painted with "rustproofing"



Right: Our PCCs after rustproofing - the "great white fleet"



Left: Former SEPTA PCC No. 2131, in Philadelphia livery, after its return from the Sky Sox Stadium

Right: Rapid Transit PCC Car No. 4002, built in 1949, painted in Port Authority Transit (PAT) colors



## Remembering Philadelphia Streetcars

For June and Don Rutherford, former Philadelphia and current Colorado Springs residents, the streetcar scroll on display on the east wall of the museum brought back many memories - it was an instant, unexpected trip down memory lane of a "really fun time" in their lives.

"We rode the streetcars every day - to work, to school, and to meet our friends for leisure time. We rode them, and our friends and families rode them. They were a part of our lives like cars are today."

June's father was a Philadelphia policeman for much of his life; the streetcar he rode to work stopped directly in front of the police station. June's uncle was a motorman, and she is fairly sure it was on the #23 which went up and down Germantown Avenue.

She mainly rode the #6 trolley or the diagonal #6, which went from Cheltenham & Ogontz Avenue to Broad and Olney. The main #6 went from the subway station at Broad & Olney to Willow Grove, where there was a very large amusement park. "Sometimes we had to take a bus to get to the trolley. In summer we rode the trolley to the train station, where we took the steam train to the New Jersey Shore. When we arrived at the shore, I remember my white dotted Swiss dress with red dots being covered with cinders; they even filled my pockets!"

Don remembers daily trips on the #6 line to get the subway to Lehigh Avenue and then continuing on to his high school on a "very old streetcar. The motorman stood in front and moved a handle to power the car forward. School buses were not a part of our lives but trolleys and buses were."



## Museum Operations and Restoration Updates

### Operations

February 15, 2018 - May 15, 2018

Ron Oatney is the Director of Museum Operations; he welcomes your ideas and participation. The following update details recent activities by volunteers, members, Workfare, and Front Range people.

- **REA Cart:** Steve Mattson has cut and planed boards from the old RI bridge over Monument Creek to make a new surface for the cart. It is going to look great, and Steve is doing a great job.
- **RI Baggage Car 6777:** We received a quote, which we thought was high, from a bead-blasting company for work on the south side of Car 6777 and on Car 2129. So, we are still looking for someone to take on this project.
- **2129 Brake Service:** Grant Harrison has been asked to take over this project — more to come on this later.
- **2129 Car Operators:** Duff Glass is being trained on the fine points of PCC operation. He is within days of operating by himself. As of 5/11/18, we have a new volunteer who also wants to learn to operate the "29" car.
- **Roswell RI Museum:** Some visitors have required assistance to tour the Rock Island car. One suggestion is to build wood steps to replace the current metal stairs. How long the car will remain in its current position will determine whether to build temporary or permanent stairs, i.e., until the 2129 brake service has been completed.
- **New Volunteers:** On 5/16/18, a new volunteer will start tour guide training; she comes with great qualifications and will fit in nicely. There are two other rail enthusiasts who would like to come in for an orientation session. Summer is coming and there is renewed interest in our museum.
- **Electric to the East Yard:** Regis Larouere has been working with David Koehler stringing wire and installing a junction box in the cast iron electrical box beside the Pittsburgh PCC. This is a must for any future projects.
- **Rail Display by the Pound:** Duff Glass has been working on a display of rail ranging from 15 lb mining rail to 137 lb mainline rail. I have been able to help with four pieces of rail; if anyone has chunks of rail in any pound size, let Duff or myself know.
- **Don't forget the PPHSRF yard sale on June 23rd!** Drop off any railroad or trolley items you would like to donate soon.

**Volunteers – Always Needed, Always Welcome**

### Restoration

February 15, 2018 - May 15, 2018

Wayne Russert is the Director of Restoration; he is always looking for volunteers with the kind of skills to restore our historic cars. The following is an update on recent activities.

- **CS&I Car #135:** "The Birney" will be moved out of the carbarn temporarily to bring PCC #2129 inside. Grant Harrison has lubricated all bearings prior to the move.
- **PCC #2129:** Our operating PCC will be placed over the carbarn pit for much needed inspection and service. A back-up camera system has been purchased and installation will be completed during the servicing.
- **CS&I #59:** All materials for future work have been moved inside "The Leclède" to prevent use on other projects and to improve the safety of visitors walking around the car.
- **Car #48, "The Brill":** Remains stored in carbarn.
- **PCC Car #2131, Pittsburgh Interurban Car #4002, and Denver Tramway Cars #724 and #770:** Plans on hold.
- **Car #3101, LARy War Baby:** On static display. Personnel and materials are being investigated to complete roof repairs this summer.
- **exSP6777, Rock Island RR Museum:** Exhibits are being maintained for museum tours.
- **Museum Displays:** All materials are on hand to install the five lighted route box scroll displays. Jeff Smith has completed a working interactive telegraph display using actual Western Union railroad telegraph equipment. Plans are to convert the gift shop office into a replica of a depot agent's office using many of the artifacts we have.
- **Duff Glass** is working on new museum displays and will be heading the replica depot agent's office.
- **Bob and Mary Manley** are building an insulated, load-bearing ceiling on the woodworking shop. It will become a fully functioning year-round shop with lumber storage above its ceiling.
- **Laura Kovac** has completed the annual recertification of our fire protection system and is organizing all museum files, especially those pertinent to equipment restoration.
- The garden-scale railroad is up and running for the season, thanks to **John Caufield** and other museum volunteers.

### A Special "Thank You" to Those Who Helped Restore the McClintock Clock

The McClintock Bank Clock installation in the carbarn is complete and a dedication ceremony was held on April 28th. It was a multi-year project and is a very nice addition to museum tours. A handout describing the clock history is available for museum guests. We'd like to say a **special thanks** to the volunteers listed below.

#### NAWCC Chapter 21

John E. Bartos, Program Manager  
 Tim Orr, NAWCC Director  
 Mike Korn, Clock Movement Expert  
 Chuck Daldry, Chapter President  
 Richard Mills, Chime Systems Expert  
 Don Wick, Chime Tuning Expert

#### Pikes Peak Trolley Museum

David Lippincott, Foundation President  
 Wayne Russert, Director of Restoration  
 Greg Roberts, former Operations Director  
 Jim Riley, Metal Rebuilder  
 Gary Mills, Structural Repairer  
 Mike and Amy Pick, Upper Panel Clock Signs

Your continuing support of the Pikes Peak Historical Street Railway Foundation is vital for meeting operating expenses and funding restoration costs. Please consider additional contributions for the restoration of the "Laclede" and the "Birney." **Please mail checks to PPHSRF, PO Box 544, Colorado Springs CO 80901-0544 or indicate below payment by credit card or PayPal.**

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Name(s): \_\_\_\_\_

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Home Ph: \_\_\_\_\_ Cell Ph: \_\_\_\_\_ Email: \_\_\_\_\_

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**Note:** For contributions of \$250 or more, please consider making your donation through the El Paso County Enterprise Zone. Call the PPHSRF office at 475-9508 for more information.

*Many thanks to our volunteers, donors, and members — your contributions make a huge difference to the PPHSRF!*



**New Museum Hours Announced**  
**Open Wednesday through Saturday**  
 Museum opens at 9:30 a.m.  
 Last tour at 3:00 p.m.  
 Adults \$5, Seniors \$4  
 Children 3-11 \$3