



History that connects us.

PENNSYLVANIA TROLLEY MUSEUM

Visitor Services Training Manual

Revised 2024

Mission Statement: The mission of the Pennsylvania Trolley Museum is to preserve and perpetuate its collection of historic transportation equipment, artifacts and archives and utilize the collection and other resources to provide an unparalleled immersive experience that brings the technology and culture of the Trolley Era alive through entertaining, educational and diverse programming.

Vision Statement: The vision of the Pennsylvania Trolley Museum is to enhance the knowledge of transportation technology and culture to educate and inspire future generations of innovators.

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Welcome Aboard!

The Pennsylvania Trolley Museum (PTM) is a nonprofit educational organization and nationally significant trolley museum. We are dedicated to sharing the compelling story of Pennsylvania's Trolley Era history to nearly 30,000 visitors annually through preservation, interpretation, special events, and educational programs. Daily visitors can enjoy a scenic 4-mile round trip ride on an antique trolley, take a guided tour of the Trolley Display Building, explore our interactive exhibits including our trolley simulator, and much more. We also offer an abundance of activities including behind the scenes tours, special events, birthday parties, and trolley operator programs. Educational groups are welcomed to be a part of history through interactive programs that spark history and curiosity about the Trolley Era.

We have more than 130 dedicated volunteers who serve in every capacity. From trolley maintenance, restoration, and operations to special events, tours, education, and archives, there are many ways to get involved. Without our volunteers, our museum would not be around today, in fact, the Museum started out with only volunteers running it. We have experienced tremendous growth in the last 10 years, culminating in the opening of our Welcome and Education Center in November of 2023. Its new exhibit halls, theater, museum store, classroom, and events space will hopefully allow us to share the stories of the Trolley Era with even more people every year. And we're not done yet. Something new is happening at PTM every day, and with your help, we'll be ready for anything that the future holds.

Our Volunteer Team

Of all the volunteer opportunities here at PTM, the two jobs that interact most frequently with our visitors are our Operators and Guides. By operating antique trolleys and sharing the stories of the streetcars in our Trolley Display Building, these individuals are the ones who lead visitors back in time to the Trolley Era. All volunteers are welcome to take on these positions (training classes are offered throughout the year), and we encourage any volunteers serving in one of these roles to try the other!

Operators and Guides should please review the entirety of the manual so that they can learn the best practices for interacting with visitors, understand their responsibilities, and become familiar with the history that they will share with the public. However, all volunteers can review this manual so that they can help make each visitor's experience at PTM the best one possible.

Please note that, as integral parts of our team, all volunteers are considered museum staff members alongside the individuals that are part of our paid staff.

Pennsylvania Trolley Museum History

The Pennsylvania Trolley Museum was formed in 1953 with the goal of preserving and passing down the rich heritage of the Trolley Era to future generations. In the ensuing years, the museum has transformed into a nationally significant trolley museum and heritage site. The streetcar or 'trolley' played a vital role in the growth of 20th century American cities and suburbs.

This high-speed and efficient form of transportation transformed culture, society, and technology until the success of the automobiles brought an end to the Trolley Era. As trolleys were phased out of cities and towns, organizations nationwide were formed to house, operate, and preserve trolleys.

The Pittsburgh Electric Railway Club was formed in 1946 and acquired three trolley cars between 1949 and 1953. With the assistance of the Pittsburgh Railways Company, the three car collection was motored in on their own power to the future site of the Pennsylvania Trolley Museum in Washington County. Over the next seven decades, the museum grew to include a collection of more than 50 trolleys (about 20 of which are fully operational), a trolley display building, a maintenance and restoration shop, and state-of-the-art Welcome and Education Center. The museum depends on a dedicated team of employees and volunteers who are committed to enhancing the knowledge of transportation technology and culture to inspire the next generation of innovators.

Pennsylvania Trolley Museum Timeline

- **1940** - The local chapter of the National Railway Historical Society makes an initial attempt to establish a museum to preserve the legacy of the Trolley Era, but the project comes to an end due to members' war time responsibilities. The first car acquired for the "collection" is lost due to vandalism and scrap drives.
- **1946** - The Pittsburgh Electric Railway Club is formed by trolley enthusiasts who had spearheaded the earlier preservation effort.
- **1949-1952** The group acquired historic streetcar M1 in 1949 and West Penn 832 in May of 1952, both stored at the Ingram Car House.
- **1953** - Pittsburgh Railways Company announces plans to abandon its Washington and Charleroi interurban lines. The club selects a 2000-foot segment of track for the demonstration museum line, including a 900-foot passing siding that intersects the abandoned right-of-way of a coal mine branch on which additional track can be built. The Pittsburgh Electric Railway Club is reorganized as a non-profit corporation and began beginning of a permanent home for the collection.
- **1954** - The first two cars (M1 and West Penn 832), and a third one just purchased (3756), were moved to the site operating under their own power, the final movement over the abandoned interurban line.
- **1963** - Washington County commissioners officially dedicate the Arden Trolley Museum on June 23 and rides are offered to the public.
- **1992** - The name of the museum is changed to Pennsylvania Trolley Museum to better reflect the collection's scope.
- **1994-1995** - The museum's line is extended to a loop near the village of Arden Mines and the first turning loop is completed at Arden in 1995.
- **2003-2004** - A line extension adds a half-mile of track that largely follows the original interurban line back toward Pittsburgh and a second loop (McClane) is completed.
- **2005** - A 28,000 square-foot Trolley Display Building (TDB) that houses more than 30 cars in a protective environment opens to the public.

- **2007** – State of the art substation is completed to provide a stable power supply and electricity cost savings.
- **2011**—The West Campus Events Room is constructed next to the Car barn to serve as a rental space for birthdays and meetings as well as used during special events.
- **2013**—Artifact Preservation Building (APB) was constructed as a storage area.
- **2015**—Wexford Station arrives at PTM.
- **2017**—Wexford Station is restored to a historic trolley station and opened to the public as an exhibit space located adjacent to the TDB.
- **2018**—PTM announced the *On Track for the Future* capital campaign to construct an immersive heritage complex, including an 18,000 square-foot Welcome and Education Center, Volunteer Boulevard, Barry Stout Park, and an expanded parking lot.
- **2020**—PTM purchased 320 Reliance Drive to serve as the new archival, maintenance, office, and storage space.
- **2023**- PTM’s Welcome and Education Center opens to the public after more than 2 years of construction and decades of planning.

Pennsylvania Trolley Museum Core Values

Customer First Orientation: We make decisions and measure every outcome based on how well it meets our customer’s, member’s and or visitor’s needs.

We achieve this when we create, communicate, and articulate a clear WHY statement; make low-cost performance key to survival; analyze customer wants and needs. This will provide positive customer feedback, both internal and external.

Teamwork and Collaboration: We achieve more and greater success when we collaborate and work together.

We achieve this when we think and work as one team; cooperate; build bridges across departments and teams. This will cause us to trust increasingly in ourselves and in one another.

Effective Communication and Listening: We understand that communication starts by listening and understanding different perspectives.

We achieve this when we understand that communication starts by listening and understanding different perspectives. We should get all information before deciding; solicit help; obtain counsel; do not gossip; value different views; ask for clarification; seek buy-in; participate in meetings; repeat key messages. Increasingly hear and you will then be heard.

Proactive Leadership: Do the right thing while achieving success by enabling others.

We achieve this when we hire and assign tasks carefully; provide training; model learning behavior; agility; relentlessly pursue success; innovation; reward and recognize; focus on quality; encourage creativity; do not blame for mistakes; simple measures. You will know you are succeeding when you can fully integrate continuous improvement into your everyday work life.

Respect: We value everyone and treat people with dignity and professionalism.

We achieve this when we understand self-worth; seek self-knowledge; show concern; support and appreciate others; never bully; adhere to ethics; recognize life responsibilities; see the lighter side; accept challenges. Following this rule and we will increasingly recognize our own and others' self-worth.

Trust: We believe in each other and do what we say we will do.

We achieve this when we seek and share truth; rely on others; understand self-worth; seek self-knowledge; exercise proactive leadership; serve those who serve you; relationships build trust and with trust comes loyalty. Likewise, this will cause us to increasingly recognize our own and others' worth.

Visitors are our priority!

We want to ensure that all visitors have an enjoyable and rewarding educational experience. As a volunteer, you can help the museum achieve that goal! We acknowledge that our visitors come from all walks of life and bring different interests, motivations, and prior knowledge to their museum experience. Our visitors range from those who have never ridden a trolley to trolley enthusiasts and rail fans. Anticipate and be prepared to respectfully address the various needs of our visitors.

