

STREETCAR

CURRENTS

July 2020



MINNESOTA STREETCAR MUSEUM

Museum Progress In Spite of the Pandemic

Editor's Note: Even though our Museum is not running streetcars for the public right now, there is work being done in our shops and by volunteers at their home. This issue of the **Streetcar CURRENTS** will focus on two areas in which work continues now that some of the Covid-19 restrictions have been slightly relaxed by Minnesota's governor and state health officials.

Upgrade of the 208-volt AC Electric Service and 600-volt DC Controls at Como-Harriet

Article by Ben Franske

We recently had a "situation" at CHSL that warrants an article in the **Streetcar CURRENTS**. Several weeks ago, **Karl Jones** and **Ben Franske** were alerted that one of the phases of our three-phase 208-volt electric service went out. Initially, they were told by Xcel Energy that the power outage was the result of new work being done down the alley behind the George Isaacs Car barn and shop. (This is the former right-of-way of TCRT's COMO-HARRIET, OAK-HARRIET, OAK-XERXES, COMO-HOPKINS and LAKE MINNETONKA streetcar/suburban lines.) They learned later that the dropped phase was not caused by the new work but because of a short circuit to ground (ground fault) of one of the underground feeders, which had outlived its usefulness by about 25 years. Having power to the car barn is essential because our intrusion-fire detection and the sprinkler system requires constant electricity. After much coordination by **Steve McCulloch**, and a call to the State Public Service Commission by **Chris Heck**, a new underground service was installed. (See photos on the bottom of this page.)

Ben Franske and others have also been working on a long-term project to upgrade the 208-volt AC and 600-volt DC electric control panel in the rear of the ready barn and the control panel at the front of the maintenance barn that controls the 600-volt DC power to the trolley wire. Basically what Ben and his colleagues have done was to replace the old "analog" control system using relays, installed by George Isaacs in the early 1970s and upgraded several times over the years, with a 21st century programmable logic controller. This upgrade, will give us flexibility to monitor both the 208-volt and 600-volt power supply and, in a future upgrade, the capability to remotely shut-off trolley wire power from the Linden Hills Station. (See the photos on page 3.)



These photos might appear murky, but they show what was happening on the late evening of June 5, 2020. The time of these photos is around 9:30 PM. (All photos by Ben Franske)

(Top Left) The Xcel Energy crew is working on the new underground cable that was run down the alley a few hundred feet to the transformer that feeds the 208-volt power to the Isaacs car barn.

(Top Right) The Xcel energy crew is connecting the new cable to the transformer.

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From the Front Platform—Thoughts on Our Museum

Aaron Isaacs — MSM Board Chair

Since the last issue of the Currents, the Isaacs carbarn has reopened for shop work. The Excelsior Carbarn is still closed, although it can reopen whenever crews decide to return. The big question is when we will reopen for the public. It won't be in July. The Board has voted to cancel July service. A decision will be made soon about August. The Operations Committee, headed by General Superintendent Bruce Gustafson, has prepared an operating plan that has been approved by the Board, so we'll be ready when the time comes.

Although there are still a few details to be finalized, here are the basics:



- Crew members will be checked with the digital thermometer when reporting for their operating shift.
- All crew members will wear masks during their shift.
- Streetcar controls, radios, carbarn gates and anything else touched by the crew will be sanitized before pulling out. When crew members change positions, the controls will be wiped down.
- All fares will be paid by credit or debit card—no cash handling. At CHSL the depot will be closed and fares sold on the platform. At ESL, fares will be sold at the ticket booth. No tokens will be used at either railway.
- At ESL there will be no carbarn tours.
- All passengers over age two will be required to wear masks.
- The platforms will be set up for clear one-way flow with social distancing.
- The motorman will wait on the platform until passengers board.
- On the streetcar the conductor will seat family groups for correct social distancing.
- All windows will be open for maximum ventilation.
- There will be no end of line talk unless there is a PA system. That's to avoid loud speech which can spread germs.
- Trips will be scheduled to depart on the hour and the half hour.
- Upon unloading, the crew will have about ten minutes to wipe down the handrails, seat backs and window sills before boarding passengers for the next trip.

