



**Trolley Volunteer Group  
March 2023**

*General Rules and Regulations  
General Safety Rules and Regulations*

**Governing The Operation of Streetcars at**

**THE NATIONAL MUSEUM OF TRANSPORTATION**

**THIS RULE BOOK IS PRESENTED TO:**

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# **Who is Responsible for Safety?**

***“I AM!”***



## IMPORTANT TELEPHONE NUMBERS

<b>EMERGENCIES.....</b>	<b>9-1-1</b>
<b>ADMINISTRATION OFFICE.....</b>	<b>1-314-965-6885</b>
<b>BARRETT STATION GIFT SHOP.....</b>	<b>1-314-965-1897</b>
<b>LEAD TOUR GUIDE.....</b>	<b>1-314-343-6617</b>
<b>MAINTENANCE.....</b>	<b>1-314-343-6618</b>
<b>ORTHWEIN EDUCATION &amp; VISITOR CENTER.....</b>	<b>1-314-965-6212</b>
<b>ST. LOUIS COUNTY POLICE NON-EMERGENCY.....</b>	<b>1-636-529-8210</b>
<b>JOHN CROWLEY – OOPERATIONS SCHEDULER.....</b>	<b>1-314-764-0809</b>
<b>AL WEBER – GROUP LEADER.....</b>	<b>1-636-577-5636</b>

### ACCIDENT REPORTING FORMS & RED BINDERS

#### **ARCHIVES & LIBRARY BUILDING**

**LINDBERGH AUTOMOBILE BUILDING** – In the closet under the stairs by restroom hallway.

**BARRETT STATION GIFT SHOP** – By the cash register.

**ORTHWEIN EDUCATION & VISITOR CENTER** – By the Welcome Desk.

**RESTORATION SHOP** – In the back by the First Aid Kit.

## ACCIDENTS, INJURIES AND INCIDENTS

The information contained in this section was obtained from the Employee and Volunteer Handbook, 2019-2020 and is reproduced here with permission.

### General Safety Information

We are working at a public venue. Safety **always** comes first. When a guest, associate or volunteer is hurt or injured, **do not hesitate to call 9-1-1.** It is in the best interest of all parties involved to have individuals who are professionally trained dealing with an injured person.

When calling 9-1-1, be prepared to give the dispatcher the location of the injured person(s). The first responders will need to know where to enter the Museum grounds using the Main Entrance, Entrance #2 or the Restoration Shop.

If a guest requests ice for an injury, complete an Accident Report Form or Incident Report Form. Obtain the name(s) of the injured party(s), and type of injury. **If a guest refuses to give their name, complete an Accident Report Form, showing the date, time, nature of the accident/injury and a brief description. All reports will be turned in to the Supervisor/Manager-On-Duty.**

If an ambulance has been dispatched to the Museum, the Supervisor/Manager-On-Duty will be notified immediately.

Always wear gloves when dealing with accidents involving blood or open wounds.

### Accident Reporting Forms and Supplies are located in the following areas:



- Barrett Station by the cash register.
- Library and Archives.
- Lindbergh Automobile Building inside the closet beneath the stairs.
- Orthwein Education and Visitor Center.
- Restoration Shop in the back next to the first aid kit.

In the event of an accident on the Museum grounds, please obtain the necessary information from accident witnesses if possible.

TNMOT has AED devices in the Orthwein Visitor Center and Restoration Shop.

Never perform a task without the proper training and equipment.

### ACCIDENTS/INJURIES

If an Associate or Volunteer is injured while working at TNMOT, call 9-1-1 if necessary. The Site Supervisor or Manager-On-Duty will fill out necessary reporting information and they will call the injured parties Emergency Contacts.

If an Associate or Volunteer is injured while working at TNMOT, and 9-1-1 care is not necessary, the injured party must go to the Total Access Urgent Care (TAUC) at Dougherty Ferry and Big Bend Roads for medical care immediately following the injury. It is always better to have a professional look at an injury. This TAUC location is three left turns from the Museum. When leaving the Museum, make a left onto Barrett Station Road. At Barrett Station and Dougherty Ferry Road, make a left turn onto Dougherty Ferry Road. The TAUC is on the left. The NMOT has an account at TAUC and all appropriate

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# Application of Rules

## Personnel Subject to Rules, Adherence to Rules

These General Rules and Regulations and all Safety Rules and Regulations apply to all members of the Museum of Transportation Trolley Volunteer Group involved in the operation of the Museums fleet of historical vehicles as well as working in the Restoration Shop.

Adherence to the rules is essential to safety, and **safety is of primary importance in the performance of duties**. Therefore, violating any of the Rules and Regulations contained in this manual may subject a volunteer to corrective action.

Use of the masculine gender in these Rules is for consistency and clarity only and in no way implies or sanctions discriminatory behavior. These Rules apply equally to men and women engaged in the operations of The National Museum of Transportation Trolley Volunteer Group.



# Safe Running Is No Accident!

- Safe operation is no accident! It requires constant attention, judgement and skill. The enemies of safety are complacency and distraction.
- When you are running the car, **THE OPERATOR WILL BE FACING FORWARD.**
- Even though you will run along the same track over and over again, do not be lulled into a false Sense of security. A dangerous situation can arise at any time, day or night, in good weather or foul, and with a rookie operator at the controls or a seasoned veteran.
- You should develop a pattern of scanning the surroundings with your eyes. The key points in the cycle are:
  1. **Track**: Look for any obstructions lying across or near the rails. Look for broken kinked rails. In curves, look at the flangeway between the innermost rail and the black guard rail for any debris that might be lodged
  2. **The Overhead**: Look for downed wires, trolley wire broken, sagging or very far off-center, sagging or broken span wires.
  3. **Left and Right**: Pedestrians frequently walk along our tracks, often with their dogs. Sound the gong, horn or whistle and make sure they are aware of your presence. Slow down. Do not pass them if they are not clear of the car. Also look for trees or large tree branches that might be impinging on the clearance of the car,



# What Makes it a Trolley Car?

"The term "trolley car" refers to the means of providing electrical power to the car through the overhead wire, and the trolley wheel which rides along it. Purists would correct you for calling a car a "trolley," when the proper term is "trolley car" Another nearly interchangeable term is streetcar." At the museum, you'll often hear the vehicles called simply "cars," and until such time as we also offer rides in vintage automobiles or elevators, that term is fairly clear,

The power which propels the cars is electricity. It is distributed by means of the overhead trolley wire, which carries an electrical potential of 600 volts. Direct Current (600VDC). In actuality, the exact number is 562 volts, and it varies somewhat with load and distance along the line. We use \* the nominal figure of 6(X) volts in discussing the trolley power, and you'll often hear it called "the 600."

Some trolley cars have two trolley poles (although some cars, not generally used in passenger Service, have just one). At the end of the pole is a trolley wheel which makes contact with the trolley wire, The axle of the wheel passes through the harp and this assembly is fastened to the end of the pole. The harp also includes an eyelet for attaching the rope

The pole is anchored to the car roof by a trolley pole base, which applies an upward pressure of it about 20 pounds by means of springs, and also allows the pole to swivel so as to follow the trolley wire. The pole which is not being used is secured to the roof by a rooftop retainer hook. Both the hook and pole base are electrically insulated from the roof and car structure.

## A Few Words on Responsibility

As a streetcar Conductor and Operator at The National Museum of Transportation, you bear two great responsibilities, that of safeguarding your visitors, and the protection of the antique vehicles which you operate.

In the glory days of the trolley era, streetcars were plentiful, spare parts were in stock, and many laborers were employed to make repairs. Today, you are operating one of only a few, or perhaps the only surviving example of a particular trolley type that may have once numbered in the hundreds or thousands. It is crucial that you not only protect the car against catastrophic events, such as collision or fire, but also that you **operate the car in a manner which will conserve its life and minimize wear-and-tear.** Any damage to the car is extremely costly to repair as spare parts are no longer available. As an indication of the value of the car, it would cost over one million dollars to replicate a single trolley car.

The Museum also does not have the luxury enjoyed by operating companies during the trolley era of a large legal department to deal with accident claims, A serious injury to a visitor, yourself or another member could be devastating.

For these reasons, you must be even more attentive, careful, diligent and skillful than the historic streetcar operator which you emulate. You will also have far less time to practice. Whereas a typical operator worked 60 or more hours per week, and generally ran the same kind of car, the average Museum volunteer operator logs 60-100 hours over the course of an

## **A Few Words on Responsibility**

entire year, on several different types of cars with some significant operational differences, and has an off-season of several months.

If you have an interest in the technical details, we encourage you to also volunteer your time in the Restoration Shop.