Remember that as a volunteer, you represent the Pennsylvania Trolley Museum. Your words, actions, and behaviors, both positive and negative, impact the visitor experience and reflect upon the museum. The visitor's experience can determine whether or not a visitor will return to the museum in the future. Some key things to consider when interacting with visitors:

1. Avoid all political conversations. There is no place or time where speaking politics with the public is necessary. Whether a visitor says something that you agree or disagree with, nicely redirect the conversation. Remember, you are representing the Museum not your own personal views when you interact with visitors.
2. Another topic to be avoided is religion. Small jokes could greatly anger a visitor or fellow volunteer/staff member. Always remember to be considerate of others.
3. If a comment, gesture or etc. could be perceived in a way that could be misconstrued as (or blatantly is) sexual harassment, AVOID IT. These things should never take place in front of visitors, towards visitors or with other volunteers or staff.
4. Refrain from negative answers. For example, instead of just saying "I don't know", say "I don't know, but let's find out!" and help find the answer or direct them to a resource (a business card for a staff member, a book in the gift shop, our website).
5. Prioritize visitors. We all get busy and sometimes the first thing you want to say is "I'm busy right now". This is not a good response. They are asking you a question or need help and have recognized you as some type of authority. Best practice is saying something like, "I'm currently busy, but I would be happy to get you someone that can assist you properly." That being said, this should only be used when the project you are working on is critical and you are unable to stop what you're doing.

6. When confronted by a visitor with a conflict, do not dismiss the issue by saying “it’s not my problem” or “it’s not my fault”. Furthermore, do not make up excuses for the issue. Even if you think the visitor is incorrect, apologize, and help solve the issue.
 - a. For example: Susan was walking Timmy to the restroom. As they are walking, Timmy trips on a wheel chock that was left on the sidewalk. Susan brings this to your attention.
 - i. What NOT to do: “Well, we use those to prevent the Trolleys from rolling back. Sometimes we put them there when we are ready to move the trolley. You need to watch where you are going!”
 - ii. What you SHOULD do: “Thank you for bringing that to our attention, is your child OK? We will move that off the sidewalk to prevent others from potentially tripping.” *Please note: If the child skinned his knees or needs assistance, fill out an incident report (located at the front desk). Even if you just offered a Band-Aid and they refuse one, you should fill out a report with as much information as possible. As a reminder, people can refuse to provide information for incident reports.
7. Avoid using insider lingo such as “TDB”. Be descriptive, visitors don’t know as much about the museum as volunteers do.

Keeping Visitors Safe

The first priority of volunteers at all times is ensuring the visitor’s safety in a friendly, helpful way. It is important to bear in mind that the museum includes an active railway. As with any active railway, one should expect equipment and cars to be moving at any time. In addition, there are trip hazards, weather hazards, open pits, and other obstacles that the volunteers should be aware of at all times. Volunteers are responsible for leading visitors around or away from these hazards or cautioning visitors about them whenever necessary. In order to ensure the safe operation of our programs and help ensure that visitors are not surprised by the elements of our unfamiliar environment, be mindful of the following:

1. Visitors are welcome to explore the Trolley Display Building (TDB) without the direct supervision of a guide. However, there must always be a PTM volunteer or employee in the building while visitors are inside.
2. Caution visitors about any potential hazards, including trip hazards, moving equipment, dirt, noise, and the age of the cars.
3. Try to place yourself between tour groups and obstacles such as drop-offs, curbs, pits, exposed electrical and mechanical equipment, and active tracks.
4. When leading or talking to a group of visitors, advise them to stay with the group, especially when visiting behind-the-scenes areas or near operating tracks
5. Advise tour participants to stay with the group—especially in the shop or TDB, or near operating tracks.
6. Seek safe shelter for your tour participants in the event of an electrical storm.

7. If you see visitors engaged in unsafe activity such as climbing on equipment, fooling with mechanical gear, or getting too close to electrical equipment, respectfully but firmly ask them to stop at once.
8. In any operating environment, the volunteers must defer to the dispatcher or operating crew in order to ensure everyone's safety. Elsewhere on the grounds, volunteers should defer to staff or to volunteer department managers, especially during events and emergency situations.

First Aid: Please take note of the locations of the First Aid Kits in the Trolley Display Building (on the wall to the right of the front door) and in the Welcome and Education Center (under the desk across from the theater).

Fire Extinguishers: Please also take note of the locations of the fire extinguishers at the East Campus including the one in the hallway before the Welcome and Education's breakroom at the ones at every door to the Trolley Display Building.

As our new Safety Committee works to develop Standard Operating Procedures around safety and emergency situations, we will provide you with those SOPs.

Visitor Expectations

When visitors come to the Museum, their expectations are set by many factors. Things like our website, social media, advertisements, and even their interactions at the admissions desk/store counter are our ways of trying to ensure expectations are accurate. However, depending on a visitor's previous interactions with the Museum, stories of other people's visits, and their own preconceived notions, visitors may have expectations that not only are vastly different from what they will actually experience, but also vary from person to person. As a visitor experiences the Museum, you can help adjust those expectations by continuing to communicate with them and ensure they are aware of all we have to offer.

Additionally, expectations of visitors will continue to change as their visit progresses. For example, some visitors may start by watching *Last Chance Trolley*, our introductory film that allows them to gain some knowledge about the trolley era in Pittsburgh. Other visitors may not watch it until later in their visit, some may not watch it at all. In addition, the 20th Century Electric Railway Theater plays a short video summary of the construction of the Welcome and Education Center and an overview video of the Terrible Trolley project. These videos may alter visitor expectations as they may expect to see the Terrible Trolley, or they may have questions about the Welcome and Education Center (including questions about our solar energy system).

Understanding the complexity of these expectations can help you to create a positive and memorable experience for our visitors.

Communication (Language-Barriers and Visitors with Disabilities)

Fifty-seven million Americans have mobility, sensory, neurological, intellectual, or another type of disability. In addition, over sixty-seven million Americans speak a native language other than English. This group is diverse and full of enthusiasm for museums. These visitors are just as important as other visitors and deserve the same amount of respect and attention.

1. **Treat everyone as a valued visitor.** People with disabilities are not to be pitied, people who speak different languages are not to be discriminated against.
2. A **mobility device** is considered part of an individual's personal space; do not lean on it or move it without permission.
3. When you offer assistance, wait for the individual to respond; **don't make assumptions**, listen, ask for instructions, and respect the individual's wishes.
4. **Speak directly** to the individual with a disability; don't avoid eye contact or speak only to their companions. Be patient and give your full attention to individuals who may have difficulty communicating; some people need more time to express themselves.
5. If you don't understand someone, **don't pretend** you do; ask questions that will help you understand.
6. When speaking with a person who is deaf or hard of hearing, speak clearly, face the person, and don't cover your mouth. You should **not shout or yell**. This also goes for people who speak different languages. If speaking through an interpreter, direct your attention to the individual, not to the interpreter.

7. Keep **paper and pen** handy for exchanging notes with individuals who are deaf, hard of hearing, have speech disabilities, or other disabilities that affect communication. For visitors who speak other languages, consider using a **translation app**. We all have phones in our pockets- simply pulling it out can improve a visitor's experience. If you do not have a smartphone or the ability to use your own device - please ask an employee to borrow an iPad from the Education Department.
8. When speaking with a person who is blind or has low vision, identify yourself and others who are with you, and let the person know if you are leaving. **Use specific words** to give information or directions (remember the person may not be able to see you pointing, nodding, etc.) and offer to read printed material out loud if necessary.

Nonverbal Communication

Non-verbal communication is important as it puts more emphasis and reinforcement to the things being said. It also allows you to make a visitor relaxed and open to having a good time. Non-verbal communication is one of the most important windows into the experience our visitor is having. We can use these social cues to infer if they are enjoying their visit or if they are unhappy.

1. There is nothing like a **smile** and pleasant face to greet a visitor, especially if he/she has a complaint. A smile and polite conversation can immediately disarm a disgruntled visitor. Facial expression sets a positive tone before you even begin speaking. A relaxed or pleasant facial expression is ideal most of the time.
 - a. You should also consider your facial expressions when a visitor asks a question or makes a comment that you may consider silly or off-topic.
2. Make **eye-contact** with visitors while you are speaking. This creates better engagement.
 - a. Pay attention to where a visitor is looking, they might look at the item you are talking about, but they will also make eye contact. If they do not, they are likely uninterested, and you should consider switching topics.
 - b. Please do not force eye contact if a visitor is hesitant to make it, as some individuals, including those who are neurodivergent, may feel uncomfortable doing so.
3. **Personal hygiene** has a big impact on your visitors. Dirty hands, messy hair and poor dress can mean the loss of an otherwise happy visitor. When interacting with visitors, you should follow the dress code set forth by the operations department.
4. When listening to a visitor, use your body language to engage in **active listening** techniques. For example, you may slightly lean towards your visitor and nod your head ever so slightly to indicate you are listening.
5. **Body Language** in general can be very important in interactions with visitors. Try to have an inviting body language. Crossing your arms or looking disengaged is very off-putting. Slumping in a chair or leaning against a wall while interacting with a visitor are sure signs you are not interested in the visitor. Your pose or posture should express attention, friendliness, and openness. Use hand movements to emphasize what you say and to emphasize your feelings.

