THE 2017 STM DAY OF CARING

June 7 was the 2017 STM Day of Caring and a great day it was. The following excerpted from a message sent by Executive Director Sally Bates.

A LOT of good things happened, including:

- Central Maine Power (CMP) cleared a lot of brush that was intruding on power lines on the service road
- CMP repaired frayed lines that had impacted Highwood and Central Barns
  - CMP worked with our paid tree service in the former picnic grove felling large trees that had interfered with networking between the shop and the visitor center
    (Advance preparations by Tom Santarelli and Jim Mackell made access to this area possible)
- CMP corrected the sagging power line that runs beside the VC toward the former picnic grove
- Our own volunteer, Jim McMahon cleared trees in an area that will reopen access to work on that power line as needed
- The Tirrell family, Colonel, Rita and Jim were here, with Colonel and Rita cleaning display vehicles in Highwood and Jim planting flowers
- CMP, UNUM and York County Federal Credit Union volunteers worked on gardens
- Roger Tobin was key to getting power turned off and turned back on as needed
- Tom Santarelli was here early (and is still here working) to pitch in wherever needed and coordinate the CMP power line crews. (Tom had met with CMP, our paid tree service and me several weeks ago to identify the priority areas for the skilled CMP line crews to work on.)
- Chet Gabriel as Dispatcher handled the 10 am tour group expeditiously.

Thousands of dollars’ worth of work was provided by the volunteers. Planning, coordinating, getting supplies for, and feeding 30+ people from 3 companies all arriving separately requires attention to detail and focus. It was well worth it.
From the E.D.’s Desk

Sally Bates, Executive Director  7/13/17

This was the coldest and wettest spring that I, a lifelong Mainer, remember. While the disappointing weather had a negative impact on the number of visitors we welcomed in May, it didn’t dampen the spirit of volunteers working on grounds projects. It’s not enough to have a great collection and to restore vehicles. The condition and appearance of our facilities and grounds must support the image that this is a world class museum. Volunteers are as important to our infrastructure as they are to Operations and Restorations.

Day of Caring on June 7 saw more than 30 volunteers here working on tree clearing, electrical repairs, car-cleaning and gardening (See page #1). Earlier, in April and May, the following projects combined to significantly improve the appearance of the campus:

1. a new platform was built at Morrison Hill (Jim Mackell, Project Leader);

2. a new post and chain system was installed to define the visitor walkway (Tom Tello, Project Leader);
3. A new platform (Jim Mackell) and bridge reinforcements (Tom Santarelli) were installed to access to the pine grove;

4. Site prep continued at Fairview Barn (Tom Santarelli);

5. Seriously aggressive weed-whacking (Tim Curtiss)

6. A paid service (overseen by Tom Santarelli) cleared trees and branches threatening overhead wires in several areas.

“Pain-free” Giving – Leveraging your generosity

Do you shop with Amazon on line? AmazonSmile Foundation (smile.amazon.com), donates 0.5% of the price of eligible purchases to charitable organizations selected by Amazon customers. So, when you complete your purchase on smile.amazon.com (instead of amazon.com) you can designate New England Electric Railway Historical Society as the charity you support!

Many employers offer matching gift programs to encourage employees to contribute to charitable organizations. Some even provide matching funds to support employee volunteer hours. We encourage you to check with your employer to determine if they will match your generosity to New England Electric Railway Historical Society.

✦

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The “Master Key” to a sound future for your Museum is a healthy organizational culture.
Good News! Policies and leadership are in place to support it!

A Code of Conduct, adopted years ago, identifies the organizational values and behaviors that support a healthy culture.

**The relevant sections are included below, and a full version is on our website:**

Be assured that your current Museum Leadership is placing the highest priority on fostering a healthy organizational culture.
Your leadership appreciates the clarity of the Code of Conduct, and is dedicated to enforcing it fairly and equally to all members, volunteers and employees.

**Values:**
NEERHS and its subsidiaries to carry out its missions
safely and productively
in an atmosphere of consensus and cooperation, and that the experiences of members, volunteers and employees are enjoyable.

**Behaviors that are expected:**
Members and employees shall treat other members, employees, Museum visitors, vendors and contractors, public officials, and neighbors to the Museum with courtesy and good will at all times, and put group harmony and productivity ahead of their personal ambitions and interests.