## **BACK POLING**

### **BACK-POLING, DE-WIRING & THE CATCHER**

Because Philadelphia Transportation Company #2740 is not taken around the loop, it is -necessary to back-pole between the Robert's Pavilion Passenger Boarding Station and Barrett's Tunnel. ***This section has been added to the Operations Manual to call attention to the hazards involved in the practice of Back-Poling.***

- The car is normally operated such that a rear pole is up and the front pole is down (on double-ended cars.)
- **Back-poling is just the opposite of above.**
- During back-poling, the force of friction which the trolley wire exerts on the trolley wheel tends to force the pole upwards, which may cause the trolley wheel to snag on the wire.
- The result is invariably a bent pole or damage to the overhead wire system. Because #2740 not taken around the loop, it is necessary to back-pole.
- The pole generally follows the wire because the wire rests in the grooved surface of the wheel. Sometimes the wheel will slip off the wire and the spring tension on the pole will cause it to pop up. **This is known as de-wiring.** De-wiring is not a serious problem if you are attentive, recognize that It has happened, and stop your car promptly (But not-roughly.)
- The device that limits damage to the pole and overhead after a de-wirement is the trolley catcher. It contains a drum onto which the rope winds. The other end of the rope is of course, tied to the end of the pole. The drum is under light spring tension which tends to wind in the rope and thus pull down on It. As the car runs down the line, the pole moves to follow the wire. The trolley catcher drum keeps the rope taut and neat.
- During a de-wirement, however, the pole jerks rapidly upward and the rope tries to unwind off of the drum, A centrifugal device inside the drum reacts to the suddenness of this motion and latches it, preventing any more rope from paying out, therefore the pole is prevented from rising any further.
- Even though the pole has been "cauht." It may still be high enough to strike the spa wires and insulators which support the trolley wire. It is important that you stop the car promptly.
- **You should be able to recognize when you have de-wired as the lights will go off or flicker. You may also hear a thumping sound coming from the roof as the pole strikes overhead obstructions. And you will experience a loss of power.**

## **BACK POLING CONTINUED**

- The most likely place for de-wirement is at **switches** where the trolley wires converge or diverge through an overhead fixture called a **wire frog**- The wire frog will generally tie Installed over a location in the track between the switch points and the track frog where the two rails cross. This allows the trolley wheel to assume the best angle for being guided through the wire frog. **Curves** are also prone to de-wirements, because the groove in the wheel is not perfectly parallel to the wire.
- **Speed contributes both to the likelihood of de-wirement and the amount of damage to the car and the overhead structure.** This is one of the reasons why it is very important to obey the speed limit strictly going through switches and sharp curves.
- It is a good idea to coast while your pole is passing through a wire frog. Doing so reduces arcing and extends the life of the trolley wheel and the wire frog. With practice you recognize the sound the wheel makes as it goes through the frog.
- You can also time this by shutting off power when you see the wire frog pass over the front of your car, and continuing to coast for about, two car lengths.
- After you have brought the car to a stop following de-wirement, be sure to leave the brakes fully applied and remember to turn the controller off, then center and remove the reverser key. This will prevent the dangerous situation of the car taking power when the pole is put back on the wire.
- Before you put the pole back on, look at the overhead for several car lengths behind the car. If you see anything wrong, such as a span wire that is now sagging or broken note the "Operator Log" and the "White Board" In the shop.
- Sometimes the catcher doesn't do its job, or even causes a de-wirement. These situations are generally avoidable if you are diligent.
- **Rope and catcher problems**
- One embarrassing problem is when the pole de-wires, the catcher latches, but the rope snaps, leaving you with a pole nearly straight up in the air. Sometimes you'll be lucky and the rope will have broken near the catcher, leaving you enough slack to pull down the pole, tie a knot to the remaining rope, and limp the car back in. Usually, though, the rope snaps near the harp, leaving you stranded with no way to get the pole down. Chock the wheels of your car in both directions.
- You can reduce the risk of rope breakage by examining the rope carefully each trip.
- Another embarrassing problem can occur when you put the pole up too quickly, thus latching the catcher. As you go down the line, if the wire gets higher your pole will lose contact and drift off the wire. Always test the catcher after you have put the pole up by pulling the rope gently out of the catcher and making sure it pays out freely.



## BACK POLING CONTINUED



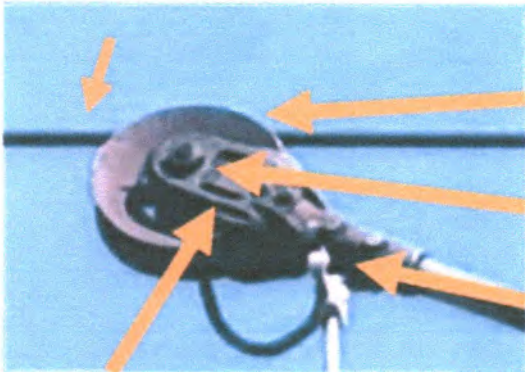
- Trolley pole properly secured in its rooftop retainer hook.
- After securing the trolley pole in its roof top retaining hook, always give the pole rope a tug to make sure the pole is properly seated and not resting on the edge of the hook.



- Trolley pole rooftop retainer.

## TROLLEY WHEEL NOMENCLATURE

- Overhead wire.



- Wheel.
- Axle.
- Eyelet.

Harp.

Trolley catcher (or retriever) showing drum and “keyhole” for the drum end of the trolley pole rope. The catcher/retriever is located on the rear exterior of the streetcar..



# Changing Ends

When it is time to reverse the direction in which you are running the car, e.g. at the Barrett's Tunnel end of the line, you will perform a process known as "changing ends." You will:

- Bring the car to a full and complete stop.
- Properly park the car.
- Place controls in neutral.
- Raise what is now the rear pole of the car so it comes in contact with the overhead wire.
- Pull down and secure in its rooftop retainer what is now the front pole. Give the rope a tug to make sure it is properly seated and not resting on the edge of the hook.
- The Operator will take the car controls to what is now the front end of the car

A few points to remember:

**With regards to #10:** Keep one pole in contact with the overhead wire in order to keep power supplied to the cars air compressor.

**With regards to #44:** Keep one pole in contact with the overhead wire in order to keep power supplied to the Motor/Generator Set. This will keep the batterieus charged while the car is sitting idle.

# Hooking the Front Pole

*(Double-ended cars only.)*

When you change ends, or before moving a car for the first time, you must step back from the car and verify that the front pole is under its rooftop retaining hook. It is possible for it to feel as if the pole is hooked down when in fact it is resting on the edge of the hook. Once the car starts moving, the pole will pop up. If a front pole hits a span wire, the result is almost certain destruction of the pole and span, and sometimes even more dramatic results such as the pole base being ripped off the roof of the car.

When you are trying to place the hook in its rooftop retainer, it helps to know ahead of time whether the car has a left-hand or a right-hand hook. Take a few steps away from the car, look up and you will see the hook. Pull the pole all the way down, then using the pole rope, swing it underneath the retaining hook and let up on the rope.

Look up and give the rope a tug to ensure it is properly seated under the hook and not on the edge of the hook.

**DON'T BE A "POLE POPPER." CHECK THE POLE.**



## ELECTRICAL SYSTEM - SHOP



The energizing and de-energizing procedures contained in instructions must be followed religiously and in the order described. High voltage AC and DC current is utilized in the operation of the streetcars. While every effort has been made to minimize risks to the crewmembers, nothing is foolproof and your life could be at stake if you are not alert and conscientious in performing the activities involved in operating the streetcar.

### ELECTRICAL SYSTEM COMPONENTS

The Museum Shop Superintendent will be informed of the specific times that the overhead line(s) will be energized other than scheduled days of operation. Energizing and de-energizing the overhead line(s) is performed in two steps.



Figure 1.

Pictured at left in Fig. 1 is the **600VDC Trolley Power Switch**.

1. The switch is controlled by a rocker type arm as shown in the illustration. It is kept locked using a trolley padlock while in the off position. The off position is when the top portion of the rocker switch is protruding from the box, as indicated by the red arrow.



Figure 2.

To turn this switch on, follow this procedure:

1. Unlock the trolley padlock and place it on top of the switch.
  2. Using the palm of your hand, push the protruding portion of the rocker handle inward. *Requires great effort.*
- **THIS SWITCH IS TURNED ON FIRST, AND TURNED OFF LAST.**

## ELECTRICAL SYSTEM - SHOP

### ELECTRICAL SYSTEM COMPONENTS - CONTINUED



Figure 3.

Shown in Fig. 3 at left, is the 600VDC Trolley Power Switch with a **LOCKOUT/TAGOUT** device applied to the protruding portion (OFF position) of the rocker handle.

*When this device has been applied to the handle and locked, the overhead line is unable to be energized. **Only the person(s) who applied this device can remove it.***

**DID YOU KNOW:** The purpose of a "Lockout/Tagout" device or procedure is to protect employees from machines and equipment capable of causing injury or death due to unexpected energization, release of stored energy or the start-up of equipment while an employee is performing maintenance or servicing of equipment.



Figure 4

When the switch is in the **ON** position, the bottom portion of the rocker handle will be protruding from the switch box.

When turning this switch **OFF**, using the palm of your hand, push the bottom portion of the switch **INWARD**.

Replace the trolley padlock on the switch handle and lock it.



**DO NOT DEVIATE FROM THIS PROCEDURE WHEN ENERGIZING OR DE-ENERGIZING THE TROLLEY POWER SYSTEM.**

Power ON indicator lights

**KNIFE SWITCH CABINET** - The gray box, pictured in Fig. 5 on the right, about 10 feet above the 600 VDC power supply cabinet contains two very large knife switches. The **left hand switch** controls the outside overhead wire used by the streetcars while they are in operation. The **right hand switch** controls the overhead power in the shop. Under normal operating conditions the left hand knife switch will be in the up position and the handle will not be visible. The shop power knife switch will be in off or down position and the handle will be visible.