- a. You can also learn about a visitor's feelings by their body language. If they are shifting their weight back and forth or crossing their arms - they might be disengaged, and you should consider switching topics.
6. If another person approaches you and invades your **personal space**, you automatically move back without thought. You are uncomfortable. Leave adequate distance between you and your visitor. Adequate space is important to making visitors feel secure and safe.

Disengagement

It might seem counterintuitive, but it is sometimes necessary to disengage from an individual so that you can best serve the needs of all visitors. If you are rushed to get to lunch or a break, you might miss that break or feel rushed all day. This will lead to you being unable to be at your prime. A successful disengagement from a visitor often involves responding to them in a way that partially answers their question and also encourages them to engage with the museum in another way (i.e. our website, social media, etc.). This allows us to retain them as fans/visitors for a longer time. Ways to politely disengage from someone include:

1. While talking, **interrupt yourself** instead of interrupting them. If you can wait to excuse yourself from people until you're the one talking, they don't feel like you cut them off.
 - a. Example: "This car was built in 1932 by the Brill Company - oh, I am so sorry, I just saw the time - I need to go prepare for my next tour."
2. **Tell the truth.** People understand that you deserve a break too.
 - a. Example: "I would love to chat some more, but I have GOT to step away to drink some water before my next tour."
3. **Walk and Talk.** It's Newton's first law of motion - an object at rest, stays at rest but an object in motion...

Keep in Mind: It is important to be polite - disengaging is not about being rude, it can be done nicely. It is important to be flexible - some visitors require more attention than others. Your job is to provide an engaging experience for all our visitors, not just the ones most interested in conversing with you

1. You **set the tone** for the conversation.
 - a. Example: A visitor asks a question about trolleys that ran in Toronto - even if you know the answer - you can disengage from that by mentioning it is out of our site's purview.
2. Answer questions in a **close-ended** manner.
 - a. Example: A visitor asks, "what year did trolleys stop running in Pittsburgh?"
 - i. Correct Answer: "1985"
 - ii. Correct (but too long) Answer: "The last official trolley ran in the streets of the Golden Triangle on July 7, 1985, but the modern light-rail system is very similar."

3. **Give them resources** away from yourself.
 - a. Example: A visitor asks a question about the collection; we have a great section on our website describing each car.
 - b. You can hand out social media cards or employee business cards whenever you need to disengage.

De-escalation

While it is unlikely that we will have a lot of angry or upset visitors, there is always a possibility of it. You should be prepared on how to handle those situations. If the visitor is violent or uncontrollable, you or another staff member should call the police. If you do not feel the police are needed but you feel afraid or uncomfortable, find another volunteer or staff member to assist you.

1. **Move to a private area.** If it seems safe to do so, it may be helpful to move the visitor away from other visitors.
2. **Be empathetic and non-judgmental.** Focus on understanding the person's feelings. Whether or not you think those feelings are justified, they're real to the other person.
3. **Respect personal space.** Allowing personal space tends to decrease a person's anxiety and can help prevent acting-out behavior. Do not block exits. When people are upset, their personal space boundaries tend to expand.
4. **Keep your tone and body language neutral.** The more a person loses control, the less they hear your words – and the more they react to your nonverbal communication. Relax your body and keep your hands in front of you, palms facing outward.
5. **Avoid overreacting.** Remain calm, rational, and professional. While you cannot control the person's behavior, how you respond to their behavior can affect whether the situation escalates or defuses. Empathize with feelings, not behavior.
6. **Ignore challenging questions.** Answering challenging questions often results in a power struggle. If a person challenges your authority, redirect their attention to the issue at hand. Ignore the challenge, not the person.
7. **Set boundaries.** If the person's behavior is belligerent, defensive, or disruptive, give them clear, simple, and enforceable limits. Offer concise and respectful choices and consequences.
 - a. Possible response: "It's important for you to be calm in order for us to be able to talk. How can that be accomplished?"
8. **Choose boundaries wisely.** Carefully consider which rules are negotiable and which rules are not. If you can offer a person options and flexibility, you may be able to avoid unnecessary altercations.
9. **Allow silence.** By letting silence occur, you are giving the person a chance to reflect on what's happening and how to proceed.
10. **Allow time for decisions.** When a person is upset, they may not be able to think clearly. Give them a few moments to think through what you've said.

Dealing with Diverse Audiences

Mixed interest groups:

- Consider the visitors' *experience* as opposed to age.
 - An adult who has never seen a trolley has no more experience than a child who has never seen a trolley. Conversely, some children are extremely knowledgeable about transportation and their experience should not be discounted.
 - Allow small children to be excited about the trolleys, even if they call it a train. You can gently explain the difference without diminishing their excitement.
- Both individuals need the basics first. The difference lies in their ability to process the information.
 - The information you give children is going to work with the adults in the group, but the reverse may not be true.

Children:

- Remember that even the littlest visitor is part of the tour.
- Engage with children and make direct eye contact
- Ask questions to help draw them in, such as: "What color is this trolley" or "Can you read this number for me." If they ask a question, you can lower your body to their level and make eye contact.
- The younger the child (especially under 4) the more they learn by *doing*. They can board the trolley, ring the bell and answer simple questions like "Have you ridden a trolley before?"
- From 6-9, they still like to do things but can also handle more complicated questions. Talk to them like young adults.
- Teenagers are half-child, half-adult. Speak to them as young adults but do not insist on their participation. They may be listening intensely even if it doesn't look like it.

Rail Fans:

- A persistent rail fan may "know" everything or only be interested in a specific car, or may try to monopolize a tour.
- If it becomes a problem, offer to talk with them afterward, or if another volunteer is available, offer them a separate conversation.
- Encourage them to come during other events at the museum, such as the West Penn Trolley Meet, or to schedule a behind-the-scenes tour.

Operator Responsibility Outline

During training, operators will receive many instructions about operating procedures including those about dress, opening and closing procedures, and safety measures. The following is a short outline of procedures specific to interacting with visitors.

1. **Trolley Display Building:** After arriving at the East Campus with the day's cars, please ensure that the TDB and Wexford are ready for visitors. Unlock and disarm the buildings if these tasks have not been completed yet. Please offer to help the guide on duty raise the trolley poles on the cars with open doors (and offer to help lower them at the end of the day).
2. **Ride Times:** On normal operating days, City Trolley Rides (to McClane Loop and back) occur at the 45-minute mark of every hour and Interurban Trolley Rides (to Arden Loop and back) occur at the 15-minute mark of every hour.
3. **Boarding the car:** If waiting for a car to arrive, ensure that passengers are in safe areas (on the bricks), away from tracks, and any moving equipment.
 - b. Assist those who need it in boarding. Trolley steps are sometimes higher than normal steps, so please remind visitors to use caution when boarding and disembarking the trolleys. Avoid assuming the level of help needed and never place hands on a visitor without their consent. **Offer an arm instead of a hand.**
 - i. On 1758 (open car), BOTH operator and conductor assist with boarding and unloading of passengers
 - c. Ways to Assist in Boarding
 - i. Metal one-step stepstool
 - ii. Wooden angled three steps
 - iii. Manual wheelchair lift
 - iv. Offer a forearm/elbow to help steady a visitor
 - d. Important to note: The conductor/tour guide is always the last one to board the trolley.
4. **Ride Times:** On normal operating days, City Trolley Rides (to McClane Loop and back) occur at the 45-minute mark of every hour and Interurban Trolley Rides (to Arden Loop and back) occur at the 15-minute mark of every hour.
 - a. Introduce the operations team. If time allows, feel free to say a sentence about the difference between a motorman and a conductor.
 - b. Share a few interesting facts about the car: where it came from, what type of car it is, distinguishing features, etc.
 - c. If applicable, you may punch tickets before or during the trolley ride. If you like, explain to each group that each conductor had their punch, like a signature, with its own pattern.
5. **Safety Speech:** Mandatory talk given BEFORE the ride begins.
 - a. Remain seated at all times while the car is in motion. The operation team will let passengers know when it is safe to stand and exit the trolley.
 - b. Keep your body and personal items inside the trolley at all times. Windows may be open to provide air. Please advise visitors not to close or open any window without assistance.

