Track Access Training Course: Level 3

The purpose of this course is to provide you the information you need to be safe on the alignment. We ask that you review the course material and then complete the complete the exam. We have also provided a PowerPoint presentation for your reference.

Personnel successfully completing this training, followed by the successful testing, will meet the requirements of the Cincinnati Bell Connector Streetcar Track Access Authorization, and will be provided the required certification badge to be worn over a reflective vest for easy recognition required while working on or around the trackway. **Please remember that the Overhead Contact System (OCS) line is always energized unless specific requests are approved by the Cincinnati Bell Connector Streetcar Operations Control to have the line de-energized and grounded, which may have a permit monetary surcharge for time and equipment.**

Track access permits are required as part of the City of Cincinnati (City) Right of Way (ROW) access process whenever the type and scope of work requires it. This requirement is determined by the City ROW permitting office when the ROW permit request meets the criteria for working in or around the Cincinnati Bell Connector Streetcar Trackway Safety or Power Safety envelopes. If the Contractor is working directly for the City and has a contract for specific work which is performed within the safety envelopes the Contractor must come directly to SORTA/Transdev (Streetcar Maintenance and Operations Contractor) for a valid access authorization. More will be discussed later in this training regarding the permitting process and instructions to complete the access permit.

The Streetcar trackway has a 15-foot safety envelope which encompasses 7 ½ feet from the centerline of track in each direction on all tracks that the Streetcar utilizes for revenue service as outlined in the associated map of the system - see below. This route generally takes a southern direction from the Maintenance and Operations Facility (MOF) at 1927 Race Street south on Race Street to Central Parkway, east on Central parkway to Walnut Street, south on Walnut Street to 2nd Street, east on 2nd Street to Main Street and then north on Main to 12th Street, west on 12th Street to Elm Street and north on Elm to Henry Street and back to the MOF. The trackway is approximately 3.6 miles round trip and utilizes general purpose traffic lanes for the majority of the alignment. The trackway includes all station platforms which also require a track access permit when working within the station platform area. In order to provide specific work locations along the trackway, the permittee will do so when permitting the ROW work location with the City. Further identification is required when notifying Operations Control to access the work site for performance of the work. The identification of the area should be done using the OCS support poles with the number located on the pole. All contact system poles have stationing numbers associated with their locations.

The overhead contact system safety envelope is that envelope around the wire that is within 10 feet. This is the restricted area that may only be accessed by certified high-voltage-trained personnel utilizing the proper insulated tools and equipment and badged accordingly.

Wayside track access procedures apply for all personnel on the wayside during revenue service and non-revenue service hours 7 days a week and 24 hours per day.

Program Objective

Ensure that all personnel performing work within the Cincinnati Streetcar operational envelopes are aware of potential hazards and will follow the correct procedures to minimize danger. In addition, it is expected that safe working conditions, clear communication and collaboration are achieved to efficiently allow the track access permittees' work to be accomplished and at the same time to minimize the disruptions to the Streetcar's daily revenue service schedule as established by the City.

Wayside and power track access procedures apply for all personnel on the wayside during revenue service and non-revenue service hours 7 days a week 24 hours each day

Every employee or contractor working on the Cincinnati Streetcar alignment has safety responsibility for **themselves, for the public and for the City's streetcars, infrastructure and equipment.**

Training Requirements

Requirements for wayside track or station access training are a thorough understanding of the knowledge within this programmed training, OSHA-compliant, high-voltage certification or field training (if required), and successful completion of an evaluation test as required for each level of certification.

There are three levels of wayside access training and certification for visitors and permittees' visitors as well as a fourth level of training required for permits of a more complex nature or Cincinnati Bell Connector Streetcar employees and their subcontractors working on the wayside track or stations on a daily basis as required by the Streetcar maintenance plans. These two scenarios are covered by Standard Operating procedures (Trackway Access Permit Requirement, Trackway Allocation Procedures routine and non-routine work, flagging, Red Tag, Safety within the Rail Safety Zone, Employee in Charge, and Slow Zones) which address the types of work to be accomplished as well as the procedures by which to perform them.

This training booklet, including the exhibits and procedures, contains all of the materials required for each of the levels in this course. The level of training and the degree of access allowed are described below:

- Level 1 access must be supervised by trained Cincinnati Bell Connector Streetcar employees with level 2 or higher wayside access training (Examples: visitors, maintenance contractors, landscaping, etc.)
- Level 2 work be performed outside of the Streetcar envelope; can work near the track, crossing the tracks, gain access to the station stops or other remote facilities (Examples: building and communications maintenance personnel, platform cleaners, Ticket Vending Machine maintainers/collections, etc.). Level 1 programmed training knowledge and written evaluation is required.
- Level 3 can access the trackway safety envelope and work within the power envelope with power removed by a Transdev qualified employee. However, vehicle and pedestrian traffic must be managed, which may require a flagger if work is performed during streetcar running hours. Level 1 and 2 training as well as field training and a written exam is required.
- Level 4 can work with the power safety envelope with power on. However, Duke employees are the only personnel authorized to do this. This level of access requires OSHA or similar approved high voltage maintenance certification and Streetcar Flagging personnel. Training levels 1 - 3 training and knowledge of flagging is also required.
- All test scores and written exams require a passing score of 90% or greater. One retest is allowed for any written exam.