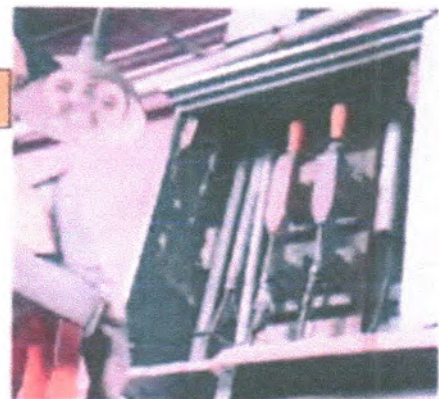


Figure 5.



# ELECTRICAL SYSTEM - SHOP

## ELECTRICAL SYSTEM COMPONENTS - CONTINUED

**ACCESS TO THE KNIFE SWITCH BOX IS RESTRICTED TO AUTHORIZED PERSONNEL ONLY!**

### AC CIRCUIT BREAKER PANEL



Figure 6.

- Shown at left, (Fig. 6) is the Main AC Circuit Breaker Panel. 480 AC 3 Phase current enters this panel from the utility pole outside.

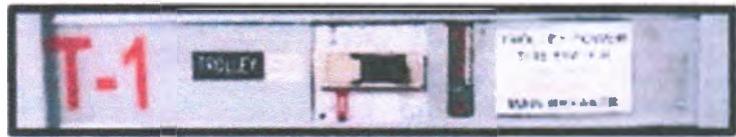


Figure 7.

Shown above in Fig. 7 is the "T-1" Trolley Circuit Breaker.

1. This switch is **TURNED ON LAST.**
2. This switch is **TURNED OFF FIRST.**

Pictured at the right in Fig. 8 is the AC to DC current converter showing **voltage meter (left)** and the **amp meter (right.)**



Figure 8.

**In summary, energizing the trolley wire requires two steps:**

- First:** Turn the streetcar DC power breaker on.
- Second:** Turn the AC power breaker (labeled T-1) in the main breaker panel to the on position.

The actions in step two will energize the entire trolley line wire from next to the Roberts Building, around the loop and to the tunnel.

**TO DE-ENERGIZE THE SYSTEM, REVERSE THE ABOVE PROCEDURE.**







## **ELECTRICAL SYSTEM – ABBOTT BUILDING**



- BEFORE ENERGIZING THE ABBOTT BUILDING OVERHEAD, ALWAYS LOOK UP AND MAKE SURE THERE ARE NO POLES IN CONTACT WITH THE OVERHEAD LINE AND NO ONE IS STANDING ON TOP OF THE EXHIBITS AS WELL AS THE STREETCARS.

**To energize the Abbott Building overhead, follow the procedure outlined below:**

- The actions in step one will energize the entire trolley line wire from next to the Roberts Building, around the loop and to the tunnel.
- The next step is to energize the trolley wire in the Abbott Building so that the streetcar can move from its parked position onto the main track. This is done as follows:

1. On the north side of the Abbott Building is a locked push handle.
2. It is mounted on the east face of the fifth building column.
3. Unlock the handle and push it up vertically.
4. Observe the actual switch above to see that it is securely engaged.
5. Keep the lock handy for re-locking the switch after the car has been taken out of the barn.

**6. DO NOT LEAVE THE ABBOTT BUILDING POWER ON DURING THE STREETCARS DAILY RUNS.**

## **ENERGIZING AND DE-ENERGIZING THE STREETCAR**

### **Energizing the Streetcar**

**See Individual instructions for each streetcar for complete details of steps**

- Be sure that the trolley poles are in their roof retainers to ensure that they do not unintentionally contact the trolley wire during the energizing process.
  1. Have an operator in the seat or at the operating position. Raise the rear trolley pole to make contact with the trolley wire.
  2. Remove and store the chocks in the car in case they are needed out on the line.
  - 3- On the initial movement of a car from its parked position, perform a brake test. If the brakes do not function properly, park the car and use another streetcar, if one is available.
  4. Move the streetcar to the point where the Abbott Building Overhead wire parallels the mainline wire near the west end of the Roberts Bldg. Stop the streetcar and transfer the trolley pole to the mainline overhead wire. **STAY FOCUSED ON THIS REQUIREMENT WHEN PULLING A CAR OUT OF STORAGE.**
- After the streetcar has moved from its parked position onto the main track, the conductor will go to the switch handle at the Abbott Building and pull the switch down (vertically.) Lock the handle in the down OFF position. This ensures that the overhead wire in the Abbott Building is only energized during the time it takes to move the streetcar from its parked position to the main line. After the streetcar runs are completed for the day, the operator will re-energize the siding to position the streetcar in its parked position. We do not want the Abbott Building line energized when the streetcar is in operation on the mainline.

### **De-energizing the Streetcar**

- The streetcar must be driven to the point where the mainline overhead wire parallels the Abbott Bldg. wire. The trolley pole must be transferred to the Abbott Bldg. wire and the streetcar moved to its parking space in the Abbott Building.
- Place the wheel chocks at the front and rear, door side wheels of one truck. The trolley pole should be disengaged from the trolley wire and placed in the retainer on the streetcar's roof.
- The energizing operations at the Abbott Building and in the Restoration Building described in **Energizing the Power Supply, steps 1 and 2** shall be undone in the reverse order. Therefore, all overhead lines are de-energized, properly locked out and left in an absolutely safe condition.



## **ENERGIZING AND DE-ENERGIZING THE STREETCAR**

- Leave no money in any of the streetcars. Place all money and the Operator Log slip, in a dated envelope in the red mail box in the locked tool crib in the Restoration Building.

## **FIRE EXTINGUISHERS**

- Crew members must see that fire extinguishers and safety equipment are supplied on all equipment carrying personnel or passengers. Crew members must be conversant with the current emergency response plan.
- Crew members must be knowledgeable as to the location of fire extinguishers. It is also the crew members responsibility to ensure that all fire extinguishers are in serviceable condition.



- Check the needle on the gauge and make sure it is in the green area on the dial.



- Check the tag for the current year and punched for the current month.

**DO NOT RETURN THE FIRE EXTINGUISHER FROM WHERE YOU OBTAINED IT AFTER USE!**

## **GENERAL RULES AND REGULATIONS**

### **General Rules and Safety**

- **Who is responsible for safety?**
- Safety is of the first importance in the operation of vehicles. **In case of doubt, the safe course of action must be taken.**
- Passenger and visitor safety requires constant vigilance on the part of all streetcar crew members.
- Operation demands the **faithful, intelligent and courteous performance of all crew members.**
- Obedience to these rules and regulations is essential for safety and remaining in service.
- Museum visitors may not expect movement of rail equipment on the grounds. Therefore, it is the responsibility of the crew to provide for the safety of passengers and Museum visitors on the ground.
- Make liberal use of the whistle, gong or horn to alert visitors to the movement of the streetcar. **Stop the car if there is any doubt as to whether a person is aware of an approaching vehicle.**
- The **Conductor's** responsibility is for the needs and safety of the passengers.
- The **Operator's primary responsibility is safe operation of the streetcar.**

### **Crew Member Requirements**

- Crew members whose duties are described in these rules must have a copy immediately available for reference while on duty. A copy of these rules is maintained in each operating streetcar's binder.
- Crew members must be conversant with and obey all rules and instructions.
- **Carelessness, negligence and/or indifference** in the performance of duties will not be tolerated. Violations will result in corrective action being taken.
- Crew members desiring to operate the streetcars of the Museum's fleet must attend and successfully pass all required training classes examinations.. Training includes the following:

## **GENERAL RULES AND SAFETY CONTINUED**

- Electrical system,
- Energizing and de-energizing the streetcar's electrical system.
- Energizing and de-energizing the power system.
- Knowledge of all streetcar controls,
- Operating precautions,
- Safety devices.
  
- Crews must cooperate and assist in carrying out the rules and instructions, and must promptly report to the supervisor on duty any violation of the rules or instructions, any condition or practice which may imperil the safety of trains, passengers or employees, and any misconduct or negligence affecting the interest of the Museum. Crews must report to the supervisor on duty by the first means of communication any accidents, personal injuries, defects in track, or any unusual condition which may affect the safe operation of the streetcars. A written report must follow promptly when required.
  
- Crew members must expect the movement of trains, engines, cars or other movable equipment at any time, on any track, in either direction.
  
- They must inform themselves as to the location of structures or obstructions where clearances are close.
  
- Crew members are responsible for their own safety-
  
- Constant presence of mind to ensure safety to themselves and others is the primary duty of all crew members and they must exercise care to avoid injury to themselves or others.
  
- They must observe the condition of the equipment and tools which they use in performing their duties and, when found defective, will put them in safe condition, reporting defects to the proper authority.