**Behaviors that will not be tolerated and which are grounds for revocation of membership:**
Physical abuse, violence, intimidation, or harassment against visitors, other members, officers, employees or vendors;
Harassment or discrimination on the basis of race, sex, national origin, disability, religion, or sexual orientation by any member or employee;
Personal disputes between members and/or employees on Society property or at Society functions.
Announcing two new Donor Recognition Programs
established by the Board of Trustees on May 20, 2017

Seashore Trolley Museum - Founders Legacy Society
The Founders Legacy Society, named for those* who founded Seashore Trolley Museum in 1939, was established to recognize and honor friends who intend to remember the New England Electric Railway Historical Society by making a bequest or other form of planned or deferred gift. Such gifts will benefit NEERHS in the years ahead without necessarily requiring that the donor fund the gift at the present time. While the gift is deferred, the benefits of membership in the Society begin immediately.

This is a unique opportunity for you to gain the personal satisfaction of making an investment that connects people to transit history now and for future generations. Every gift strengthens NEERHS as it carries out its mission of preserving knowledge, context, and resources. NEERHS is deeply grateful for such support, and membership in the Founders Legacy Society provides one way for NEERHS to show its gratitude.

An Invitation
If you let us know that you have provided at least $10,000 for New England Electric Railway Historical Society in your will, trust, pooled life income fund, life insurance policy, gift annuity or retirement fund, you immediately become a full member of the Society. Your gift need not be irrevocable and we understand that situations change. It is your current expression of commitment to NEERHS that is important.

Seashore Trolley Museum - Founders Legacy Society members receive a membership certificate recognizing their intentions and a lapel pin. Members are listed in the NEERHS Annual Report and are honored at Annual Meeting and Members Day.


Donor Recognition Wall
We are establishing an area, in the Visitor Center lobby, to recognize those current members who have donated (cash and/or in-kind) at the following levels to date, for any purpose:
We are researching donation histories and will seek permission from donors before adding their names to the wall.

Visionary $500,000 and more
Leader $250,000 - $499,999
Benefactor $100,000 - $250,000
Patron $50,000 - $99,999
Supporter $25,000 – $49,999
Friend $10,000 - $25,000

Sally Bates,
Executive Director

Dispatch p.5
From the Editors’ Desk:

Our apologies for inserting the editors’ comments up front but several things require explanation. As you have likely noticed this edition of the DISPATCH is quite late. A number of factors have contributed to this but late it is. After some discussion with the Executive Director it has been decided to publish the electronic versions of the DISPATCH for May-June and July-August per normal as separate editions albeit delayed. However the print version of the DISPATCH will be reconfigured into a combined May-June and July-August edition – Summer Edition if you will. This will save some editing time but more importantly will save the Society the costs of separate printing and mailing of the two editions right on top of each other.

Also for these editions there will not be a transition to the The Electric-XTRA section that normally starts on page 9. As we will produce a separate and combined “Summer” print edition of the DISPATCH the break serves no purpose.

If anyone who does not normally receive the electronic versions, has an email, and would like these particular electronic editions they need simply to let us know at dispatch@neerhs.org

Norm Down & Ed Ramsdell dispatch@neerhs.org

Library Committee
Karen Dooks, Chair

Check out the schedule of meetings and workshops below. All are welcome. Let me know if you would like to be put on the distribution list for meetings. We can always use extra help. The notice sent out before meetings will include an agenda and minutes. Also meeting cancellations are sent out via this list. Just send an email to dooks@verizon.net to have your name added to the list

Over the summer additional projects will be occurring to create working instructions and cataloging documents for the Library and a new website which will be linked to the Museum’s website.

Don’t forget to read The Main Line written by Ed Ramsdell which is available on the Library’s Facebook page (search: Seashore Trolley Museum Library) and on the Seashore website http://trolleymuseum.org/collection/archives.php. If you want to be added to the direct distribution list for The Main Line, drop a note to TheMainLine@ramsdell.com.

August Meeting and Workshop: August 19, 2017 10 AM at STM
October Meeting and Workshop: October 21, 2017 10 AM at STM 2017
November Meeting and Workshop: November 11, 2017 10 AM at STM 2017

Karen Dooks, Chair
When I came to Boston in 1953 to commence studying engineering at Northeastern University, one of the first things I noticed at the entrance to the Huntington Ave. subway were Type 5 “Semi-Convertibles” lined up ready to make their journey back to Park St. Because the double-ended Type 4s and Center-Entrance cars had just passed on so the 5s were all they had to take care of subway-only business. There was a similar third waiting track in front of Boston University. While there were still many of them on surface lines in Cambridge, Arlington, Watertown, So. Boston, Blue Hill Ave, etc., the handwriting on the wall was becoming clearer. When Ben Minnich consummated the deal with the MTA for a group of cars including No. 5821 we now had an example of a typical Boston street car.