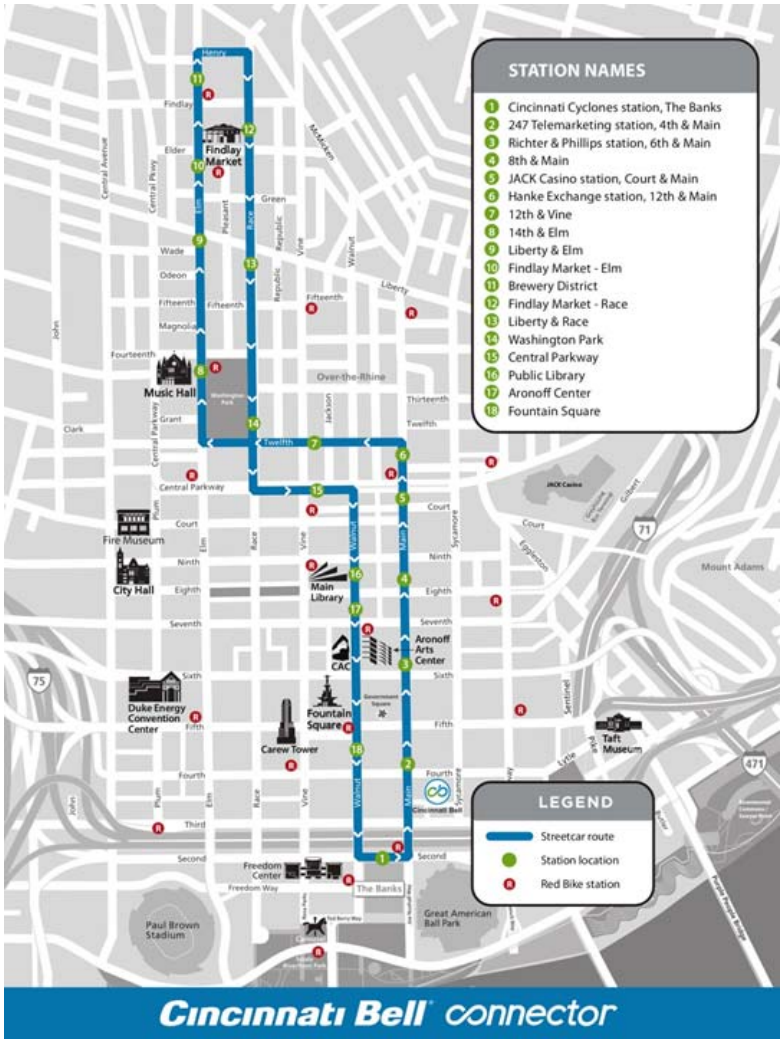
Wayside safety vest and Identification Badges

Upon successful completion of required testing the student will be certified and issued a wayside track access badge, which must be worn in a visible position, in addition to a reflective safety vest at all times when in the trackway or OCS safety envelope. Safety badges are color-coded to indicate the wearer's level of wayside safety training and certification achieved. All certifications are valid for one year after issuance at which time a refresher class will be provided for review and then testing for re-certification.

Badge Color	Level of Training
Green	**1**
Blue	**2**
Yellow	**3**
Red	**4**

System and Equipment

The Cincinnati Bell Connector Streetcar system serves the downtown Cincinnati Business District (CBD) as well as the Over-the-Rhine (OTR) neighborhoods and retail businesses within a ½-mile radius of the trackway. The system includes MOF facilities, 18 station stops, 3.6 miles of trackway/switches, five power substations providing power along an overhead wire contact system supported by regulation arms and poles, specific signaling for the streetcars at various locations along the alignment, and five modern electrified streetcars.