- c. 1758 (Open Car) safety measures:
 - i. Keep your body and personal items inside the open sides of the trolley at all times. Don't be funny about the safety speech. We want visitors to take it seriously. Also, don't get graphic.
 - ii. Young children must be accompanied by an adult and sit in the middle of the bench with adults sitting on the outside of the bench.
- 6. **Trolley Ride:** You will not be able to address passengers as a group while the trolley is in motion due to the noise. Visitors will also want to enjoy the ride. Be friendly and available to answer questions if needed.
 - a. Ways to Assist
 - i. Metal one-step stepstool
 - ii. Wooden angled three steps
 - iii. Manual wheelchair lift
 - iv. Offer a forearm/elbow to help steady a visitor
 - b. Important to note: The conductor is always the first one off the trolley to offer assistance to the visitors.
 - c. Remember to welcome visitors back to the museum. Thank them for visiting and remind them that tickets are good for rides all day. Encourage them to visit the Trolley Display Building and Wexford during their visit.

Guide Responsibility Outline

1. **Opening the Museum:** Once you arrive at the museum, you should make sure that the Trolley Display Building (TDB) and Wexford are ready for visitors. If the two buildings have yet to be unlocked and disarmed, complete these tasks, or ask another volunteer or employee to do so. Make sure that the lights in both buildings are on and raise the poles of all the trolleys in the TDB with open doors (please ask for assistance with this task if you have difficulty raising trolley poles). Finally, you should also grab a Walkie-Talkie from the break room hallway to stay in touch with that day's staff and volunteers and, if you'd like, a voice amplifier.
2. **Greeting Visitors:** Welcome all visitors who enter the TDB. You may choose to briefly introduce yourself and the collection or you can just remind visitors of tour times or that you are here to answer their questions, but always make sure you tell them about our safety rules:
 - a. Visitors are only to board trolleys that have their lights on.
 - b. No food or drink is allowed on the trolleys.
 - c. Children must stay in the sight of their parents at all times and refrain from running. We also recommend that parents hold their children's hands when boarding or deboarding a trolley.
 - d. Ask that visitors please use caution boarding or deboarding the trolleys.
 - e. Ask that visitors please do not touch operator controls in any of the trolleys.
3. **Tours:** The daily schedule offers tours at the top of every hour. If the museum is busy, expect for an announcement to be made over the loudspeaker a few minutes prior to every scheduled tour time. Be prepared to greet the visitors gathered for this tour at the main entrance of the TDB. However, you are also welcome to adjust this schedule as needed, for example:
 - a. On slow days, you may offer to give tours to visitors whenever they enter the building.
 - b. If a large group deboards a trolley on Volunteer Boulevard and enters the TDB, you can offer to give a tour to them.
 - c. In either of these scenarios, please make sure that you are available at the main entrance of the TDB at the top of the hour in case other visitors are waiting for a tour.
4. **Breaks:** A museum employee or volunteer will relieve you for your lunch break. Guides may take other breaks as needed, but please make sure there is always someone on duty in the TDB. If you need a break and no one has come to relieve you, please radio the employee currently on visitor services duty.
5. **Closing the Museum:** At the end of the day, you should put all the trolley poles in the Trolley Display Building down (Again, please ask for help with this task if you require it.). Ensure that there are no visitors left in the TDB and Wexford, turn all lights off, and then lock and arm the buildings (or inform a staff member that they are ready to be locked). Please return walkie-talkies and voice amplifiers to their home.

Tips for Being a Great Guide

1. **Be personal.** No matter how much we love streetcars, it's a fact that people connect with people. So, it's good to have a few personal anecdotes ready, even if they're just about past tours you've done. You'll build a more personal connection to your group and create a memorable experience.
2. **Tell a story.** Make sure you have a few fun and compelling stories to tell about what you're looking at. People are more likely to feel engaged when they are listening to a story, rather than a list of dates and names.
3. **Don't worry about being perfect.** People don't expect you to be perfect. Set the stage for human imperfection by acknowledging that people who may know more than you should speak up and share their knowledge with the group. The more interactive the tour is, the better!
4. **Do some research.** Check your information often. You are the face of the museum and visitors will look to you as an authority and ask questions. It is great to shadow more experienced tour guides, but we encourage you not to simply copy from them. Take the time to ask them about their sources and experiences. It is so easy to simply say something because you heard someone else say it. The game "telephone" (where everyone repeats the sentence in a whisper to each other and then at the end it's an entirely different sentence) happens a lot in museums.
5. **Tell the Truth!** This is an acceptable answer: "I am sorry, I don't know the answer to your question, but let's try to find out!" It is better to admit you don't know than to be caught making it up. The visitor deserves the truth, and will forgive you for not knowing it, especially if you are willing to help them find out.
6. **Chat them up a bit.** Before a tour starts, talk to people about where they are from or what interested them in visiting. People love to talk about themselves, and it gives you a chance to do some callback later. For example, if a visitor tells you they are from Cleveland, you can make sure to specifically talk about the Shaker Heights car.
7. **End on time.** (Or try very hard to.) Try like crazy to end on time. Nobody wants to feel like they are in tour jail. Tours on paper always seem too short and on the ground are always too long. A lot of visitors ask how long it is going to take because they have other plans or are unsure they can withstand a long tour.
8. **Be Flexible.** If you find that visitors are disinterested or are asking questions that are out of your normal order, try to change it up a bit or be creative in your way of asking them to hold those questions.

5 Key Skills to Utilize

As the true backbone of any museum, guides bring the magic and keep the visitors coming. However, it's not a job that just anybody can do. It's a unique position that requires a good memory, the ability to engage and read an audience, and, of course, a little bit of theatrics. Whilst it's true that no two tours are the same, there are some common traits which help tour really stand out.

1. **Communication:** A good guide is articulate, easy to understand, has the physical capabilities to command attention and project their voice across potentially large groups of people. They should also be able to communicate one on one, answer questions calmly and remain approachable even when under pressure. It's a big ask, but these qualities are what really determine how memorable your tours will be in the long run.
 - a. This includes difficult communication situations. For example, visitors who speak other languages or visitors who have disabilities. Use Communications (Language Barriers or Visitors with Disabilities) Tips to ensure that all visitors feel respected and understood.
2. **Energy:** Positivity breeds positivity and negativity breeds negativity. Maintaining a high energy level and a positive outlook throughout the day keeps visitors interested and involved. Low energy levels affect everything from communication to visitor services and it will affect the energy levels of your visitors.
3. **Passion:** It's more than just addressing crowds, answering individual questions, handing out advice, problem-solving, etc. all whilst attempting to hold the attention of your visitors. Having a passion for the work is key. Visitors will not remember all the specific facts you tell them, but they will remember how they felt when you told them.
4. **Sense of Humor:** Your visitors might be there for the history, but anyone can lose interest when the facts are presented in a dry and humorless way. A little humor brings life to any tour, dramatically increases enjoyment levels, and helps to relax your visitors into their experience.
 - a. There is a caveat here that not all visitors will appreciate your jokes or candor. Make sure you pay attention to non-verbal clues that show your visitors are uncomfortable. If they do not laugh at the first joke, consider cutting the humor out of the tour.
5. **Professionalism:** Dealing with high-pressure situations, visitors from different cultures and backgrounds, large groups, and other issues can be overwhelming. It is important to maintain control. If you follow disengagement tips, you can give yourself more break time to ensure you are not getting burnt out. If you follow de-escalation tips, you can try to make sure a visitor remains calm.

The Basics of Tours at PTM

Objectives:

- Keep our visitors safe!
- Ensure the public enjoy themselves
- Interpret the Trolley Era to our visitors using all of the resources available.
- Provide a brief yet informative tour about the Trolley Era.

Types of Tours:

- **Standard Tour:** Tour Guides provide an overview of the Trolley Era utilizing the collection of trolleys in the Trolley Display Building. This tour should last about 20-30 minutes.
 - Standard Tour Theme: **Trolleys were a technological development that changed the landscape and culture of 20th century America.**

- Trolleys played a vital role in the growth of 20th century American cities and suburbs.
- Trolleys were a high-speed and efficient form of transportation that transformed culture, society, and technology until the success of the automobiles brought about a decline in trolley popularity.
- Trolleys were a part of everyday life and people depended on trolleys to get to work, school, entertainment, visit family, shopping, etc.
- Group Tours: The Museum offers a private tour for groups of 20 or more. All group tours are pre-registered and are listed on the operation schedule. These tours could be standard tours or focus on a specific topic such as location or car based on the interests of the group. These tours should last about 30 minutes but can occasionally go a little longer or shorter depending on the group's time restraints.
- Extended Tour/Deluxe Tour: These tours include an extended tour of the Trolley Display Building. It can also include a look into the maintenance areas. These tours are by reservation only. These tours should last about 60 minutes but can occasionally go a little longer or shorter depending on the group's time restraints.
- Student Groups: The Education Department books educational programs and tours for student groups. Additional training is required for field trips. The length of these tours and programs vary. If you are interested in helping with field trips, scout programs, summer camps, or other youth programs, please reach out to Jocelyn.