Like everything else that came from Boston at that time, winter salt and minimal maintenance had taken their toll on No. 5821. Over the years Seashore’s shop has spent hundreds of hours doing major maintenance; much thoroughly done. This included new steel sides, new under and side frames, new body floor, new roof (sheathing and canvassing), doors and window sashes. Little was done to its four traction motors (GE 264) and Standard Steel C35P trucks. The car served as a mainstay of the operating fleet but for various reasons including poor storage conditions and a shortage of time and specialized equipment to do a complete rehabilitation it needed more. While preparing it for the onslaught of tour buses on the horizon Randy needed to get No. 5821 ready.

An inspection of the canvas roof showed that it had deteriorated spots in it and some of the supporting wood. So, it now took its place on track 2 where rehabilitation is taking place.

John Donnelly, whose heroic efforts that took care of many problems with the overhead trolley wire in 2016 is anxious to return this summer. However the most flexible line car Claremont Electric Railway’s No. 4 was not available. Its main floor and associated beam supports had suffered with rot caused by roof leaks as well as its overloading carrying of a heavy reel of copper trolley wire when it served some time on the MBTA as a replacement for one their line cars damaged in an accident. So, there was a spot on the inspection pit where the car could be reconstructed. When No. 4 came here in 1955 we couldn’t afford its original trucks and motors, so it was re-equipped with spare Standard C35P trucks and wiring specified by an MBTA electrical engineer. So, we now have two cars with Type 5 equipment, shoulder-to-shoulder.

One of the more complex cars in Seashore’s collection is its Cincinnati Curved-side car No. 639. It came with considerably less underbody equipment than No. 4. But, much to the surprise of Project Manager Jim Schantz, he found that it had run in Wheeling, WVA on C35Ps (about the only other place that used them).

In the Mattapan yard Seashore member Kevin Farrell took 5742 totally apart including unscrewing the ribbed floor boards and many years later, installing them in Type 2 semi-convertible No. 5060. No. 5742 also provided a pair of trucks and two WH 508A traction motors. Seashore member Allan Pommer purchased the body from the junk man, who encouraged us to remove the windows and seats from the other two cars: No. 5756 and No. 5780. We did buy another pair of Type 5 trucks with motors from one of the other cars.

Kevin wonders why No. 4 arrived at Seashore with the complete body, missing only its arch-bar trucks and motors. He speculated that they were either appropriated in Claremont or we didn’t have the funds and only paid for the wooden car body, which was of no value to the junkman anyway.
Speaking of Type 5 motors, I remember massive piles of 264 and 508 traction motors as high as you could reach out behind Everett Shops. From what could be seen each of them had some sort of failure be it a burned-out armature or field, or a worn armature bearing etc., and they were used as a source of parts to keep the remaining 5s running. I think our Birney No. 80 received its two 264s from that source and were patched up and installed in 80 by the late Sam Sylvester. Everett Shops was sometimes very generous with surplus materials and other times went by the book and required bids. Fortunately at that time (1950s) there weren’t too many people who cared about them so bidding became less important. One important lot was all the remaining small parts for the Type 5 motors including armature and axle bearings, brushholders, field and armature coils and lots of other still useful parts all carefully bagged and labeled. There was about a ton of them which we loaded in Ben Minnich’s 1936 Ford pickup with its mechanical brakes (sort of!). It was about all it could do to get it to Maine.

Car 4 was a very complete transformation from single-truck open into its present configuration as a double-truck ‘box on wheels, the present no. 4. It was ungainly and ‘boxy’ at best while usefully running around the 15-mile track.

Transformed into a line car by Claremont. The home-built cable-and-pulley hand-cranked lift with a stationary wood platform, did raise to reach the wire. It required a ‘diving board’ plank which could slide out one side or the other to reach a pole-mounted bracket, an awkward and unsafe practice. And so it arrived with this arrangement, improved later with a bigger platform. In 1975 car 4 again filled in on an emergency basis. This time a better ratchet-crank mechanism that had been overhauled by the York Utilities for their line car No. 108, was removed as part of its being backdated as a P. D. & Y post office car. From one of the White line trucks a swiveling platform was installed as an improvement.

From what we can determine No. 4 ran in Claremont on a pair of trucks with four traction motors of unknown vintage. It came with K-12 controllers which could handle four motors. For unknown reasons only two motors went to the MTA so the wiring had to be changed to that necessary for only two motors. This was done following rewiring recommendations by the MTA Electrical Engineer. Nobody seems to know where the other two missing Westinghouse 508A traction motors went. While no. 4 will move with only two motors (one at each end), it doesn’t run very well. The solution usually is to use Maximum-Traction trucks, each of which has a large pair of wheels and a smaller one. For whatever reasons some companies were able to operate with equal wheels.