Maintenance and Operations Facility (MOF)

The MOF is located at 1927 Race Street at the corner of Henry and Race Streets and is the starting location for revenue service and a facility where Streetcar maintenance is performed and from which all other maintenance requirements for the system are dispatched. The Operations Control and all other operations administration/management are also performed in this building. It is also the location where badging is provided and communication control for communications by the third parties while working on the wayside. Track access permits requires the contractor to call the Operations Control at the MOF prior **to accessing** their work site and following the successful **completion of** their daily scheduled work. The control center number during operational hours is **513-206-7824** or after revenue service hours 12:00AM to 6:00AM and is **513-903-6108**. The Emergency removal of overhead electrical power after hour's phone numbers is **513-903-6108.** Because of the potential safety hazards such as a moving streetcars, shop equipment, high voltages, tripping hazards, and open maintenance pits, Transdev requires all visitors to be safety briefed and escorted by a qualified Streetcar employee. The System Map illustrates the relationship of the MOF, Stations and trackway to the various city streets along the route.

The yard surrounding the facility is security fenced with card access gates and camera surveillance. Within the yard includes employee parking, storage for maintenance equipment and storage tracks for streetcars that are readied for daily revenue service. The tracks are numbered 1-4. Tracks 1 and 2 lead into the inside of the facility and provide undercar access. Track 1 also allows for the roof top of the vehicle to be accessed for various streetcar maintenance activities. Track 2 provides for undercar wheel-truing with a modern streetcar wheel-truing lathe. Track 3 is in the yard adjacent to the building providing storage as well as for streetcar washing and interior cleaning, while track 4 is for streetcar storage. Streetcar storage can also be utilized on the exterior 1 and 2 building lead tracks. All five streetcars can be accommodated with some additional track space available for approximately four future streetcars. All of the tracks are powered with the OCS powered from an independent yard substation providing 750VDC electrical power and the facility with a building substations providing like voltages for movement of trains in and out of the building.

Because of the potential safety hazards such as moving streetcars, shop equipment, high voltages, tripping hazards, and open maintenance pits, the facility safety requirements are extremely important. All visitors must be escorted by trained Streetcar personnel and given a safety briefing regarding the potential open pit hazards, tripping hazards, exits in case of emergency, emergency safety trip switches for high voltages and moving streetcars. This familiarization process will fulfill level 1 access and a green visitor's badge will be issued for proof of accessibility. No external visitors are authorized to wander unescorted in the building at any time. Whenever high voltages are present access to the rooftop of the streetcar is restricted. The roof entry gates cannot be unlocked unless power is off.

There is an audible notification (horn) when power is being removed or restored. A red strobe indicates power is present and solid green light indicates power has been removed. When voltage power is off, these red strobes are off and an associated green light is lit. The yard storage tracks OCS power supply remain on at all times unless the yard substation is taken offline during servicing; therefore OCS high-voltage is present from the facility streetcar doors outward and all tracks within the yard limits.

Streetcar description

The Cincinnati Bell Connector Streetcar is a modern, bi-directional, nominal 750 VDC electrically-propelled streetcar and consists of three car bodies joined with two articulation sections to form a single operating unit. The streetcar is 77 feet long, 12 feet high and 100% level boarding as it uses a hydraulic over spring floor leveling system to provide a barrier-free ADA-compliant level boarding at all station platforms along the alignment. In normal operational use, the streetcar operates as a single unit operated by a Transdev operator and travels up to a maximum speed of 25 MPH. CAF, the designer and manufacturer of the vehicle, uses a modular design that allows for the quick removal and replacement of equipment, maximizing maintenance efficiency. Train control, including traction and brake control, and the control of the major subsystems, is microprocessor based.

The streetcar has two trucks (each with four longitudinally arranged motors and attached gearboxes,) one on each end of the streetcar, which drive independently four rotating steel wheels which are resiliently mounted (for sound dampening) with steel tires. Motors along with attached gear units are completely suspended from the truck frame. Automatic/manual sanding systems provide improved adhesion and a wheel flange lubrication system provides for improved wheel/flange wear as well as noise reduction. The traction motors provide dynamic braking when traveling over four miles per hour along with fail-safe spring applied/hydraulic release friction brakes with one brake disc per axle for a total of eight on each vehicle. Each truck also has an electro-magnetic track brake for additional braking capacity under emergency conditions.

Under normal operational conditions a single bi-directional streetcar operated by the operator will be utilized for revenue service. However, the streetcars can be coupled together in non-revenue service to tow or push disabled streetcars.