Things to Keep in Mind:

- Remember the theme: Trolley Era
- Don't try to cover every car or every fact
- Avoid highly technical language unless asked, and avoid insider language (i.e. visitors don't know what TDB means or what Richfol is)
- Make notes on things you want to say and use them until you can work without them. It's ok to use notes or an outline to help guide you through the tour learning process!
- Visit the Trolley Display Building (TDB) and look at the cars. Things can move or change order so make sure you are prepared.
- Practice and observe tours given by experienced guides.
- It is encouraged to adapt your tours as you learn new information and get feedback from visitors.
- While there is an outline here, it is a structural guideline. You can weave your story in a way that works best for you to present it.
- **Large Groups**: If a group tour or field trip is exceptionally large, they will be divided into smaller groups and there will be a planned rotation to ensure that everyone has a positive experience."

Content Outline

Currently, the flow of the tour goes from the front left-hand side of the Trolley Display Building, down the first aisle, back up the second aisle, and finishes in Wexford Station.

1. First Stop - Near Horsecar (3 to 3 ½ minutes)
 - a. What was life before the Trolley Era? (Trolley Era approx. 1880-1940) Second Industrial Revolution or Technological Revolution, approx. 1870-1914
 - i. Large cities or towns surrounded by farmland; no suburbs as we have today
 - ii. Transportation options: walk, horse, carriage (stagecoach, omnibus, etc)
 - iii. People limited where they could work and live
 - iv. Society not dependent on electricity as a power source
 - b. Horsecars: 1880s
 - i. Got people quite literally “out of the mud” by using metal wheels on rails in the street
 - ii. Pulled by teams of horses or mules
 - iii. Slow: about 5 mph, up and down the hills of Pittsburgh
 - iv. Costly: food, drink, shelter, medicine, shoes, etc. for horses
 - v. Messy: Horse droppings EVERYWHERE
 - c. Frank Sprague:
 - i. Created a system of a spring-loaded pole and wheel; when the wheel touched the electrified overhead wire, it brought power to the trolley
 - ii. Successfully implemented in 1888 in Richmond, Virginia
 - iii. Electric railways service opened in Pittsburgh in 1890
2. Second Stop - Near High Floor Car (1 ½-2 minutes)
 - a. High Floor Car: 1900s-1910s
 - i. Electric streetcars become a way of life; first time many people are seeing electric lights
 - ii. Large motors and therefore large wheels-trucks to power the car up and down the hills of PGH; still slow maybe 10-15 mph
 - iii. Difficult to board easily due to high step (hence high floor car); think about what women are wearing during this time and societal norms: long skirt, impolite to show ankle
3. Third Stop - Near Low Floor Car (1 ½-2 minutes)
 - a. Low Floor Car: 1920s
 - i. Smaller, but still powerful, motors and trucks
 - ii. Easier to board thus making each trip faster and reducing labor costs
 - iii. Used as interurban cars; connecting cities and towns; increased the sphere of travel for people
4. Fourth Stop - Near PCC Car (2-2 ½ minutes)
 - a. PCC Cars: 1929-1936, modified until 1952

- i. Presidents' Conference Committee (PCC) cars are patented design attempt to modernize trolleys to increase ridership during a steep period of decline in the 1920s due to the emergence of the automobile.
 - ii. Pittsburgh was one of the first cities to operate the new cars in revenue service beginning in January 1937. At one time the city had 666 PCC cars and they ran in Pittsburgh until 1999 (4004!).
5. Fifth Stop - You can pick and choose a couple of these depending on your group and what you think they will find interesting (about 1- 1 ½ minute for selected points - you will not have time to cover all of them so pick a few). You may choose to weave some of these into other stops rather than making them a separate stop. No matter what, make sure you leave time for Wexford Station.
 - a. Single-Ended vs. Double-Ended Cars
 - i. Ability for forward operation at either end of the trolley; "changing ends"
 - ii. Loops existed since horse car days, but became very popular in the 1920s, 30s and 40s because they saved equipment costs by eliminating a set of controls and a pole, and reduced dwell time at the endpoints of each route. They also kept the motorman from having to go outside to change ends during bad weather.
 - b. Peter Witt door arrangement
 - i. Passengers boarded at the front door and left through the center one, where a conductor collected fares.
 - ii. Passengers who hadn't paid yet waited in the front section so the car could get underway while fares were still being collected.
 - iii. Boarding at the front also enabled loading before an intersection, so the car could take advantage of stoplight time, and again, get underway sooner.
 - c. Inter-city vs. Interurban cars
 - i. Most trolleys operated within cities, traveling between neighborhoods in or along streets. Most passengers were commuters to workplaces that changed shifts at the same time, generating traffic spikes.
 - ii. City cars were usually built for capacity and ease of loading. Their evolution over time reflects improved technology and attention to attracting riders, response to competing modes of transportation, and decreasing profits.
 - iii. Interurban cars, on the other hand, traveled between cities and towns, and were built for greater comfort and speed early on.
 - d. Maintenance of Way (MOW) Equipment- Construction Cars
 - i. Maintenance equipment kept the line running reliably and economically. Unlike rubber-tired vehicles on public streets, trolley companies had to maintain their own track and infrastructure with no public support. Street maintenance jobs like snow removal were often required for a franchise.
 - e. Private/Parlor Cars
 - i. Corporate jet of the time.
 - ii. Usually owned by the president or vice president of the trolley company.

- iii. Used for meeting with high dignitaries of the company.
- iv. Could be used for pleasure trips, but NEVER for the general public.
- v. Usually had space for meeting table & chairs on one side, sometime an onboard bathroom and kitchen, and/or even a murphy bed for long distance, overnight trips.
- f. Immigration
 - i. Trolleys considered a “rolling melting pot” as different neighborhoods interacted and blended as a direct result of the trolley
 - ii. In Pennsylvania, trolleys connected many of the mining communities with nearby towns and were extended to industrial facilities near the cities. Much of the labor for the mills and mines came from countries in Eastern Europe.
- g. WWII and Women
 - i. Wartime brought temporary prosperity to the electric railway industry, largely due to the government rationing of fuel and rubber. Employment boomed, and this meant heavily increased traffic for transit companies. Transit systems strained to handle the demands, which continued after the war’s end until autos, gasoline and tires became available again.
 - ii. With many of the company’s motormen serving in the armed forces during World War II, Pittsburgh Railways made a concerted effort to hire women for the job. These female operators were known as “motorettes.” Some women continued to operate after the war; one even went on to operate the first car over the City’s new light rail line through Beechview and Mt. Lebanon in 1987.
- h. Trolley Suburbs
 - i. Trolleys made it possible to have distinct and separate districts in an urban area where people could travel between work, shopping, and home.
 - ii. Cities expanded along the streetcar routes built out from the city center. Local examples include Beechview, Brookline, Mt. Lebanon, and Bradford Woods (a community founded by the trolley company itself).
- i. Trolley Parks
 - i. Trolley companies bought pieces of land at the end of certain routes to take people for enjoyment.
 - ii. Oftentimes they were picnic groves with maybe a dance hall, pavilions, or small amusement park rides (merry-go-round)
 - 1. Example: Kennywood
- j. Car Cards
 - i. Companies began advertising their products and services on streetcars nationwide in the early 1900s. By 1918, approximately 50,000 trolleys displayed advertisements or car cards in nearly 3,000 cities and towns to an average of 500 passengers a day. The most successful streetcar

advertisements had catchy phrases, colorful images, and could be seen by the most riders.

- ii. Much of this success can be attributed to one person, Barron G. Collier who formed the Consolidated Street Railway Advertising Company of New York City in 1893.

6. Stop Six - Wexford Station (3 minutes)

- a. Built in 1908
- b. Served Pittsburgh, Harmony, New Castle, and Butler Short Lines (1908-1931)
- c. Was post office until mid-1970s
- d. Was a few hobby type shops before finally becoming Wexford Deli
- e. Was Wexford Deli up until 2013 when developers wanted the land that the building was sitting on.
- f. The daughter who owned the deli was the granddaughter of the original stationmaster. She didn't want to see the building demolished, so she reached out to the museum to donate it
- g. Came down 1-79 in 3 pieces (the roof was cut in half and the building) with original windows intact and we built the foundation to rest it on.
- h. Restored the inside back to what we believe is the original trolley station scheme (three section dividers: tickets, waiting area, baggage area).