The *tentative schedule*. If we start operations in August we will do so with an abbreviated operating schedule.

CHSL

Wednesday & Friday — 1:00 PM to 4:00 PM

Saturday & Sunday — 12:30 PM to 4:30 PM

ESL

Tuesday * — 2:00 PM to 5:00 PM

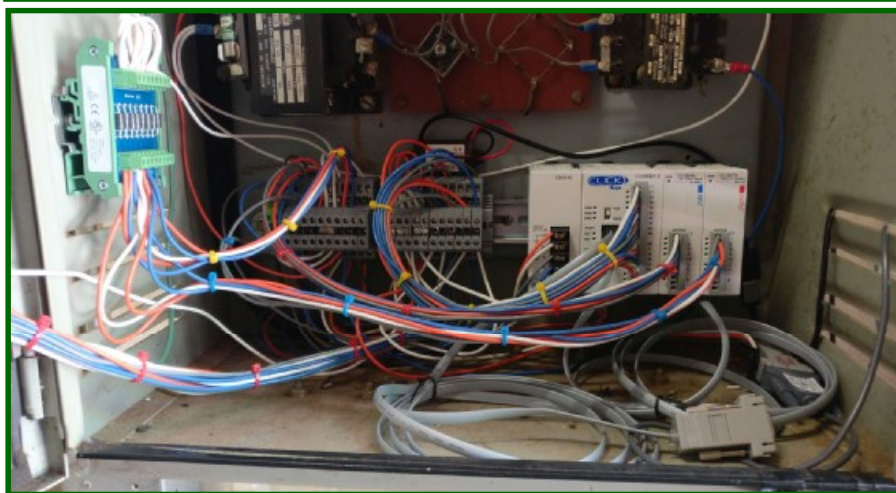
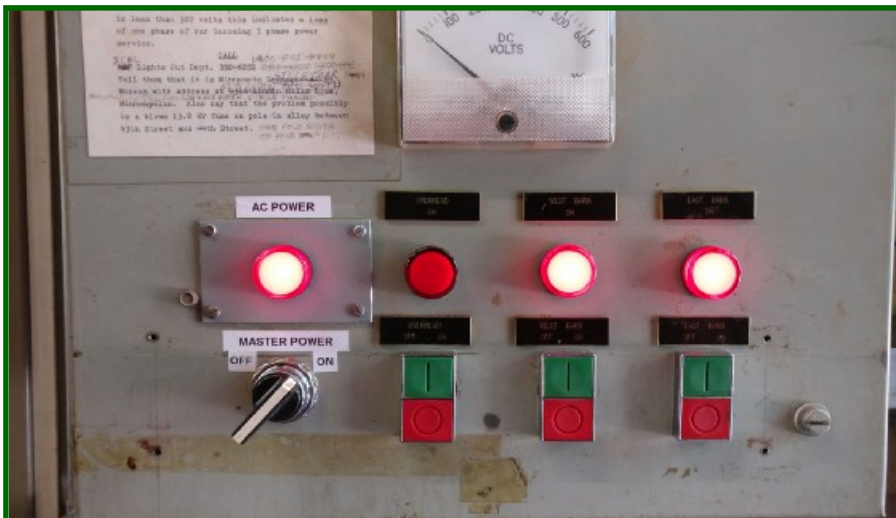
Saturday & Sunday — 12:00 Noon to 3:00 PM

* Depending on the farmer's market operations

An online survey was sent to existing Operators to see who is willing to operate. A majority of those responding have said yes. But the Museum will still have to rely on a smaller number of experienced operators. The operating schedule will be adjusted once the museum reopens and may be subject to further adjustments based on crew availability.

Other *goings-on*. Preparations continue for an overhead wire repair project. **Jim Vaitkunas** is working on buying the necessary components from the Northern Ohio Railway Museum and other sources. **Keith Anderson** has prepared a scope of work for Excelsior.

We're considering doing a modest CHSL crosstie replacement project of 100 ties. We have about 300 rotted ties, with some of them supporting rail joints. 🍀



Before & After

(Above) The old 600-volt DC control panel is shown above. The panel's look has changed but it serves the same purpose—turn on the 600-volt power to the trolley wire.