General Guidelines
It is operated in the lead end by an operator and travels up to a maximum of 25mph hour within the alignment. At 25mph it takes approximately 75 feet to stop the streetcar on a dry track condition. It is the responsibility of any personnel on the trackway to stay out of the way of streetcars. Moving streetcars cannot stop quickly or swerve to avoid any trackway obstructions. **Two primary hazards** to all personnel on or around the streetcars within the alignment are **high voltages** and the **moving streetcars themselves.**

The streetcar began revenue operation on Sept. 9, 2016 and the daily schedule including streetcar headways ranging between 12-15 minutes is described below:

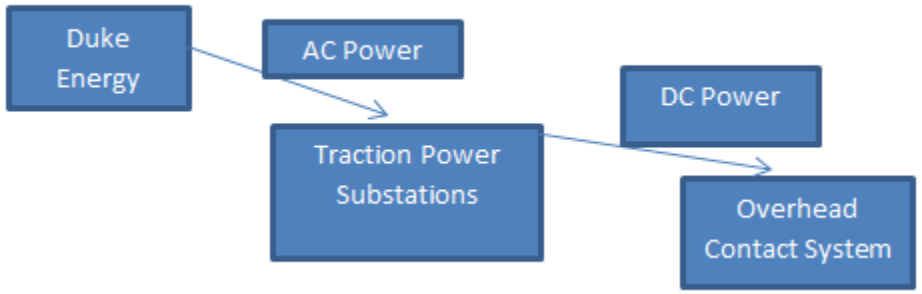
- Sunday - 9 AM to 11 PM - **15 minute headways**
- Monday through Thursday - 6:30 AM to 11 AM **15 Minute Headways,** 11 AM to 7 PM - **12 Minute Headways** and 7PM until 12 AM - **15 minute headways**
- Fridays - 6:30 AM to 11 AM - **15 minute headways,** 11 AM until 7 PM - **12 minute headways** and 7 PM until 1 AM - **15 minute headways**
- Saturdays - 8 AM until 1 AM - **15 minute headways**

All of the 15 minutes headway schedules utilize two streetcars in service and the 12 minute headways schedules require three streetcars. Charters and special events will utilize an additional streetcar and may alter normal headways as a result. The fifth streetcar will normally be available for maintenance unless programed otherwise.

Power distribution and Signaling

The Cincinnati Bell Connector Streetcar System uses an overhead contact distribution system conducting 750 Volts DC as the power system for the Streetcars. The streetcar pantograph located above the C 1 section cab collects the voltage from the wire through carbon strips sliding along the OCS wire and conducts it through a roof top traction control unit and then to the traction motors for propulsion. When the braking mode is activated above four miles per hour, the motors reverse polarity and act as a generator, creating dynamic braking and regenerating power back into the OCS and may be utilized by streetcars traveling nearby.

AC power is provided from Duke Energy to five substations that transform and rectify the AC input of 12.5 KW voltage to the nominal 750V DC electrical energy distribution network of overhead contact wires. The simplified diagram below depicts the power transfer:



The substations are located at the MOF within the building, Streetcar storage yard at 1927 Race Street, #3 at Findlay and Race Streets, #2 at Court and Walnut Streets, and #1 at 2nd and Main Streets. The overhead contact system is sectionalized with switches in order to allow for power removal within sections of the alignment for maintenance requirements or emergencies. When power is taken down for work within the power envelope it will be red tagged, locked out, and grounded for safety.

Traction Power Substations (TPSS) Locations

Second Street

MOF

Court Street

Findlay Market

Signaling

The Cincinnati Bell Connector Streetcar signaling system is very simplistic, in that for most of the 3.6 mile alignment it operates with City traffic signals. However, there are several locations where the alignment actually crosses the general purpose lanes and is given a transit jump start which provides a vertical bar for the streetcar to proceed a few seconds before the adjacent lanes are released with the traffic green. In these same signal locations the horizontal bar along with the red traffic light are used for the stop signal in the transit signaling scheme as is used in many other streetcar and Light Rail systems throughout the USA. Many of the locations along the alignment are utilizing the signal scheme and crossover of traffic lanes are performed from transit only lanes. The signal scheme is something different within the City and requires motor vehicle operators and pedestrians to familiarize themselves with the operations. In an effort to assist, the City and SORTA provides Public Service Announcements and training brochures in a public outreach effort to educate and prepare the public.

Walkway at Main Street between 5th and 6th Streets

Track and switches

The streetcar tracks are arranged in a figure eight 3.6 miles in length from Henry Street on the north to 2nd street on the south and back, providing for two separate loops that may continue operation in the event that part of the system is blocked for some reason. The Over the Rhine (OTR) loop operates on the northern half of the figure eight trackway-south on Race Street from the MOF to 12th west to Elm Street and then north to Henry Street for the return trip. The southern loop operates from 12th Street east to Central Parkway and then south on Walnut Street to the Banks at 2nd Street. East on 2nd street to Main Street and then north on Main to 12th Street and west on 12th street where it connects with the OTR loop

The track guideway is standard gauge of 56.5” or 143.5 centimeters and comprised of 115 Lb. continuously welded “T” rail enveloped in an insulation boot while directly secured to sleepers and surrounded on three sides by a reinforced concrete slab approximately 12 inches thick. The head of the rail along with the formed flange way are the only exposed aspects of the track and thus protected very solidly within the boot and concrete slab. This track design makes for a very strong and easily maintained guideway for the

streetcars, however the exposed head of the rail may be damaged with gouging or scraping by heavy equipment or snow plows so every effort must be made to protect it as to replace it is very tedious and expensive. Having discussed its' vulnerability, it is still one of the most common designs for use with streetcar service and the easiest for automobiles, bicycles and pedestrians to travel over. Care, however, has to be taken to ensure its longevity.