## OPERATING RULES

THE OPERATOR'S POSITION WILL BE OCCUPIED AT ALL TIMES WHEN MUSEUM VISITORS ARE PRESENT AND THE STREETCAR IS ENERGIZED. NO ONE BUT A TRAINED OPERATOR WILL OCCUPY THE OPERATOR'S SEAT. NO ONE OTHER THAN THE OPERATOR WILL OPERATE ANY OF THE STREETCAR'S CONTROLS INCLUDING THE GONG/WHISTLE AND RAISING AND LOWERING THE POLE(S).

- Only qualified Museum volunteers shall operate turnouts or other Museum hardware.
- The streetcar will not be operated close to any obstruction such as parked locomotives, passenger cars, etc. If such an obstruction is located at the streetcar's **termini** the operator will **stop the car no closer than 20 feet from the obstacle**. If the obstruction negates the use of the designated loading zones, the operator will not initiate operations until the obstacle is removed. The operator will inform the Museum supervisor on duty and try to resolve the situation.
- All streetcar doors will be kept closed at all times when the streetcar is moving except the end doors on car #44. The only other exception is for maintenance or testing with a crew member stationed at the open door
- **CTA #44 may be operated with one or both of the end doors open as long as the passenger safety chains are up and in place.**
- All passengers will be seated before the streetcar starts moving and remain seated at all times.
- Children must be seated at all times and must not stand on the seats.
- No food or drink in open containers is allowed on the cars. This applies to the crew as well as the passengers.
- Smoking and vaping are not allowed on the car.
- Passengers shall board and alight from cars only at the designated areas. Platforms allow safe access to the car steps at these locations.
- The Conductor shall give a brief talk at the tunnel. Ideally, let the passengers know that the Neil F. Norkaitis Trolley Line is funded entirely by the generosity of the passengers we carry. (See the Section "SUGGESTED CONDUCTOR NARRATION WITH NEW BROCHURE).
- When there is other traffic on the roadway alongside the Abbott Building, the streetcar is to yield to the other traffic so as to not confuse or rattle Museum guests on the roadway.

## OPERATING RULES

- As with all other safety issues, even if the other vehicle causes the problem by coming into the area after the streetcar, stop the streetcar until the other vehicle clears the congested area.

### SIGNALS

#### **Whistle:**

**Note:** Reference to conductor's whistle signals apply only to Car #10.

- The conductor's signal to the operator to proceed is one short sound of the whistle on cars so equipped.
- The operator's signal to move forward, East or West, North or South, is two blasts of the whistle or bell.
- The operator's signal to move backward relative to his position on the car is three blasts on the whistle or bell.
- When the car is brought to a stop and it is safe for people to get on or off, the operator shall sound one blast of the whistle or bell. After making this sound, the car shall not be moved until a signal is given to the motorman by the conductor that the car is ready to go.

#### **Hand:**

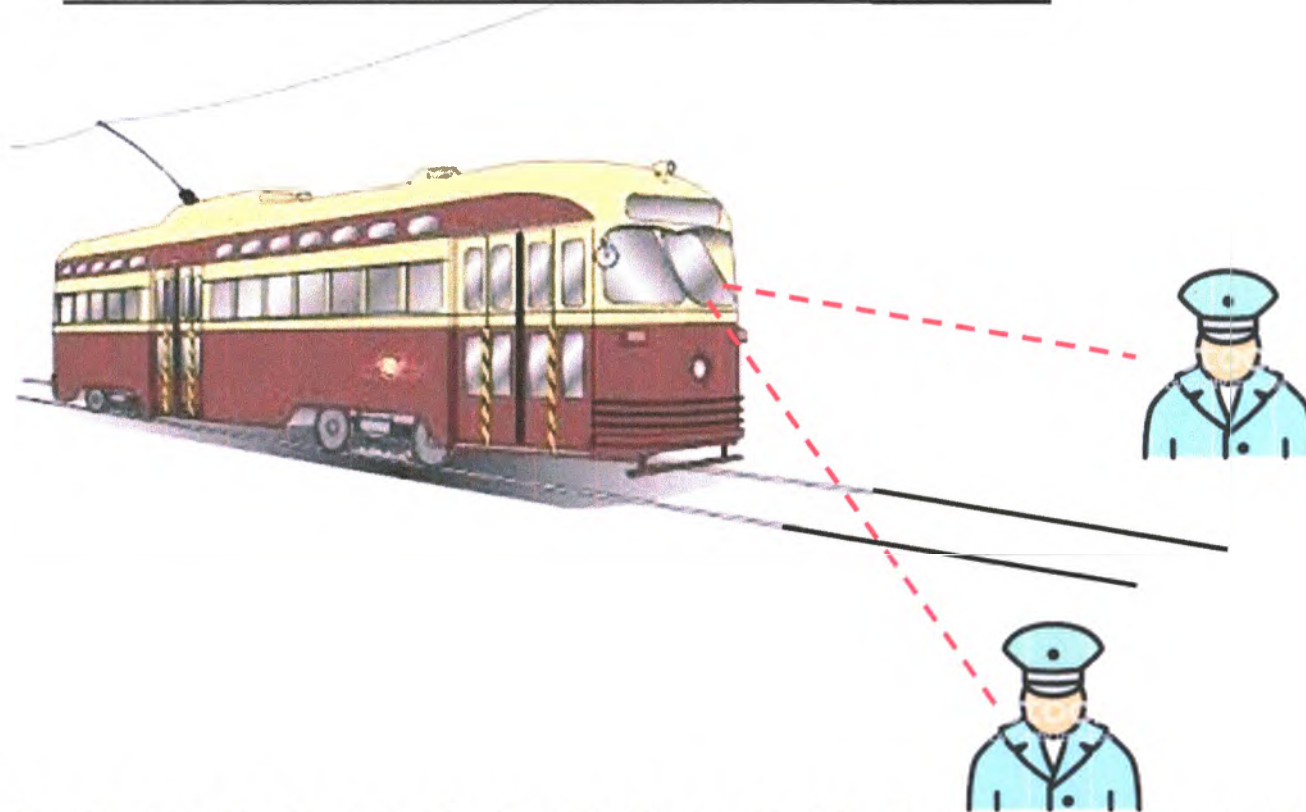
- A general up and down arm movement or over the head wave signals **forward** movement. A circular movement of the arm indicates a backup move to the operator.
- An arm movement across the body indicates stop.
- **If a hand signal is not clear, the Motorman will bring the car to an immediate stop.**

#### **Response to signals**

- The operator shall act only in response to these signals as long as he can see the person assigned to give signals.
- The operator shall STOP IMMEDIATELY if visual contact is lost between the person giving the signal(s) and the Motorman.
- The operator shall STOP IMMEDIATELY if visual contact is lost of the person giving the signals. The operator shall STOP if a signal being given is not understood or if, in the operator's judgment, it is not safe to move even if being signaled otherwise.



CREW MEMBERS ON THE GROUND

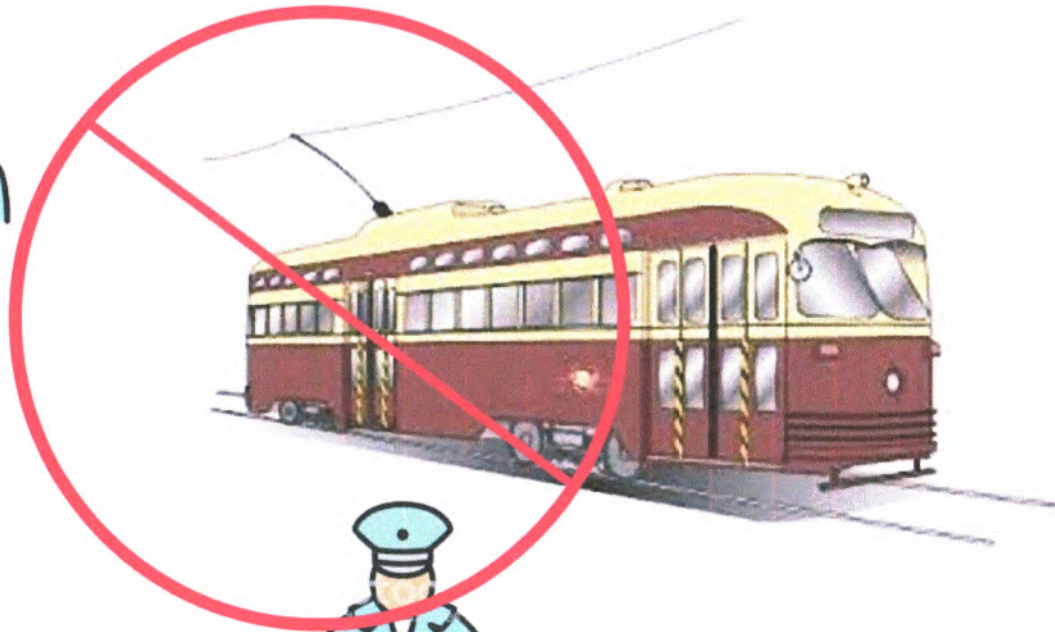






CREW MEMBERS ON THE GROUND

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## **OPERATING RULES**

### **Crew Communication on Cars #44, #1743 and #2740**

- On these cars, it is necessary for the Conductor and Motorman to communicate verbally.
- All communications shall include reinforcement. For example: Conductor to Operator: "We're all clear to proceed." Not just "OK." Before acting on the instruction, the Motorman shall respond in a similar way: "Car 44 leaving the platform Eastbound." When backing car #2740, hand signals are required.