Campuses and Buildings

The West Campus is the oldest part of the Museum. This area has the Founder's Car House, the West Events Room and Volunteer Lounge, the Galbraith Restoration Shop, the old Visitor Center, and three trolley shelters: Richfol, West, and Brown.

The East Campus is now the main hub of the Museum. This area has the Welcome and Education Center, the Trolley Display Building, the Artifact Preservation Building, and Wexford Station.

We also sort of have a Middle Campus that is referred to as Reliance.

West Campus

Founder's Car House/Barn: This is the oldest building the Museum owns. It holds about nine streetcars and often contains some of the operating service cars as many operators begin and end their day at this end of the railway. Operating service cars usually reside in the Car House. If volunteers wish to show a group this space, visitors must stay on the black rubber mats for safety. The track furthest from the restoration shop (Track 11) was the Pittsburgh Railways interurban line to Washington until 1952.

West Events Room and Volunteer Lounge: The room attached to the Founder's Car House was once the only events room for the Museum. Once the new Welcome and Education Center was opened, this room became a space for volunteers. Volunteers can rent this space at no charge but are asked to reserve it through the Visitor Experience office to ensure that there is no double booking. Additionally, on a regular day, volunteers are welcome to use this space as a place to relax away from visitors.

Galbraith Restoration Shop: The restoration shop is the primary area for all trolley maintenance and restoration. This is not a public space! Volunteers who wish to show interested visitors the restoration shop must check with shop volunteers or be familiar with the space. Good views of ongoing work are also available during the summer when the large doors are open at the end of the building.

Old Visitors' Center: The old Visitors' Center will still be used for a variety of purposes, many of which will not be for the general public. However, the parking lot will still be used during special events such as Park and Ride to the Washington County Fair. Amenities at the Visitors' Center include public restrooms, water station, and a vending machine.

Shelters: Shelters were often placed at trolley stops that were farther away from city streets to protect waiting passengers from the weather.

- **Richfol Shelter:** Constructed around 1909, this shelter served workers of the Standard TinPlate Company in Canonsburg. It was historically located on Adams Avenue across from present day Sarris Candy. Located now at the main platform.
- **Brown Shelter:** Of very distinct construction, it was constructed for the Pittsburgh & Butler Street Railway (Butler Short Line). Based on initials carved into the

woodwork, the shelter dates from at least 1910. Located next to the main parking lot.

- **West Shelter:** Built in 1908, this shelter was located on and named for the West family farm. It served the northern district of Pittsburgh on the Pittsburgh, Harmony, Butler, and New Castle Railway. Located across from the main platform.

East Campus

Welcome and Education Center: This new “front-door” to the Pennsylvania Trolley Museum opened in November of 2023 after more than two years of construction and decades of planning. Visitors to the W&EC can explore its two exhibit halls and museum store, participate in educational programs in its classroom space, and enjoy its spacious event and the 20th Century Electric Railway Theater. This building is also the location of the offices for many of the Museum’s paid staff, in addition to the **Tony DeSensi Break Room**, which volunteers are encouraged to use.

The Trolley Display Building (TDB): The Trolley Display Building opened to the public in 2005. It houses more than 30 cars in a protected environment and is the location for all regular tours. The museum has been operating on solar power since 2009. A bank of solar panels atop the roof of the Trolley Display Building feeds electricity back into the power company system, reducing the museum’s electric bill and making it greener at the same time. An exhibit inside the Trolley Display Building explains to visitors in simple terms how the system works.

Wexford Station: This 1908 interurban station is an extremely rare survivor of the Trolley Era. Built for the Pittsburgh, Harmony, Butler, and New Castle Railway, Wexford station was an important stop for the railway, situated a short distance west of Perry Highway. The original station was divided into three sections; a station agent in the center of the building sold tickets to passengers who waited on one side while freight shipments were handled on the other side. Shippers relied on horse drawn wagons and later motor trucks to get materials to and from the station whereas passengers walked or rode their horse. The railway closed in 1931 and station agent William P. Brooker purchased the building, moving it up the hill into the heart of Wexford where it served as the post office until 1964. Following that, it served as an antique shop and finally as the Wexford Post Office Deli from 1983 to 2014. The late Trudy Brooker Purvis, granddaughter of William Brooker, managed the building for many years. She championed for the Pennsylvania Trolley Museum to acquire the station when it could no longer be a revenue-producing property to preserve the building’s historical integrity. When the last deli owner ceased operation in 2014, the Brooker heirs donated the building to PTM and sold the land it had occupied for 82 years. The station came to the museum in 2015 and was placed on a new concrete foundation with heating and air conditioning systems added to the building. Volunteers, staff, and contractors worked to restore the building and transition it to an exhibit space. The interior features two 1898 mahogany waiting room benches from the Pittsburgh train station, now known as the Grand Concourse Restaurant in Station Square Plaza.

Reliance

In December of 2020, PTM acquired 320 Reliance Drive. This 66,000 square-foot building provides many current and future opportunities for the Museum. There are several offices in the building. Several of the rooms have also been converted into the home for the **Kathryn and David Black Archives**. In the factory area there are four 30' wide bays, each 400 foot long, that will be leased to help pay the bills and long term used for shop and car storage functions. It's a great acquisition for the Museum's long-term future.

- **Alison Shelter:** With a similar style to Richfol, it was built around 1909 and was located on Pike Street, near today's Race Track Road in Meadow Lands. It serviced passengers on the interurban line from Washington to Pittsburgh. Currently, the public cannot view Alison as it is being stored inside Reliance.

Trolley Era Transportation Timeline

- 1832: Horsecar era begins in cities, debuting in New York.
- 1840: First omnibus in Pittsburgh.
- 1858: Pennsylvania's first horsecar service begins in Philadelphia
- 1859: Pittsburgh's horsecar service opens in August along Penn Avenue.
- 1869: Pittsburgh boasts 22.7 miles of horse-powered street railway lines.
- 1870: The Monongahela Incline, Pittsburgh's first opens.
- 1873: The world's first cable car opens in San Francisco.
- 1886: Pennsylvania's first electric street railway opens in Scranton.
- 1888: The first cable cars in Pittsburgh operate along Fifth Ave.
- 1888: Frank Sprague opens the first successful electric railway system in Richmond, Virginia. Trolleys are eventually used in 850 American towns and cities.
- 1890-1: Successful electric railway service opens in Pittsburgh. There are approximately 114 miles of street railway tracks – horse, cable and electric – in the Pittsburgh area.
- 1893: The first interurban line opens in Oregon, connecting major cities to towns.
- 1896: Cable car operation closes in Pittsburgh.
- 1898: Kennywood Park is opened by the Monongahela Street Railway Company.
- 1907: Pennsylvania allows trolley freight service. The U.S mail, ice cream, produce, bread, macaroni, caskets, petroleum, mail, and newspapers are some of the goods transported.
- 1908: Henry Ford begins selling his Model T.
- 1909: Interurban line connecting Pittsburgh and Washington completed.

- 1914: The first motor low-floor cars enter service in Pittsburgh.
- 1918: With over 600 miles of city and interurban track serviced by almost 2,000 streetcars, the Pittsburgh Railways Company (PRCo) is experiencing the peak of the Trolley Era.
- 1923: The last Pittsburgh horse-drawn streetcar – the Sarah Street line in the South Side – closes; it was one of the last animal-powered railways in the U.S.
- 1927: Last order for low-floor cars for Pittsburgh is received.
- 1936: PCC cars, streamlined and updated trolleys, arrive in Pittsburgh.
- 1941: Freight service is discontinued in Pittsburgh.
- 1950s: Pattern of steady decline of streetcar use.
- 1951: The last production of PCC streetcars in the U.S. signal the end of an era.
- 1953: Washington County interurban streetcar lines are abandoned.
- 1964: Port Authority Transit (PAT) takes over from the Pittsburgh Railways Co. and independent bus companies.
- 1985: First phase of the Light Rail Transit (LRT) opens.
- 1999: Drake Line in the South Hills is taken out of service along with PCC cars.
- Today: PAT continues to operate three light rail lines in the South Hills, serving Overbrook, Castle Shannon, Library, Mt. Lebanon, South Hills Village, and the Arlington Warrington neighborhood.

The Trolley Era and the Electric Age

Written and edited by volunteer Archivist Emeritus Edward Lybarger

The invention of electric motors, electric lighting, the telephone, electric generation and distribution systems, and the electric streetcar in the late nineteenth century marked the start of the “Electric Age.” The early growth and development of electricity and the street railway industry were tightly intertwined and had great impact on the lives of Americans.