The track structure is an aspect of the electrical circuit used for the propulsion of the streetcar and it provides the ground return back to the substation. It is completely safe to touch as is the ground in other electrical circuits such as your home. The Overhead Contact System wire is the positive side completing the circuit and is dangerous to touch in the event you are at the same time touching anything grounded. Special care needs to be taken around the power envelope when using tools or equipment that may come into contact and complete the grounding circuit.

The track as it mechanically connects within the loops is done so with a diamond crossing and switches. The diamond crossing allows for travel across the tracks and the switches provide for the streetcars' directional change. The switches are manual switches and must be maneuvered with switch irons to change their directions. The switch points should be avoided whenever working around them as they may injure someone if they are within the point locations when they are thrown. These switches should never be subjected to construction debris that may hinder their throwing/moving capabilities. There are several locations within the trackway where switches are present. The one previously discussed is at 12th and Race which connects the two loops of the figure-eight trackway. There are several additional switches that are located on Henry Street and provide for movements in and out of the MOF and to yard storage tracks. Finally, for future expansion opportunities two switches are located at Race and Findlay and Race and Elder, but will not be utilized for the current streetcar trackway.

Trackway Safety

All personnel working on or around the Streetcar trackway should always be aware that they are working near two primary hazards and should follow all safety procedures required within the power envelope where 750 volts of direct current electricity at up to several thousands of amperes in an exposed circuit and within the track envelope where there are frequent movements of 75,000 pound streetcars which are fast and quiet.

Electricity may be the less obvious danger than a moving train because it cannot be seen or heard, however, because it is distributed by an overhead contact wire, any errant connection between ground and the wire will cause electrocution. The overhead wire generally is suspended at about 19-½ feet, however, at street pedestrian walkway locations in the CBD the height of the wire is 14-½ to 17-½ feet, so extra effort of safety awareness is required. Special care needs to be used by equipment operators, window washers, dumpster positioning and loading and other maintenance personnel working in the trackway to avoid contact with the overhead wire. It is also required that when working in the energized power envelope authorized personnel who are OSHA standards-certified to work around high voltages may be the

only exceptions. If necessary, during non-operational periods, the power may be taken off-line and grounded for safety while personnel work within the OCS danger envelope.

It is a Cincinnati Bell Connector Streetcar policy that every employee is responsible for personal safety, public safety and the safety of the City of Cincinnati Bell Connector Streetcar property and equipment. By virtue of accessing the ROW for work, it is the responsibility of every permittee to similarly take responsibility for their personnel's safety, public safety and the safety of all City of Cincinnati owned Streetcar property and equipment.

Important!

Personnel accessing the wayside must wear reflective vests at all times. All Cincinnati Bell Connector Streetcar employees must have the appropriate level of safety badge displayed for the work being performed. The ROW Permittees Supervisor in Charge must be wearing the appropriate level of certified safety badge for the work performed on the wayside and must be present on the wayside with their working personnel at all times. If the appropriate safety badge is not displayed, the crew will be required to leave the site and the work permit suspended.

Streetcar Movements

Moving streetcars cannot stop quickly or swerve to avoid trackway obstructions. A streetcar moving at the maximum operating speed of 25 miles per hour may stop in ideal track conditions in the full service brake mode in about 150 feet; at the maximum brake mode in about 115 feet; at the security mode or emergency braking in about 82 feet or the length of one streetcar. The stopping distance required at any braking mode may not be sufficient enough to keep from striking pedestrians, bicyclists, or automobiles that suddenly step, ride, or travel in front of a streetcar that hasn't been allowed the time to stop. The contact with the streetcar would potentially mean injury or death and excessive damage to vehicles and bicycles. While emphasis will be placed on training Streetcar Operators to operate under extreme defensive conditions, contractors working in the trackway must also take extreme precautions to protect themselves and their equipment from any potential streetcar impacts.

Approaching streetcars are quiet compared to conventional bus coaches or railroad trains and in many situations along the Streetcar alignment visibility may be limited. The Cincinnati Bell Connector Streetcar personnel and the public should always expect a streetcar at any time, on any track, even after service hours. For this reason protective procedures should be carefully followed so those approaching streetcar operators are fully aware of personnel on or near the trackway. The protective equipment required, in addition to those methods of traffic control required by the DOTE in the City's ROW permitting process, will be discussed later in this training material.