(Right Above & Right) These two photos show the "after" view of the control panel. The programmable logic controller is shown in the interior view. The three push button switches control 600v trolley power to the main line, the ready barn and the maintenance shop.

The Story of 1239's Motors

Article by Dick Zawacki

For a number of years MSM's shop forces discussed the need to repair or refurbish the trucks on TCRT gate car No. 1239. In December, 2015, we started contacting other museums about their experience with this type of project and possible sources of parts for the project. By February of 2016, we found that the Halton County Radial Railway Museum outside of Toronto, Canada had some motors for sale that would work on the TCRT 1239 truck project. When one bearing on TCRT 1300's trucks failed in August of 2016, the need to immediately repair and refurbish TCRT 1300's trucks relegated the TCRT 1239 truck project to a lower priority. In August 2018, the TCRT 1300 truck project was completed to a point where we could concentrate on the TCRT 1239 truck project.

The GE 241-B motors we got from the Halton County Museum for 1239 are rated at 55 horsepower, which makes them a good replacement for the two 50-horsepower motors currently on TCRT 1239. Our contacts at Halton County told us that the GE 241-B motors were built by General Electric-Canada and originally installed on Toronto Transportation Commission (TTC) "Brill Witt" cars in the 2580 series that were delivered in 1922. All these cars were retired around the time of the opening of Toronto's Yonge subway in March 1954. However, the GE 241-B motors and trucks they were powering (Brill 77E- 1) from these cars were considered excellent by the TTC and were overhauled for use on TTC's first group of subway work cars as well as to update some surface work equipment. Most of these work cars were retired in the 1980's and our motors come from these cars or spares being held for them. Currently, two of the motors we got from Halton County are almost finished at a local motor

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(The Story of 1239's Motors *Continued from page 3*)

repair shop. Because of budget limitations we could only have two of the motors rebuilt now. In the future, when funds are available, we could have two more motors we have on hand rebuilt which will give No. 1239 its as-built four motors.

The knowledge our shop crew gained from the project to repair and refurbish TCRT No. 1300's trucks is now being put to good use on 1239's new trucks. The trucks that were under TCRT 1239 were modified from trucks originally used on Chicago Transit Authority elevated cars. The new trucks will be built "from the ground up" and are intended to be replicas of the trucks that originally powered TCRT 1239. All of the major parts are being made based on drawings of the original trucks. Some parts of the trucks, such as springs and bearings, will be upgraded to take advantage of modern technology and make the trucks more reliable. When the project is completed, we will have a

streetcar that is more historically correct and will be more reliable and safer to operate. ☺

MINNESOTA STREETCAR MUSEUM



The Minnesota Streetcar Museum is a non-profit, all-volunteer organization with the mission to preserve and communicate to the public the experience of Minnesota's electric street and interurban railway history. To accomplish this mission the Museum operates historic streetcars at two demonstration railways.

**COMO-HARRIET STREETCAR LINE
Excelsior Streetcar Line**

For more information on our Museum, our collection of historic streetcars and our demonstration railways, visit our website: www.TrolleyRide.org

The museum's business address and telephone number are:

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Minneapolis, MN 55416-0509
952-922-1096

Streetcar **CURRENTS
July 2020**

Jim Vaitkunas—Editor
Bill Graham—Distribution

Streetcar **CURRENTS** is a newsletter published for the members and friends of the Minnesota Streetcar Museum.

Deadline for submitting items for the next edition of the **Streetcar **CURRENTS**** is July 20, 2020.

Please send items to the editor **Jim Vaitkunas** at the following address:

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(Right) Here are three of the motors we purchased from the Halton County Railway Museum in Canada. They on the pallets at the Halton County Museum almost ready to be shipped to MSM in the USA.

(Below) Jim Willmore (left) and **Rob Mangels** (right) discuss one of the newly refurbished motors with **Craig Voltin** (center), an employee at L&S Electric North of Minneapolis.

(Bottom) These two photos show the commutator of one of the motors. The one on the left before the work on the motors started and on the right after being refurbished.