The Time Before Trolleys

Prior to electricity, travel was an ordeal done only when it was unavoidable because mud roads were the norm, and often impassable at certain times of the year. During the 1850s horse railways were huge improvements over early mode of travel, as the rails made passage independent of the road surface. Boston had a fleet of 8000 horses and in 1858 Pennsylvania’s first horsecar service opened in Philadelphia. Pittsburgh’s horsecar service opened in August of 1859 along Penn Avenue and by 1869 boasted 22.7 miles of horse powered street railway tracks. The use of animal power created a serious waste problem and contributed to disease. Horses

were expensive due to the cost of acquisition, care and food, not to mention the limited daily use of each animal.

Cable car technology offered relief from these expenses. In 1873 Andrew Hallidie opened the world's first cable car in San Francisco and the technology was adopted in numerous large cities including Pittsburgh. Beginning in 1888 the first cable cars in Pittsburgh began operating along Fifth Ave. During this era, lines ran 5-6 miles out from the city center.

In the Beginning

The electric streetcar was an experimental proposition until 1888 when Frank Sprague put everything together in the right way in Richmond, VA. But it took several years of operation to prove that Sprague was right and the others wrong. As a consequence, some of the competitors remained in the business into the early 1890s. Edward Bentley and Walter Knight were a Cleveland team commissioned in 1888 by the Observatory Hill Passenger Railway Company to electrify a route in the City of Allegheny (now Pittsburgh's North Side, annexed in 1907). The Bentley and Knight system used underground (conduit) power collection using a slot in the street. The propulsion system and conduit used to move these cars were not efficient and this system was replaced with the proven Sprague technology.

One of the vital forces in the development of American cities was the arrival of the electric streetcar at the end of the nineteenth century. Its quiet, efficient propulsion was far ahead of the transport of the time, and its higher speeds made it possible for people to live much farther from their work than when they had to depend on walking or on the slow horse and cable cars of that era. In 1890 electric railway service as we know it opened in Pittsburgh.

The beginning of the mobile America we know today has its roots in the trolley, and trolley cars ushered in the Electric Age. Cities expanded along the streetcar routes built out from their centers. Local examples of this expansion are the communities of Beechview, Brookline, Dormont, Mt. Lebanon, Forest Hills and West View. Bradford Woods is an example of a community founded by the trolley company itself.

Also, in Pennsylvania, trolleys connected many of the mining communities with nearby towns and were extended to industrial facilities near the cities. Because much of the labor for the mills and mines came from the nations of Eastern Europe, the trolleys became a veritable rolling melting pot and helped to expedite that process known as Americanization.

Through this vital time, the trolley blended cultures and people on a daily basis. As the telephone came into popular use during this time, people could arrange impromptu visits with relatives and friends while merchants could phone an order to city suppliers for immediate shipment via the trolley company's freight service. The farmer could ship his milk to market on those same freight cars, too. Advertisements in the trolleys here at the Pennsylvania Trolley Museum let us catch a glimpse of America of yesterday with the trends and prices.

Trolleys became a way of life during the early 1900s. Automobiles, no longer a novelty, were still not practical for everyday urban travel as roads, parking and costs were still a deterrent. The trolley was the preferred means of getting around, and ridership was still growing. Theaters, amusement parks, schools, and stores were served best by the trolley, as were the industrial plants that provided so many jobs. In 1898 Kennywood Park opened and is still in operation

today, as is Dorney Park near Allentown. Cascade Park in New Castle, Luna Park in Scranton, and West View Park in West View are other examples of electric trolley parks.

By the 1920s though, things began to change. The advent of radio, which kept people home at night, and the growing popularity of the auto led very quickly to a falloff in non-work-related travel. The street railways' early construction shortcomings became horribly evident, as the 20-year track built with 50-year financing fell apart. Cities began paving streets for the growing pack of automobiles. Many transit operators faced with declining patronage and increased maintenance costs began to convert to buses or go out of business. The Great Depression beginning in 1929, made a grave situation even worse, killing off most of the interurbans and many of the small-town systems. It was during this time that urban operators banded together to develop a genuinely modern streetcar.

Birth of the PCC

During the early years of the Great Depression, leaders of trolley companies across the country realized that they needed a truly modern vehicles if they were to compete in any way with the automobile. They formed what was known as the Presidents' Conference Committee to develop that vehicle, which in its ultimate form came to be universally known as the PCC car.

Pittsburgh Railways was an enthusiastic supporter of the project. One of its engineers, Dan Bell, was granted the patent for the body design. The company was the first to haul passengers in one. Before the car entered regular service early in 1937, it was taken around the town for demonstration rides on many of the company's routes.

World War II

The wartime years and beyond brought temporary prosperity to the electric railway industry, largely due to government rationing of fuel and especially rubber. Employment boomed, and this meant heavily increased traffic for transit companies. Motormen shortages led to the employment of women as "motorettes." Transit systems strained to handle the demands, which continued after the war's end until autos, gasoline and tires again became available.

Impressed that passenger counts on its interurban routes to Charleroi and Washington were as high in 1945 as they were in the mid-1920s, Pittsburgh Railways ordered 25 new streamlined PCC type streetcars fitted for interurban service. By 1949, however, enough automobiles were available, mine employment was down, and the volume of passengers carried on the interurbans dropped precipitously. In 1953, with the new cars only four years old, the company abandoned all service south of Library and Drake and reassigned the cars to Pittsburgh suburban service.

The Decline of the Trolley

Many trolley systems were simply worn out by the time World War II ended. Most often cities bought fleets of cheap new buses, since the industry was again having trouble meeting the costs of new track and paving. From the mid-1950s, the thrust of transportation development was directed at expressways, shopping malls, and fast-food outlets – all things which seemed to require an automobile. New appliances and entertainment media – especially television – added to the spectrum of recreational life, but again caused significant declines in non-rush hour transit

riding. The number of North American cities retaining the use of trolleys as a means of public transport was reduced to eight.

Renaissance

From the 1980s it was recognized that due to so many automobiles that roads were becoming hopelessly clogged and the air in urban areas dangerously polluted from the overabundance of personal transportation, and urban planners began to recognize the merit in reviving trolley technology – now calling it light rail. Cities such as Boston and Toronto modernized their trolley lines, leading other cities such as Pittsburgh and Philadelphia to follow suit. Computer technology has dramatically speeded up our lives and is now extensively used in light rail technology.

Summing it up

The streetcar served well through two world wars and a depression. Around the beginning of the twentieth century, when a person saw an electric streetcar for the first time, it was most likely also the first time that person saw electric lights, felt electric heat, or saw any vehicle moving along quietly that wasn't pulled by an animal or powered by a loud, chugging, smoking steam engine. Thousands of people relied on the trolley to get to work every day as well as to visit friends in nearby towns or to spend a Sunday afternoon at an amusement park.

Key Cars in the Collection

Please note that cars are frequently moved, and cars that you plan on discussing during your tour may be in another location, in another building, or in operation for the day. For more information on the cars in our collection, please visit patrolley.org/collection.

- Pittsburgh 101 – Horse car
 - First street railway vehicles—adapted from omnibuses, horse drawn carriages that provided mass transit in cities. The horsecar put the omnibus on rails, making them easier for the animals to pull, and allowed cities to grow beyond normal walking distance (an hour's walk, 3-4 miles).
 - Most major U.S. cities had horsecar lines by the 1850s. No. 101 likely dates to the 1870s, just prior to the introduction of the first practical electric railways.
- Pittsburgh 3487 – Early Double-truck Trolley; High-floor car
 - Represents early two-truck cars; large, but still mostly wood except for plate steel sheathing added later to appear modern & safe.
 - Cars like it were purchased because the city pushed for more capacity.
 - It is called a high-floor car, so called since Pittsburgh hills called for larger-than-average motors, requiring bigger trucks and a high floor to clear them.
 - Built 1905
- Pittsburgh 4145 & M200 (ex-4140) –High-floor car
 - These are the same basic style as 3487 but are all steel, making a sturdier, lighter car that cost less to run and could still pull trailers for more capacity.
 - High floor cars made boarding very difficult due to the high step, leading to their replacement.