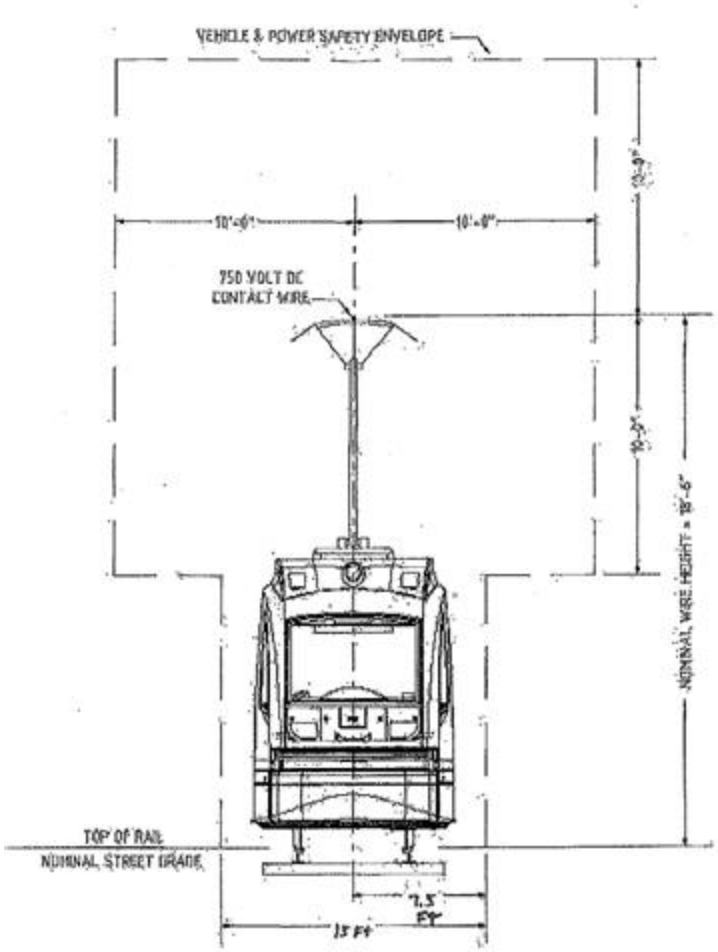
Important!
It is the responsibility of any personnel on the wayside to stay out of the way of trains!

Overhead Contact system

The OCS as described earlier uses an overhead wire distribution system conducting 750 Volts DC as the power system for the Streetcars. The overhead wires are located about 19-½ feet above the center of the track except in a couple locations beneath overhead walkways where the height is approximately 14-½ to 17-½ feet above the track. The wire is the positive side of the 750 volt circuit while the ground or return circuit is the track. When contact is made with a conducting material or equipment, electrocution may occur. The overhead wire High Voltage Danger signs are along the alignment on poles supporting the OCS wires.

Safety Envelope

- Streetcar Trackway is **15 feet safety envelope with 7.5 feet on either side of the centerline** of the track in each direction on all tracks
- Overhead Contact System (OCS) safety envelope is the **area around the wire that is within ten feet.**
- Two primary hazards to all personnel on or around the streetcar trackway are **high voltage** and **moving streetcars**



The OCS should always be considered energized unless special requests have been made and accepted to shut the power off and safely ground the system in the work areas. In the event of an emergency requirement to shut down power, the Operations Control Center (OCC) can shut off power from a remote control interactive monitor. There is also the ability to shut off power at each substation with an exterior Emergency Trip Switch or within the substation by maintenance. Whenever these emergency trip switches are depressed, a call to OCC is required to report the closure and the reason. Again in order to verify total safety, the wire must be grounded by Cincinnati Bell Connector Streetcar Maintenance Personnel and verified by the requesting Contractor.

The Streetcar transfers the power from the OCS wire by way of a Pantograph and associated carbon strips on the top of the streetcar. The 750 DC voltage collected by this form of transmission is utilized for all control and power voltages required to operate the streetcar. The pantograph whenever in contact with the energized line is also energized and should never be contacted. As mentioned earlier the traction power distributed to and through the streetcar is returned to its source (substations) by way of the tracks which are insulated from ground.

The source of overhead DC electrical power is provided from substations located along the alignment as previously discussed. Each of the three trackway substations are metal enclosed structures surrounded by walls or locked fencing to control access. They are also secured from unauthorized access by intrusion alarms and cameras. The substations are safety signed as to the high voltage danger inside. These substations are controllable both remotely and locally and for the most part operate very reliably and quietly on a regular basis. Cincinnati Bell Connector Streetcar maintenance personnel maintain the substations to ensure efficient and effective performance. In addition to the three along the trackway, there is one in the MOF yard for power to the yard tracks and one in the interior of the MOF for power to the shop tracks. All five of the system's substations are similar in design and operation.