### **Start Up Sequence**

- The signs warning of train movement on the tracks shall be placed along the track before operations begin.
- Crew members will survey the track before operation to ensure that the track is clear and rail switches are locked in the proper position.
- All equipment will be test operated without passengers on board and before passenger trips are run.

### **Short Breaks**

- If the streetcar is to be shut down for a short time, say for lunch break, the operator will park the car in a suitable location. He will then remove all operating levers and stow them in the appropriate place on the car. The wheels shall be chocked. The trolley pole shall be disengaged and stored in the rooftop retainer. The doors will be closed and locked,

## PEDESTRIANS

THE THREE MOST IMPORTANT WORDS YOU WILL HEAR WHILE AT THE NATIONAL MUSEUM OF TRANSPORTATION:

# STOP THE CAR!

- Pedestrians, especially small children, near or on the tracks is an extremely critical situation and is one that is not to be taken lightly.
- Children are quick and unpredictable.
- It is of the utmost importance that the car crew members remain focused not only on what they are doing, but what is also going on around them.
- EXPECT THE UNEXPECTED – BE PREPARED TO STOP THE CAR ON A MOMENTS NOTICE.
- KEEP THE SPEED OF THE CAR SLOW ENOUGH TO ENABLE YOU TO MAKE A SAFE STOP IN CASE OF AN EMERGENCY.
- The Operator will stop the car if any of the following conditions exist and will remain stopped until the situation is resolved:
  1. A small child on the walkway(s) whose hand is not being held by an adult.
  2. A child whose hand is being held by an adult and is trying to pull away.
  3. A small child who is not being held by an adult.
  4. A child who is running alongside of the streetcar while it is in motion.
  5. A pedestrian who is teasing a run towards the tracks.
  6. Pedestrians who are walking the tracks.
  7. Pedestrians who are performing a balancing act on the rails.
  8. People who are too close to the tracks or the painted yellow line on the walkways.
  9. People on their cellphone, texting or wearing headphones or earbuds are not paying attention to their surroundings and therefore are not aware of the presence of the streetcar. If an Operator feels that a pedestrian is not aware of the streetcars presence, the Operator will not initiate a car movement until they get the attention of the pedestrian(s) even if they are signaled otherwise.

## PEDESTRIANS BALANCING THEMSELVES ON THE RAILS



Pictured at left is what's called a "sun kink." Extremely high temperatures can cause rails to buckle because of the heat.

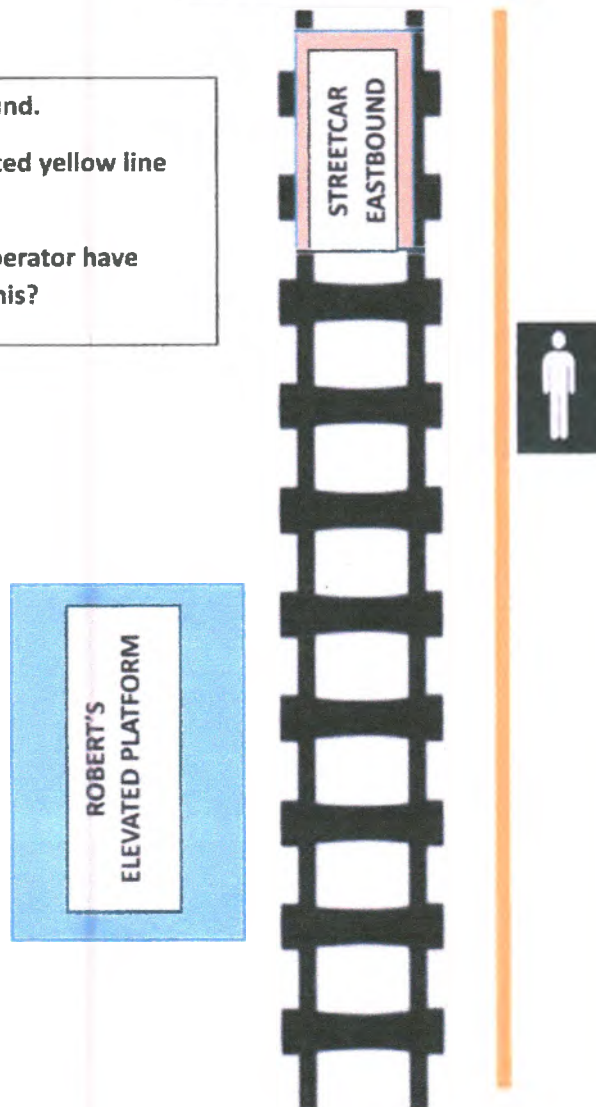
If the heat can cause steel rails to buckle, can you imagine what will happen to bare feet?

**Severe burns and possible other injuries.**

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### Real Life Situation

1. Streetcar traveling Eastbound.
2. Child standing on the painted yellow line on the walkway.
3. What action should the Operator have taken in a situation such as this?



## REPORTING FOR DUTY

### APPEARANCE

- Crew members reporting for duty must present a clean and neat appearance.
- Crew members function as Conductors and Operators. But all of us are also Museum Ambassadors. **No individual ever gets a second chance to make a good first impression.**
- Crew members must have on their person and display while on Museum property their I.D. badge. The badge must be displayed between the waistline and the collar. Car crews will have their badges displayed while on board the streetcar.
- Crew members are **prohibited** from using any type of tobacco products when interacting with Museum guests and visitors.
- There is no smoking or vaping while on board the streetcars.

### APPAREL

- A formal transit employee uniform is not required while on board a streetcar. If a crew member wishes to purchase one, they may do so if they wish. However, a crew member will not be reimbursed for the cost either by The National Museum of Transportation, nor the Museum of Transportation Trolley Volunteer Group.

### Recommended Apparel

- **White shirt:** Long or short sleeve.
- **Tie:** Black: bow tie, or long.
- **Trousers/Slacks:** Black.
- **Shoes:** Black. *No open toes, heels or sides.*
- **Socks:** Black.
- **Shorts:** Black, knee length. *May be worn during the hot Summer season.*
- **Blue Jeans:** Acceptable in appearance.

### CONDUCT

- Crew members will report for their requested shift in enough time to prepare the streetcar to be used for the day's runs and have it at the Robert's Pavilion Passenger Boarding Station ready to go at 10:00 AM. *If conditions warrant, at the discretion of the scheduled crew, may begin the shift prior to 10:00 AM and go past the scheduled end time of 2:00 PM.*



## **REPORTING FOR DUTY**

- Crew members when reporting for duty will report to the shop. Crew members will devote themselves exclusively to the job at hand. They will not absent themselves while at the Museum.
- Do not report for duty, tell someone you are here, then disappear.
- **Except in case of an emergency, the use of any personal communication devices is prohibited.**
- If a crew goes past the scheduled shift end time of 2:00 PM, they must have the car properly parked and shut down in the Abbott Building, the entire electrical system deenergized, envelope deposited in the mail box in time for the Museum to close for the day at 4:00 PM.
- Scheduled car crew members will ensure that the car is clean. Car cleaning tasks include: 1)-Sweeping the floor, 2)-Emptying the waste baskets and 3)-Window cleaning when time between runs permits.
- **When cleaning plexiglass windows, do not use the blue Windex.**

## **PROPER CONDUCT**

- **THE OPERATOR, ONCE THE STREETCAR IS IN MOTION, WILL FACE THE DIRECTION OF TRAVEL AT ALL TIMES.**
- Crew members will, at all times, conduct themselves in such a manor that will not subject The National Museum of Transportation to. Negative comments, criticism or experience a loss of Goodwill.
- Crew members will treat one another with the proper dignity and respect due them as individuals without regard to one's position and title at the Museum.  
*Simply put: treat others in the same manner as you want to be treated.*
- Crew members are courteous at all times.
- Crew members will not discriminate between patrons of the Museum.
- Crew members will refrain from making any comments, remarks and or statements that can be taken as offensive by another person.
- Crew members will not wear any apparel that is offensive in any way.
- **READ AND BECOME FAMILIAR WITH THE NATIONAL MUSEUM OF TRANSPORTATION'S POLICES ON ALCOHOL AND DRUG ABUSE AND HARASSMENT.**

## **REPORTING FOR DUTY – PROHIBITED ITEMS**

CREW MEMBERS ARE **PROHIBITED** FROM HAVING IN THEIR POSSESSION OR ON THEIR PERSON, OR USING, OR BEING UNDER THE INFLUENCE OF:

**Restricted  
and  
Prohibited  
Items!**



- ALCOHOL.
- ALCOHOLIC BEVERAGES.
- DRUGS (ILLEGAL).
- DRUG PARAPHERNALIA.
- FIRE ARMS – *or any type of deadly weapon..*
- KNIVES – *with blades longer than three inches unless authorized.*
- NARCOTICS.
- OVER-THE-COUNTER (O-T-C) MEDICATION.
- PRESCRIPTION MEDICATION – *Refer to the policy on Alcohol and Drug Abuse, last paragraph for guidance.*

IF A MEMBER IS TAKING ANY OVER-THE-COUNTER OR PRESCRIPTION MEDICATION, IT IS VITALLY IMPORTANT THAT THEY KNOW HOW THEIR MEDICATION AFFECTS THEM WHEN THEY TAKE IT. IF THERE IS ANY DOUBT THAT THEIR MEDICATION MAY AFFECT THE SAFE OPERATION OF ANY EQUIPMENT, STREETCARS OR WORKING SAFELY IN THE RESTORATION SHOP – DO NOT REPORT TO THE MUSEUM.