- Eventually became work cars. M200 remains in this form; past owners restored 4145 as a passenger car. The two illustrate common reuse and adaptation.
- Both cars built in 1911
- Cincinnati 2227
 - Built in 1919, features the same early, two-truck body style as 3487, 4145, and M200.
 - It is the only complete streetcar left from Cincinnati.
- Pittsburgh 3756 & 4398 – Low-floor city and interurban cars
 - Low-floor cars were designed to be more user friendly and popular than the high floor cars by making boarding easier. The first low-floor cars were trailers pulled by high-floor cars. The trailers usually filled up first, so the company bought new ones with motors.
 - Smaller motors and trucks were made powerful enough for the hills, a lighter body, and an aisle that sloped toward the center doors.
 - Because they were easier to board, they reduced the amount of time that each stop took, thus making each trip faster and reducing labor costs.
 - Known as “safety cars” due to additional safety features including a deadman
 - 4398 built in 1917
 - 3756 built in 1925 (3756 featured in the iconic trolley image with Fred Rogers hanging in Visitor Center)
- Rio De Janeiro 1758 – Open Car or Picnic Cars
 - Companies sought to earn fares in off-peak hours. Many built amusement parks to earn weekend fares, serving them with open-air cars in the summer.
 - While open cars disappeared in the late 1920s in U.S. cities due to safety concerns, Brazil used open cars into the 1960s.
 - Built in 1911
- Jersey Shore 3 and Mon Val 274 – Interurban Combines
 - Companies realized that trolley technology could also be applied between cities. The theory was to provide a low-cost alternative to trains, or to serve areas not accessible by train, roughly equivalent to today’s intercity buses.
 - Most interurban cars came as standard models from specialized builders.
 - Many interurban cars also included a compartment for passenger baggage, as well as small freight shipments, making them combines. Sometimes a farmer would take his milk or eggs to town to sell by interurban. In this area, many of them linked small coal company towns to the outside world.
 - Jersey Shore 3 built in 1905 and Mon Val 274 built in 1918
- Toledo – Private Interurban Cars
 - Most interurban cars were marginally profitable and short lived due to factors like automobile competition, but in the Midwest the spacing of medium sized cities on a relatively flat landscape made them more profitable than most, and more popular. Some lines felt justified in purchasing luxurious cars.

- The Toledo is an example of a trolley company executive's private car, and is outfitted appropriately with parlors, kitchen, and bathroom.
- Built in 1906
- New Orleans 832, Philadelphia 5326, & Johnstown 350 – Double end 1920s city cars
 - Double-end cars were flexible, because they could be used on lines where turning loops were either unavailable or impractically located. Philadelphia used them on lines that were too short to make loops cost effective.
 - The arch-roof design was made possible by better ventilation devices and lighting. Older cars used a monitor for light and ventilation, which made the cars much heavier and thus more expensive to maintain and operate.
 - They exhibit a state-of-the-art car body style that was cheap to build and maintain and that looked very modern at the time they were introduced.
 - 5326 was featured in 1983, aired in 1984, Mister Rogers Neighborhood episode. Fred Rogers learned to operate 5326 alongside PTM volunteer Joe Brandtner. The episode can be viewed online at: <https://www.misterrogers.org/episodes/a-visit-to-the-trolley-museum/>
- Red Arrow 66 –Center Door cars
 - Represents the same car body style and construction as a double end 1920s city car, but also includes innovations that enabled faster loading.
 - The large, center doors made loading and unloading faster. These cars were larger than city cars to handle heavy rush hour suburban crowds and could be run in multiple-unit fashion for even greater capacity. They outlasted many newer cars because their size and weight made them useful in heavy snows and for large group charters.
 - Built in 1926
- West Penn 832 & Philadelphia & West Chester 78 – Lightweight cars
 - Automobile competition cut into trolley revenues, so companies saved costs with one-person cars. The PA Public Service Commission began allowing one-person operation on the condition that cars had dead-man controls.
 - Autos also gave new urgency to comfort, a consideration management often overlooked in competition's absence. Both cars reflect increased attention to comfort: designed lighting, picture windows, and leather-upholstered seats.
 - Each car was built using new technologies that made them extra-lightweight. 832 uses curved sides that reduce material while adding strength. No. 78 is made of aluminum, a much lighter metal than steel. Like previous weight-cutting innovations, these advances saved money by using less electricity.
 - Both cars increased speeds, especially 78 – its top speed is around 50 mph.
 - WP 832 built in 1930; 78 built in 1932
- Pittsburgh 1467– Early PCCs
 - The Electric Railway Presidents' Conference Committee met in the late 1920s to save the street railways business, and decided they needed a radical new car to compete with the comfort and speed of the automobile.

- The resulting car, named “PCC” (the committee’s initials), incorporated many refinements that made it friendlier to passengers. Hand-crank windows, upholstered seats, and quiet propulsion were just some of the advances.
- The PCC was quickly adopted in many cities that still had streetcars. In 1936 Pittsburgh was the first to put one into regular service. This pre-1946 car features single, tall passenger windows, and air brakes.
- Built in 1941
- Pittsburgh 1711 & 4004; Philadelphia 2711; Shaker Heights 94 – Late PCCs
 - PCCs were popular and successful in preserving many streetcar companies at least through the end of World War Two. In 1946, the design was updated to include windows for standees, a more curvaceous body, and electric brakes to make them more competitive against postwar demand for automobiles.
 - They were popular enough that some lines ordered them with appliances for suburban and interurban routes; no. 94 ran to Cleveland’s Shaker Heights.
 - Pittsburgh Railways president Tom Fitzgerald foresaw much suburban growth after World War Two and purchased cars like 1711 to meet the expected demand. However, most new suburbanites chose auto trips instead of trolley trips. The line closed only four years later after business collapsed.
 - PCCs were popular, durable, and easy to maintain, so they were often long-lived. No. 1711 became a city car after the Washington line closed and served until 1988 – nearly 20 years beyond its planned lifespan. Most Philadelphia cars were retired in the 1990s. Pittsburgh 4004 was overhauled in the late 80s and ran until 1999. PCCs still run in transit service in some cities.
 - Pgh 1711 built in 1949, 2711 built in 1947; Shaker Heights built in 1948
- Red Arrow 14, & 24 – PCC-inspired cars
 - The PCC was licensed to car builders. The largest builder, J.G. Brill, was not a licensee, and developed its own design called Brilliner to compete with the PCC, approximating many of its refinements. It did not sell well, and patent infringement suits stopped production.
 - Red Arrow liked the PCC concept, and asked licensee St. Louis Car Co. to develop a car with similar refinements, but better suited to their operations. Cars like 14 & 24 resulted, with PCC appearance and comfort, but double-ended, able to run in trains, and with a drive found on other Red Arrow cars.
 - Built in 1949
- City of Philadelphia 606 – Rapid Transit Car
 - Early subway and elevated railroad lines were steam-powered, but they cost a lot to run, and city residents often vociferously opposed smoke and noise. Electric traction and multiple-unit control made them cheaper and cleaner.
 - Rapid transit outlasted street railways because it served dense areas where driving was impractical, didn’t get caught in traffic, and had higher capacity.
 - No. 606 was/is built of stainless steel, which saved on maintenance costs.
 - Built 1960

- Snow sweepers, dump cars, cranes, tow cars/locomotives – Work Equipment
 - Maintenance equipment kept the line running reliably and economically. Unlike rubber-tired vehicles on public streets, trolley companies had to maintain their own track and infrastructure with no public support. Street maintenance jobs like snow removal were often required for a franchise.

FAQs

Where did people ride the trolleys? The same places we go to today: work, school, church, appointments, shopping, amusement parks, and visiting friends and family!

How fast can a trolley go? That depends on how the cars were built, track condition, or a city car vs. an interurban car. A trolley in the city with traffic may average speeds of 5-15 mph.

How much did it cost to ride the trolley? It depends on the time period and how far one went. Trolley fares in the early days were a nickel; many people still remember ten-cent fares or three for a quarter. There were also Ride-All-Day Sunday passes.

Do the terms trolley, streetcar and interurban all mean the same thing? In many places, trolley and streetcar are used to mean the same thing. An interurban is a car that traveled between two cities.

Who are the workers on a trolley? Cars with two-man crews had a motorman and a conductor. The motorman ran the car and the conductor collected the fares. A one-man crew is responsible for all duties. Female operators, or motorettes, worked on the cars during WWII and beyond.

How do you operate a hand control trolley? The left hand is on the controller and the right is on the brake. There is also a “key” that must be in place.

How do you operate a foot control trolley? The right pedal is the accelerator, the middle is the brake, and the left is the deadman. The car will stop if this last pedal is not pushed down.

What do the different bells mean? One bell means stop. Two bells means go. Three bells means reverse. You may hear repeated rings or horn blasts if going over a road crossing.

What are ad cards? The trolleys have ad cards above the seats. Companies paid to have their ad cards placed in the trolleys, providing visibility for their products and good sources of revenue for the trolley companies.

What is that noise? Often the potentially loud and startling noise the visitor is referring to is the air compressor that is compressing air for the brake system.

Why is the loop named McClane? The site is named for the McClane family farm located nearby at the turn of the 20th century. The original path of the interurban and the station stop were located within the loop site until 1953 when the line was abandoned. McClane School stood nearby.

Why is the loop named Arden? The village of Arden Mines was a thriving coal patch at the beginning of the 20th century. The community also had company houses, a company store, and a post office. The path of the trolley line follows the railroad access to the mine. In the 1920s the mine was closed when there was no more coal.