Trackway

Communication for permittees' access to the work site and following the successful completion of the track access is by cell phone to OCC at 513-206-7824 or 513-903-6108. This communication requirement is essential to ensure that work crew safety is managed to completion.

If the permit work requires any construction activity, installation, excavation, lay down, placement, modification or alteration to the trackway zone of 7-½ feet from centerline of the tracks, it is essential that extreme care is taken not to damage Cincinnati Bell Connector Streetcar infrastructure or equipment. This special attention is also required regarding deliveries, use of dumpsters and lifts that may encroach into the safety envelopes. An inspection by Cincinnati Bell Connector Streetcar staff will be made following the completion of the job to apply responsibility to any damage that may have been incurred.

It is important not to utilize the trackway unless absolutely required which includes pedestrian crossing at crosswalks and always looking both direction for approaching trains, automotive vehicles, pedestrians and bicyclists. There is a flange way gap next to the rail and the head of the rail can become slippery if covered with oil or grease or other substances. To minimize slips or trips when on or near the trackway it is best to step across the track rather than stepping on the head of the rail. Switches should be avoided and care taken when work is required near them especially regarding the movement of switch points and the diverging movement made by the streetcar. When clearing for the streetcar ensure that you and your equipment do not foul the trackway envelope and that personnel do not cross tracks in front of a moving streetcar.

Personnel with level 1 or level 2 access training may enter the wayside for work **only** under the supervision of a trained Cincinnati Bell Connector Streetcar employee who has a level 3 or 4 access badge.

Safe clearance is used for performing work on the wayside (example: landscaping, sidewalk work, fencing, etc.) Work must be performed outside of the trackway safety envelope (area 7-½ feet in each direction from the center of track). Streetcars operating in the safe clearance area are allowed to operate at the maximum allowable speed. When the work area is restricted by presence of a work crew, the streetcar operators will operate at restricted speeds in the slow zone.

Safety Practices

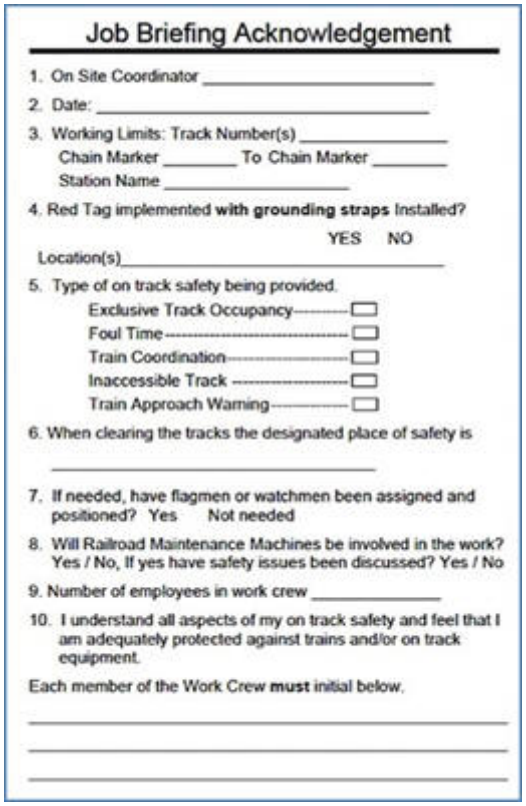
Job Safety Briefing

A Job Safety Briefing is a planning tool that helps ensure that a job is: injury and damage free, performed right the first time and follows Transdev Standards

Two way communication to ensure: each worker is alert and focused, knows what the hazards are surrounding the work area and the task, knows what the job is, knows how it will be accomplished, gives the team a chance to discuss better ways to do the job safely and if they have any concerns about the protection at the work site. Guidelines to follow when conducting a job briefing include: ensuring all individuals participate in the briefing, re-brief when conditions change or new tasks started, hold the briefings where and when all workers can be gathered and discuss the following:

- Statement of the job and basic steps
- Review a daily safety topic at the beginning and have each worker reference it in their books
- Assignment of tasks and responsibilities
- Existing and potential hazards
- Track safety protection and required personal protective equipment
- Emergency procedures
- Safe place to clear
- Required tools, equipment, and materials
- Necessary safeguards and procedures
- “Good Faith Challenge” and how it affects each worker

- Special conditions to watch for
- Feedback and questions
- Ensure each person signs the Job Safety Briefing form.
- If the job is complex, brief it in portions and be alert to changes in job conditions that require re-briefing
- If a new person joins the work group they must also be briefed and if necessary have a new job briefing with the entire work group
- Follow up and ensure each person performs responsibilities, so the job proceeds as planned