CONSULT THE MUSEUM'S POLICY ON ALCOHOL AND DRUG ABUSE, LAST PARAGRAPH FOR GUIDANCE.



## ALCOHOL AND SUBSTANCE ABUSE POLICY

The National Museum of Transportation is a drug and alcohol-free workplace. The use of, or being under, the influence of illegal drugs and/or alcohol is inconsistent with the behavior expected of employees and volunteers. The use of illegal drugs, alcohol or the misuse of prescribed and over the counter drugs subjects employees, volunteers and visitors to unacceptable safety risks that undermine the Museum's ability to operate safely, effectively and efficiently.

The use, possession, distribution or sale of controlled substances (drugs or alcohol), being under the influence of such controlled substance (drugs or alcohol) or testing positive for alcohol or any drug including, but not limited to, inactive components or metabolites associated with the use of such drugs, is strictly prohibited while on duty, while on Museum premises, or while operating the Museum's equipment or vehicles.

The National Museum of Transportation participates in pre-employment offer, random and post-incident drug and alcohol testing. If injured on the job or if you were involved in any way with an accident, unsafe practice or order, personal injury or property damage, you may expect to participate in a drug and alcohol test immediately following the incident.

The use or possession of any alcoholic beverage or controlled substance while on Museum property will not be tolerated. Discipline will be imposed for any violation of this policy and will depend upon the circumstances of each case. Those circumstances include the right to fire an employee of the Museum and to bar a volunteer from further work at the Museum.

The Museum also regards the unauthorized possession and distribution of controlled substances as a crime and will discipline any employee or volunteer involved in such a crime whether or not such employee is addicted to drugs.

It is important for the safety, not only of the employee or volunteer, but also of those visiting the Museum, that there be strict enforcement of this policy. No exceptions will be made.

The impairment of any employee's or volunteer's performance due to drug or alcohol use or addiction is deemed to be the Museum's business, not a reserved aspect of one's private life.

If an employee or volunteer has been prescribed medication by a licensed medical provider that needs to be taken while such employee or volunteer is on Museum property, or is on the Museum's business; said employee or volunteer is required to report the need and use for such medication promptly to Ms. Terri McEachern, the Museum's Executive Director. Further, said employee or volunteer must obtain written confirmation from his or her prescribing doctor that he or she is safe to perform their assigned job duties at the Museum. Ms. McEachern has full authority to decide whether or not said individual (employee or volunteer) can work at the Museum, or engage in the Museum's business, while taking such medication.

## Slipping Wheels

- On slippery rail, it may happen that when you apply power, the wheels slip on the rail rather than grabbing it. As with sliding wheels during braking, the slipping condition generates considerably less traction than when the wheels are rolling properly on the rail. You should be able to hear the wheels spinning away at high speed, Do not allow this slipping to persist, as it heats up and wears the wheels. **The easiest corrective measure is to shut off briefly**. The wheels will slow down, and you will feel a slight kick as they fall back into rolling contact with the rail. At this instant, re-apply power.

# Switches / Turnouts

A switch is a place where one track splits into two. We refer to **facing point** and **trailing point** switches, but in reality, those terms apply to the **direction in which one is running**. **When approaching a switch in the facing point direction, your track is splitting in two, and your car will take either the left or the right track.** **When approaching the switch in the trailing point direction, your track is joining with another track to become one track.** Another term for a switch is a turnout.



Above we see the type of switch used on the main track, known as a double-point switch. The components are:

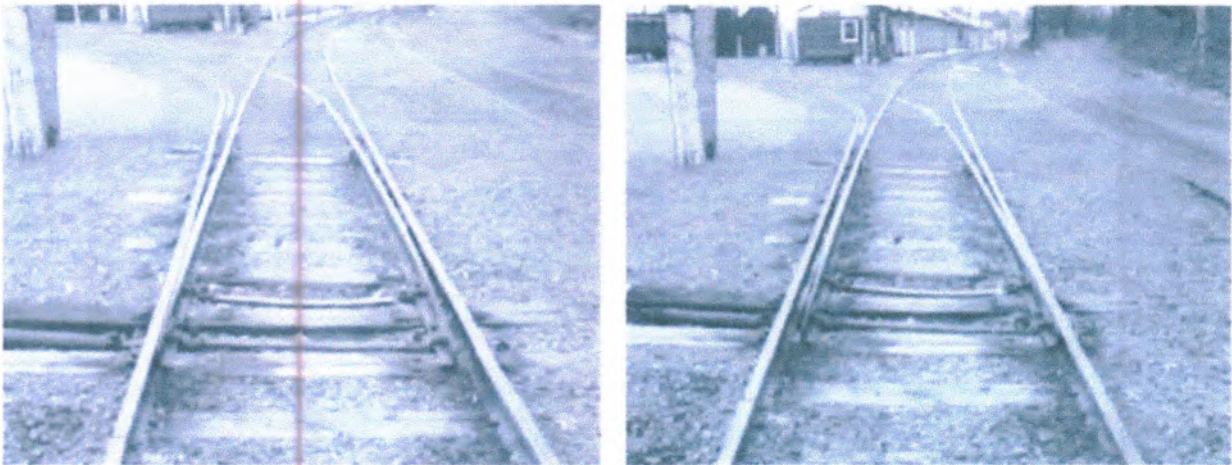
- **Point Rails:** There are two point rails, which are joined to the closure rails with a semi flexible joint so they can pivot. The ends of the point rails are ground to a knife edge. **One of the point rails is always snugly resting against the side of the stock rail,** while the other is several inches away to allow the flanges to pass by.
- **Closure Rails:** the two rail Sections between the point rails and the frog.
- **Stock Rails:** The outer, continuous rails of the turnout.
- **Frog:** So named because it looks like a jumping frog, this track element allows wheels rolling on one rail to cross over the other, by providing a gap for the flanges. After this gap the frog resumes with a sharp point The frog is designed so the wheel tread never falls completely into the gap. The edge of the wheel tread is supported by the frog wing, then just as it is about to fall in, it comes over the point. There are short guard rails attached to each stock rail, opposite



# Switches / Turnouts

the frog point. These keep the wheels in alignment, so they don't drift and then bang into the frog point, or possibly climb up and derail. As components wear, the wheels do tend to drop in slightly, and bang into the point. Therefore, it is wear, the wheels do tend to drop in slightly, and bang into the point. Therefore, it is important to minimize speed

- **Throw/Tie rods:** These keep the points the correct distance apart and transmit the throw force from the switch stand to the points.
- **Point Detector:** This device is used with some switches that are monitored to the signal system, and tells the signal system if the switch is completely thrown (and if so in which direction), or if the switch is open, which can be a dangerous condition.



**With a “double-point” switch, one point is always closed against the stock rail, and the other is open. To “read the iron, trace the top of the rail head. The continuous path is the one which the wheels will follow in a facing-point move.**

**The double-point switch shown on the left above, is set to go straight ahead, while the double-point switch shown on the right, above, is set to diverge to the left.**