One thing we did notice between No. 4 and cars No. 5821 and No. 639 was the presence of brake release spring sets on car No. 4 and only a trace of them on the other two cars. When No. 639 came in for inspection several problems were found, some of which caused operational difficulties. So comparisons for the three cars were made.

The first inspection of No. 639 found one of the brake shoes had worn down to a ‘mere shadow of its former’ (cast iron) size. This caused some unbalance in the adjustment of brake levers and braking effectiveness. Fortunately we recently had Enterprise Foundry cast 10 new ones, so here was the chance to see how a new one worked. There are numerous small differences from how one manufacturer’s shoes fit another company’s, so we had to mill down small areas for what became a perfect fit. The inside of the shoe fitted the wheel perfectly. On a recent mid-servicing test run, the brakes performed well and the car ran beautifully. But it was turned around and brought fully on to the pit giving access to its entire underside. Another worn shoe was found and replaced. This provided a father-and-son learning experience with Greg Leclair learning on how to use the Bridgeport milling machine.

Getting the brakes off – No. 4 spent a long time on the pit while Ernie rebuilt its unique wooden under-frame. Because it was narrower than most trolleys and set up a good 6 in. higher than the other C35P-equipped cars it was impossible to miss its brake release coil springs in the middle of the truck side frames. When the Seashore
crew did the original setup on the trucks they found it was necessary to supplement the car’s bolster by two 4-in. wide pine beams made of Saco, Maine pine, specially cut by this author’s uncle-in-law Lawrence Thurston, who had also furnished much of the wood framing for South Boston and Riverside car barns. Appropriately he hauled all his logs out of the woods by horse. (Now that’s a real ‘period’ trolley component operation!)

On most trolleys the pressure to apply the brakes comes from a brake cylinder and various rods, ultimately to the cast-iron shoes, one for each wheel. The brakes are released by various (usually coil) springs. A properly set up car will show a movement of about ¼ in. clearance from each wheel tread. With any more the movement required for a brake application a lot more air is used and the shoes may not have enough friction for a complete stop.

Additionally the shoes must fit parallel around the flange of each wheel. They are loosely held on to the brake shoe head by a brake shoe key, so as the heads wear, the shoes will tend to take their own set in relation to the wheel. On the C35Ps an angle iron bracket is bolted to the bottom of the truck frame, and placed close to the brake shoe to keep it in line (E4 brake shoe head guide) Over time some of these had loosened up and some even required a second bolt to hold them straight. Now all 24 are in place, but some of the shoes are dragging instead of releasing properly.

There is another difference. Bolted to the top of each frame is a heavy angle (H-3, the brake release spring anchor). Through them passes a special 5/8 in. (H-4 Adjusting hook-bolt). Only car 4 had them and they were pretty well rusted, while No. 639’s and No. 5821’s were long gone (but probably after 1935 because they show up clearly in the Dictionary.) What we don’t know is why were they removed from some 5s and retained in others? Their absence was clearly shown by the rapidly worn shoes.

Ernie and Cam Alcock rediscovered the art of blacksmithing new adjusting bolts. They worked as a team to forge and thread these from round steel bars.. One of the problems which is being solved is where to find coil extension springs of the right size that aren’t special order. It turned out to be the local Home Depot’s stock of long garage lifting springs. They needed to be cut to length and special loops bent (hot) to anchor them. There is some question about how the bent end hooks and loops can handle the heating which may cause them to be brittle. Lots of interesting questions come up during all this work. There is some difference between how the moving end of each spring was to be mounted but it’s under control. If there is a problem, it’s fail-safe. The lingering question is, why did they remove the springs that apparently survived for at least 11 years (1924-1935)?

Moving along with No. 639 - Since its emerging from Town House Shop No. 639 has been an interesting (as in “may you be living in interesting times”) challenge. As the late Gerry O’Regan used to say that it was basically a cheap car but ever so complicated in its electrical and pneumatic systems. As has been stated in this column many times, we’re bringing together a pile of old largely worn out parts that were from different backgrounds and we expect them to play well together.