Job Briefing Acknowledgement

1. On Site Coordinator _____
2. Date: _____
3. Working Limits: Track Number(s) _____
   Chain Marker _____ To Chain Marker _____
   Station Name _____
4. Red Tag implemented **with grounding straps** Installed?
   YES NO
   Location(s)_____
5. Type of on track safety being provided.
   - Exclusive Track Occupancy ☐
   - Foul Time ☐
   - Train Coordination ☐
   - Inaccessible Track ☐
   - Train Approach Warning ☐
6. When clearing the tracks the designated place of safety is
   _____
7. If needed, have flagmen or watchmen been assigned and positioned? Yes Not needed
8. Will Railroad Maintenance Machines be involved in the work? Yes / No, If yes have safety issues been discussed? Yes / No
9. Number of employees in work crew _____
10. I understand all aspects of my on track safety and feel that I am adequately protected against trains and/or on track equipment.

Each member of the Work Crew **must** initial below.

_____
_____
_____

Good Faith Challenge

A Good Faith Challenge is an employee's right to challenge the protections afforded that are designed to protect the employee while in the right of way. If a worker feels that the protection provided to them is inadequate they can make a Good Faith Challenge. Under the Good Faith Challenge requirements the following will take place:

- Employee cannot be disciplined for making a Good Faith Challenge
- All workers remain in the clear until the challenge is resolved
- This allows for an additional opportunity to review the protection provided and ensure if it is adequate

General Rules

Personnel on or near the tracks should use these general rules.

- Always be alert and watchful; each person in the track area is responsible for their personal safety.
- Be aware of your location and the locations of others at all times.
- Call out a warning if a dangerous situation develops.
- Avoid sudden unplanned moves.
- When crossing the tracks in front or behind a stopped streetcar, cross far enough from the streetcar to be prepared for the streetcar to move in your direction.
- Never step on any rail, slipping off could cause serious injury.
- Never lay tools or equipment on the rails; objects could derail or damage a streetcar and flying debris could endanger personnel along the track.
- Always assume the overhead contact system is energized.
- Never make contact with the overhead wire under any circumstance unless with appropriate maintenance procedures.
- Always wear appropriate clothing for the job.
- Wear a reflective vest at all times.
- Wear only leather type work shoes in good repair. Sneakers and tennis shoes are unsafe.
- Wear clothing of proper fit. Loose clothing is a hazard.
- If you work crew mist be near the tracks and/or the overhead wire a constant lookout is required
- REMEMBER if you're safe today you'll be healthy tomorrow

Track Access Procedures

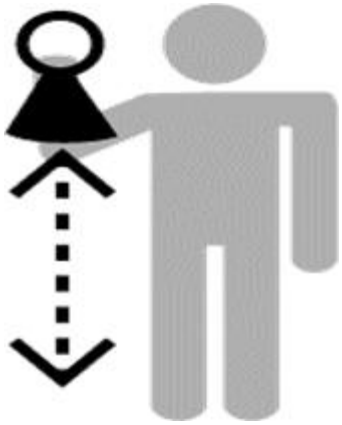
The track access training program involve instructions issued is several standard operating procedures. In addition to the Track Access process itself which is explained in the City's DOTE Right of Way permit process, the following are most important to remember the following:

- A flagging person familiar with the Streetcar standard operating procedures and safety regulations/rules should accompany all work crews for maximum safety.

The following are the approved hand signals:

Aspect: Hand signal swung horizontally at right angle to the track. Indication: **STOP**

Aspect: Slight vertical movement at arm's length at right angle to the track. Indication: **REDUCE SPEED/ PROCEED AT REDUCED SPEED**



Aspect: Raised and lowered vertically at right angle to track Indication: **PROCEED**

A red flag or cone in the center of the trackway denotes stop to the streetcar operator. -While the information presented in the training program is critical to a safe working experience along the streetcar trackway, common sense and good judgment is also required.

There is an application process for all ROW (Right Of Way) permits along the streetcar alignment. Contact the DOTE (Department of Transportation and Engineering) for additional information and associated track access permit. The permit will define the type of work, date, time and what is required of the crew to perform their work. When the Track Access permit is approved, it is returned to the DOTE/ROW management staff for processing with the permittee.

Prior to the date and time of the work access, the Supervisor in charge who has previously obtained the training and successful certification to perform the work required will call the Cincinnati Bell Connector Streetcar OCC at 513-206-7825 or 513-903-6108 to get permission to enter the work zone. The OCC will notify all trains and maintenance personnel of the work start time. The same process is required at the completion of the work and vacating of the Trackway.

Next Steps

Now that you have completed the training you will need to successfully complete the exam. And you must have a passing score of 90% (miss no more than two questions).

Thank you for your commitment to safety. Feel free to contact the Cincinnati Streetcar Transportation and Safety Manager on any questions or suggestions.