# The Importance of Checking the Points

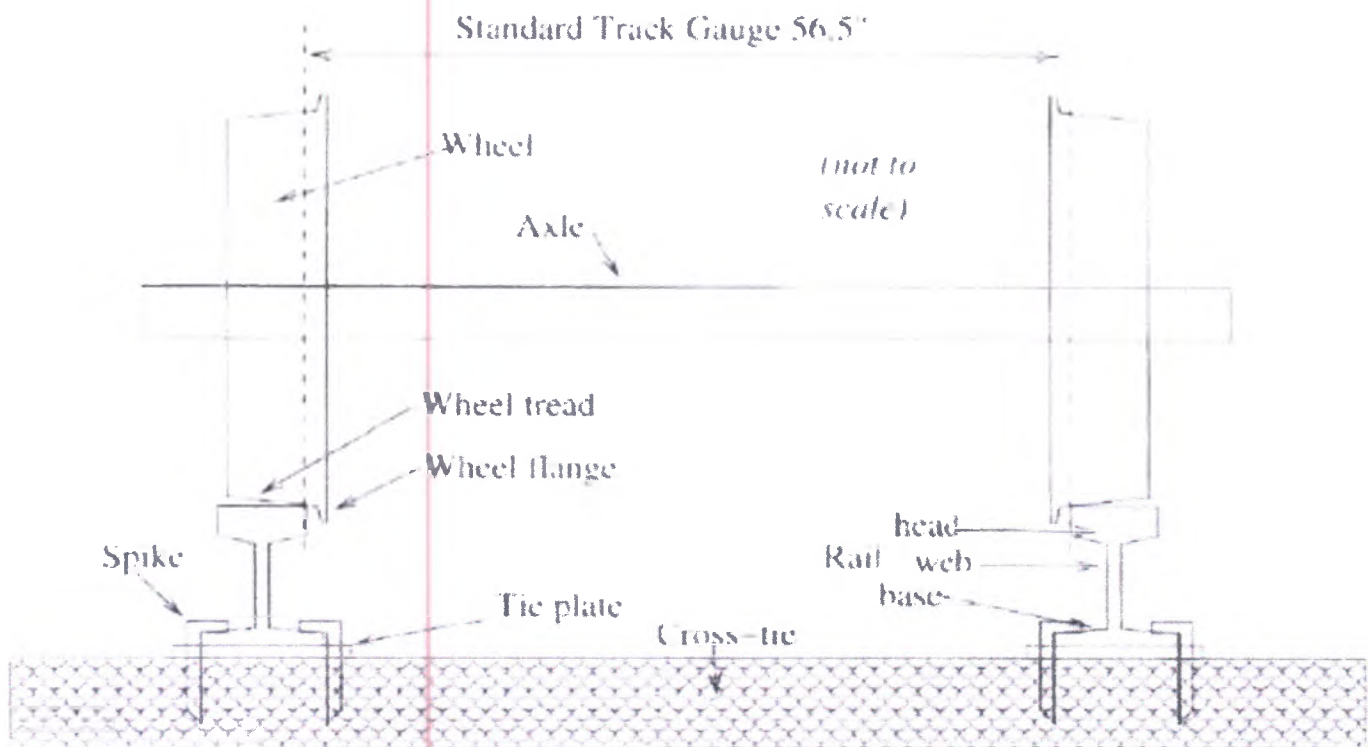
Normally the wheel flange follows the closed point. If the point which, should be closed is open even slightly (more than about  $\frac{1}{4}$ " ) it is possible that the wheel will miss the point and track onto the incorrect rail. Following this with your eyes, you should be able to see, that the wheels will be on both stock rails, and as they get farther apart, the wheels will drop in and derail.



**CAN YOU SPOT THE DANGEROUS SITUATION IN THE PICTURE SHOWN ABOVE?**

It is important that the Operator be able to visually confirm that the switch point is fully closed. If you have stopped the car to throw the switch, you can make this observation while standing at the switch. If you intend to run through the switch without stopping, you must be moving slowly enough that you can clearly see the switch point and determine that it is open or closed, and if the point is open, bring the car to a stop before passing over the switch. You must also be able to verify visually that the switch stand is locked.

# Track and Switches



The purpose of this section is not to train you to install or repair railway track, but to familiarize you with the names and functions of various parts of the track. This will allow you to answer visitor questions as well as to report any track problems which you may see more accurately.

The primary components of straight (or "tangent") track are:

**Rails:** The rails support the weight of the cars. They are made of steel and rolled into a "T". The thick top section of the rail is known as the **head**, the wide bottom section is the **base**, and the thin vertical section is the **web**.

**Tie Plates:** These steel plates give an even bearing surface for the base of the rail and spread the load onto the wooden tie.

**Spikes:** These heavy nails are about 5/8" square and 5-1/2" long, and have a hard, sharp chisel point. They are driven into the wooden ties with a heavy hammer and hold the rails down, so that the rail does not tip over or shift to the side.

**Cross-ties:** Wooden ties nominally 8" wide, 6" deep and 8-1/2" long (longer ties are used in switch areas), transfer the load to the ballast (crushed stone) and earth below. They also tie the two rails together to maintain the correct spacing,

## Track and Switches

Rails are measured in terms of their weight per yard of length of a single rail. Lengths of rail are joined together by heavy bars that bolt to either side of the web, using heavy bolts through holes drilled in the web.

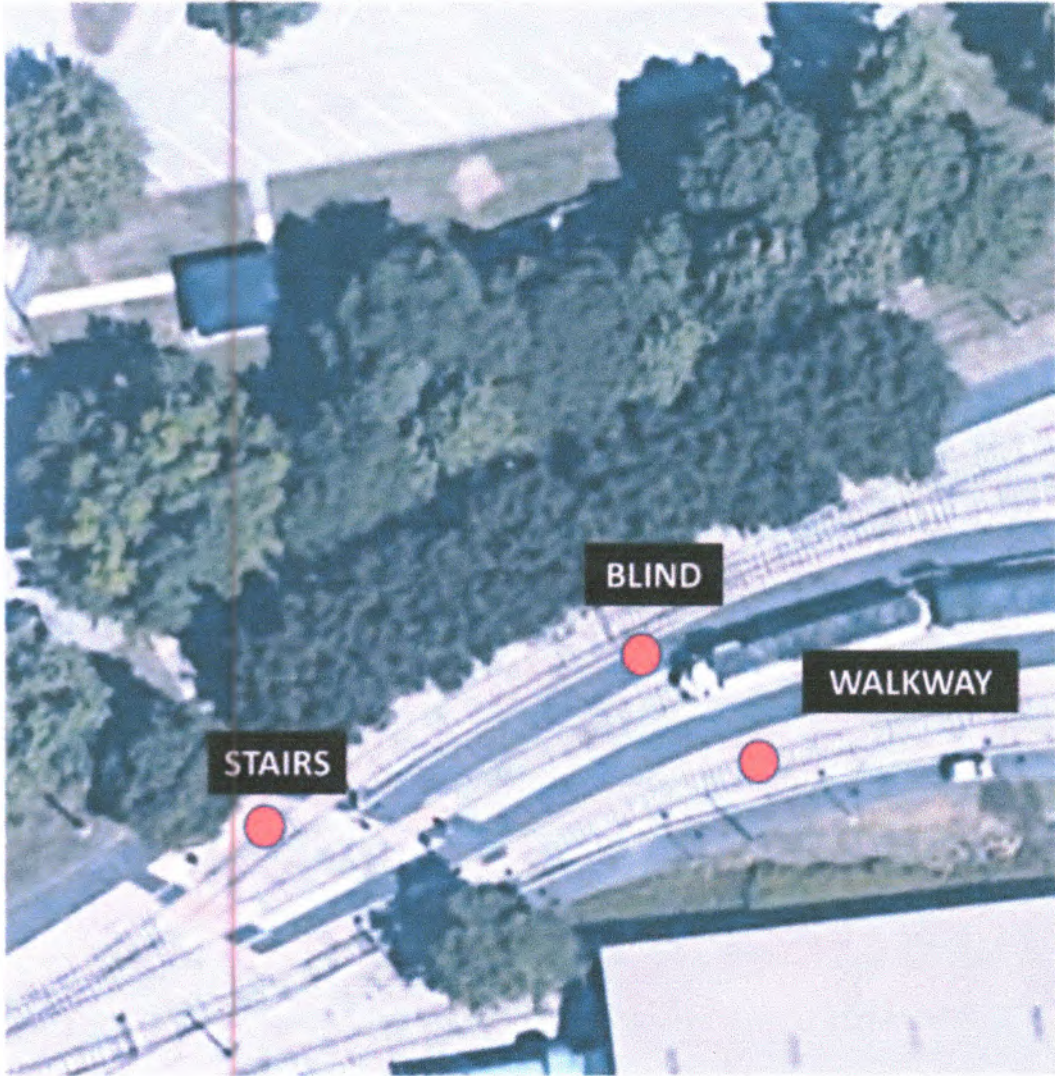
Rails, like all materials, change size as temperature changes. On average, the gap between rail ends at the joints is about  $\frac{1}{4}$ ". During the summer, rails expand and the gap becomes nearly solid. During the winter, as rails contract, the gap can widen to over  $\frac{1}{2}$ ". Sometimes, because of broken joint bolts or other defects, the gap can get much larger. This condition should be reported so it can be repaired.

Railway car wheels are mounted in pairs to solid axles. Typical trolley wheel diameters, when new, range from about 24" to 33". The wheel has a tread which is tapered and a flange which projects below the rail head height.

The rails are placed such that the inside head surfaces are 4'8- $\frac{1}{2}$ " (56- $\frac{1}{2}$ ") apart. This is the Standard Gauge which was adopted by American railroads in the mid-1800s to allow interchange of cars. There is a lot of mis-information about the origin of this dimension, including a story which periodically circulates on the Internet tracing it back to Roman times. This is not accurate and it should not be presented to visitors as fact. The 56- $\frac{1}{2}$ " standard gauge was one of many track gauges in use during the early 1800s and was favored because it was used on many British railways by railway pioneer George Stephenson, and later adopted by British law as the standard.