The Edison nickel iron batteries are known for their long life. We do not know when the cells in No.639 were manufactured but they may be more than (insert your guess here) years old. The plates inside are made alternately from iron and nickel. The case itself is nickel plated iron sheet with the seams welded. For electrolyte it uses a roughly 20% solution of potassium hydroxide (lye) and water with a small amount of lithium hydroxide to improve performance. Unlike lead acid batteries, the alkaline solution protects the metal plates and provides a lowered freezing point regardless of the charge state. They are also tolerant to rugged environments which led to their use on railroad applications. The primary disadvantages of this battery type are its efficiency (20% of charging energy is lost) and its fairly quick self-discharge rate (measured in days). The low voltage power comes from three banks of six nickel-iron Edison cells under the no. 2 Left seat which produce about 28 volts, charged from the low side of the air compressor circuit. Each door has a pair of push-buttons (open or closed) which
send power to a magnet (solenoid) valve on the end of the door engine. The valve pulls a rod which sends air in or out of the door engine. When we started work we drained the car’s two air tanks which turned out to have at least a gallon of water in them. In our disassembly and cleanup of the erratically functioning engines we found significant amounts of rust flakes which made the valves leak. Another problem was the valve pullers are small leather cups in a cylinder that also collected rust bits and hardened grease. One of the challenges of putting No. 639 together was all the equipment that had to share the same small space under the seat. To get at the door engine valve puller it was necessary to take out the just-barely-fitted-in batteries. This turned out to require much study of the electro-chemistry of the batteries which largely still seem to stand up remarkably well with much less maintenance than they deserve. Ernie found out a lot of information on maintaining them and two or three dead cells. The batteries were cleaned up and carefully returned to their compartment. Each engine was tried many times and they worked with a minimum of leakage. We know they will need TLC but that’s part of the challenge.

Don Curry has provided a large quantity of images from the shop of which the following are a few:

**Claremont Railway No. #4 - Line car**

Ernie Eaton ripping a beam, installing a cross member, and John Melanson wrestling a turnbuckle

**Portland-Lewiston Interurban 14, ‘Narcissus’ - Laconia Car Co. (1912) -**

Dana Frisbee removing shellac on monitor triangles

Dana Frisbee drilling headline support
Lexington & Boston St. Ry. 41 - John Stephenson Car Co. (1901)

Ernie Eaton with freshly shaken Garnet shellac
Ernie looking through carlines

Lexington & Boston St. Ry. 41 - The view across the pit
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and a couple from outside the shop -

Downeast Meets Dixie at Seashore Trolley Museum
August 18 @ 6:00 pm - 10:00 pm

Downeast Meets Dixie at Seashore Trolley Museum
$55/person includes a full dinner.
**Tickets must be purchased in advance.** To get tickets, Call 207-967-2800, ext 101 or 111 or Purchase online

Dispatch p.12
Celebrate food, drink, music and trolleys (of course) from both sides of the Mason Dixon Line!
Party-Eat-Drink-Strut Your Stuff (and enter the raffle)
**Costumes encouraged** and there WILL be a costume parade. Going “Downeast”? Think Sea Captains, Mates, Wenches, Fishermen...
Going “Bluegrass”? Maybe a country casual look......Plan your COSTUME! Maybe boots, jeans, and a cowboy hat

**Dinner:** Chowder & BBQ and more Catered by the Chef & the Gardener

**Entertainment:**
Live Music – Gumption Junction performing Bluegrass and Sea Shanties
Tap Snap Photo Booth   Costume Parade   Raffle Table
Cash Bar

**Sponsors:**
Biddeford Savings Bank
Tap Snap Photo Booth Sponsor
General Dynamics Ordnance & Tactical Systems
Weirs GMC
P & C Insurance
The Nonantum Resort
Kennebunkport Resort Collection
Tech NH, Inc

**Media Sponsors:**
Tourist News
Journal Tribune
Kennebunk Post
Portland Press Herald
**Membership Dues:**
Student military, Disabled, Retired over 60...$30 * Regular Membership..... $35 Family (1 or 2 parents, up to 4 children) * $50 Grandparents (1 or 2, and up to 4 Grandchildren....) $50 Sustaining Membership ....$60 * Contributing Membership .. $ 120 * Museum Patron. $ 600 Museum Benefactor.. $1200 * Life Membership.. $900 Note: Life membership dues will be placed in the Permanently Restricted Endowment Fund.

The 2017 annual membership dues are currently due. Dues must be paid before April Annual meeting to vote. Please provide all information so we have correct information and make any changes. Make checks payable to New England Electric Railway Historical Society. Please also note: Any questions concerning membership, including payment of dues, should be directed to the Membership Secretary Mark Weinberg at the Museum Office seashoretrolley@gmail.com.

**MISSION STATEMENT**

New England Electric Railway Historical Society shares powerful connections between the past and present. We preserve knowledge, context, and resources for future generations by collecting, restoring, operating, and exhibiting significant public transit vehicles and artifacts.

The New England Electric Railway Historical Society was established in 1939 in Kennebunkport, Maine.