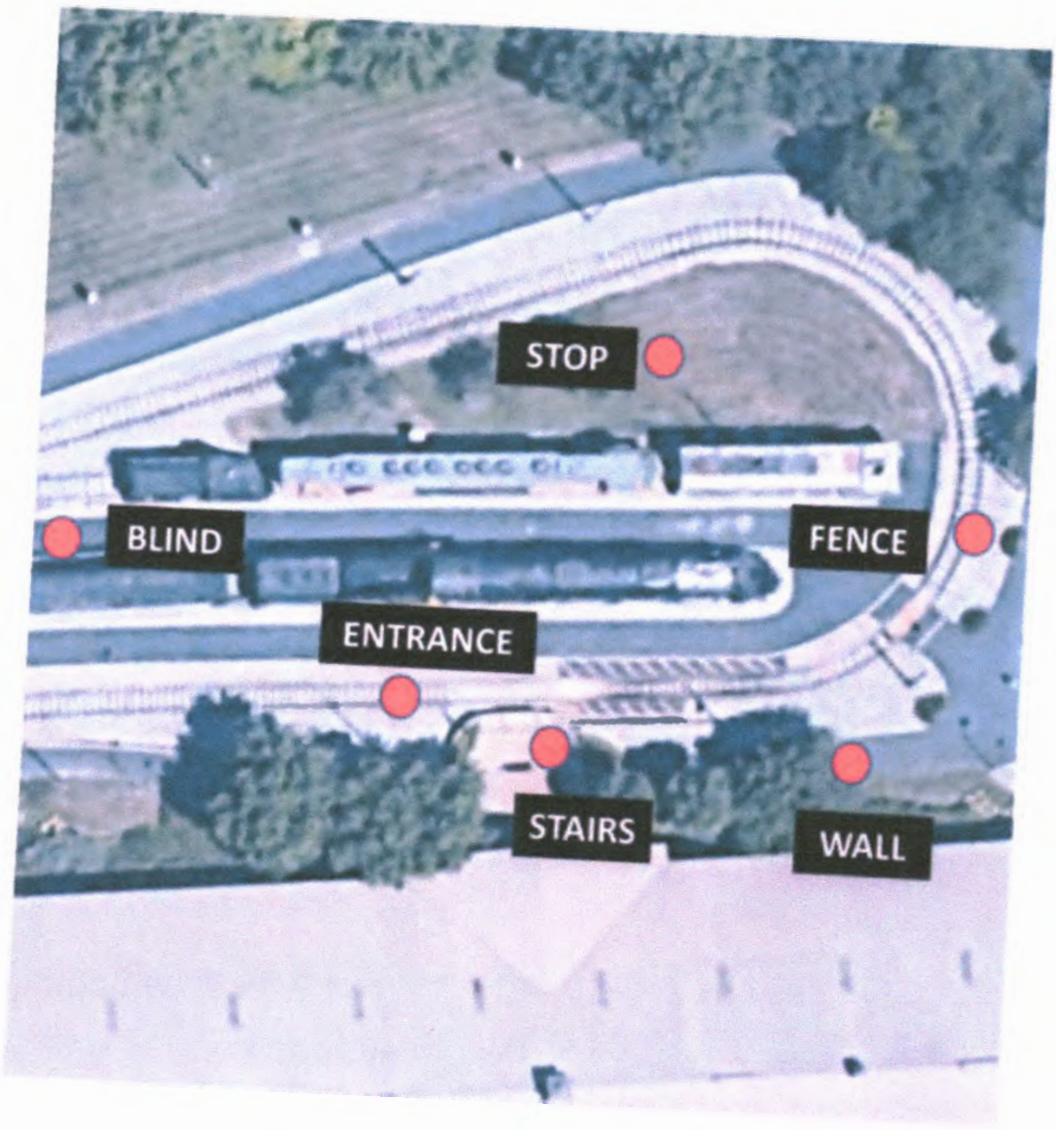
Note that the flanges of the wheels do not normally touch the rails. When the wheels go around a gentle curve, the freedom of movement allows the wheelset to shift towards the outside of the curve. The outer rail is going by faster than the inner rail. Because of the wheel taper, the point of contact with the outer wheel will shift inward, where the wheel diameter is larger, and conversely the inner wheel will shift towards a smaller diameter. This creates a steering effect, and allows both wheels to turn at the same RPM without slipping on the rail.





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# HEAVY PEDESTRIAN TRAFFIC AREAS



## Legend

- Main Line.
- AB Track #1.
- AB Track #2.



# Streetcar Service History

Streetcar use was the dominant means of public transportation in the larger and medium sized cities in the United States in the 1890's. Streetcar travel peaked in the 1920's and declined as the automobile became American's prime means of transportation. World War II slowed the decline in streetcar usage that became precipitous in the 1930's.

After World War II, streetcar use disappeared in direct proportion to the availability of new automobiles and the population shifts from the center cities, to suburbia. The use of all public transit modes: trolleys, buses and subways, as well as intercity trains and buses dwindled. Where there was a need, city diesel powered buses provided a cheaper alternative for the lighter usage patterns.

## Philadelphia Transportation Company Car #2740

Saint Louis Car Company located in the Baden section of North Saint Louis city built PCC Car #2740 for the Philadelphia Transportation Company (PTC) in 1947. The streetcar remained in service in Philadelphia until 1994, a total of 47 years, until it no longer complied with the new Americans with Disabilities Act.

The Museum of Transportation Trolley Volunteers MTTV purchased the car and brought to the Museum of Transportation in 1995. The MTTV group regauged the trucks to fit our rail spacing and performed maintenance in preparation for operations. PCC Car #2740 has performed yeoman service since joining our vintage streetcar fleet in 1998. In 2002 the car exterior was, restored by the MTTV to the original paint scheme it wore in 1947 when delivered to the PTC, 2014 saw PCC #2740 repainted again.

## Saint Louis Public Service Company Car #1743

Saint Louis Car Company also built the Saint Louis Public Service Company PCC car #1743 in September 1946 and it remained in service in St Louis until 1957 when it was leased to the Municipal Railway of San Francisco (MUNI) where it became their PCC #1164. In 1963, the car was formally purchased by MUNI and remained in San Francisco until 1982.

After the MUNI retired the car, they loaned it to the Wisconsin Electric Railway Historical Society's East Troy Museum where it remained rusting and neglected for several years. On February 1, 1990 the MUNI transferred the loan to the Museum of Transportation in Saint Louis and the car moved here. About the same time rumors flourished about that MUNI was in the process of negotiating to sell to a South American trolley company some PCCs including those loaned to museums. In 1990, MUNI, who still held the title to the car traded it to the Museum of Transportation.

PCC #1743 was the first streetcar the MTTV operated for the public at the Museum of Transportation running on the demonstration line along the Abbott Building in the early 1990's. After the purchase of PCC 2740, the MTTV stored PCC Car #1743.

The MTTV's efforts included cosmetic restoration and structural and electrical repairs. After a nearly 10 year restoration efforts PCC Car #1743 returned to service on May 21,

# Streetcar Service History

2016 which coincidentally was the 50th anniversary/ to the day, of the end of streetcar operations in St Louis.

## St. Louis Waterworks Car #10

The Waterworks Division of The City of Saint Louis bought Saint Louis Waterworks Car #10 in 1914 from the St. Louis Car Company. This car, along with two others, provided the means of transporting waterworks employees from the Baden Waterworks to the filtration plant at Chain of Rocks as well as freight to and from the waterworks. Later on it became a popular and inexpensive way for the public to travel to and from the Chain of Rocks Amusement Park.

In 1936, in an economy move, the water department stopped the trolley cars' operations and replaced them with buses. Due to wartime rationing of petroleum fuels and rubber in 1944, the railway operation resumed and the cars ran until April 30, 1955 when cars #10 and #17 operated for the last time.

Cars #10, #11 and #17 were then donated to the Museum Of Transportation. Car #11 was in such a deteriorated condition that shortly after its arrival at the Museum it was scrapped with only the trucks and other minor components saved.

In 1997 the MTTV began the three and a half year restoration of car #10. Everything on the car has been restored. Rebuilt trucks were installed. The traction motors were disassembled and rewired. The car roof was replaced. The wood trim inside the car was removed, sanded down and re-stained. Ninety-eight percent of the interior woodwork is original to the car. The car exterior was repaired and repainted. Everything was done to restore the car to be as it was in the late 1920s. We began operating this car at the Museum of Transportation in June of 2001.

## Chicago Transit Authority Elevated Car #44

When the Chicago Transit Authority (CTA) decided to end streetcar service in Chicago, they sent several of their 1945-1946 Pullman' Company built PCC cars to the Saint Louis Car Company in 1960 to be converted into elevated cars. The new elevated cars used the original trucks, motors, seats and controls from their retired PCC cars.

CTA Car #44 ran in Chicago until about 1992 and the Museum of Transportation Trolley Volunteers obtained the car in 1998. CTA#44 has operated almost continuously since it joined our vintage streetcar fleet. The MTTV repainted the car in the winter 2003.



## SUPPLEMENTAL TOPICS

### LUNCH

When Museum attendance is high or there are passengers waiting to ride, crew members may go to lunch one at a time. **Do not shut the car down for lunch breaks.**

### WEATHER

Crew Members are to keep an eye on the weather. In the case of inclement weather, crew members have the discretion to cancel the entire shift, or end operations if they feel in their opinion it is unsafe to initiate streetcar runs for the day or continue running.

Streetcar operations **WILL NOT** be initiated, or will be shut down immediately if thunder becomes present. Lightning is a definite **NO!** If there is no time to shut the car down, **PARK IT IN PLACE. SAFETY FIRST, ALWAYS.**