

SEQUENCE OF OPERATIONS – Como-Harriet Streetcar Line

This Sequence of Operations (SoO) applies to streetcars No. 1239, No. 322 and No. 1300. However, not all of the procedures described in this Sequence of Operations apply to No. 322 because of control differences. Also, for No. 322, reference to rear doors/gates means center doors. When operating No. 322, Operators will adhere to all other procedures found in this Sequence of Operations as far as possible. Operators on No. 322 will strictly adhere to the overhead targets and any other speed restrictions that apply to all the streetcars that operate on the Como-Harriet Streetcar Line. This SoO also has unique procedures because TCRT No. 1239 loads and unloads passengers only from the rear platform.

Location & Action	Motorman	Conductor	Platform Attendant/Guard
Linden Hills Station platform Passenger Loading	<ul style="list-style-type: none"> • Controller is off. • Reverser handle in neutral. • Control transfer lever is in forward movement position. • Open rear doors/gates to board passengers after receiving door signal (buzz) from Conductor. • (Car 1300) Instruct passengers to exit by the front platform. • (Car 1300) Open front doors and step down to platform to assist alighting passengers. 	<ul style="list-style-type: none"> • Signal Motorman to open rear doors/gates with ONE buzz of door signal system when car stops. • (Car 1239) Instruct passengers to exit by the rear platform. • (Car 1239) Wait for alighting passengers to exit car before boarding new passengers. • (Car 1300) If car was near full, ask boarding passengers to wait on back platform until car is half-empty. • Welcome boarding passengers. • Stand at rear fare box to ensure tokens go in fare box. Verify that tickets and passes are valid. 	<ul style="list-style-type: none"> • Supervise passengers leaving from car’s front doors (1300) or rear gates (1239) until all passengers have alighted. • Answer passengers’ questions. • Direct departing passengers into station to look at displays and merchandise.
Linden Hills Station platform Preparing to depart north	<ul style="list-style-type: none"> • After all passengers have alighted the streetcar, re-board streetcar and close front doors. • After receiving buzzer signal from Conductor, close rear doors/gates. 	<ul style="list-style-type: none"> • Halt boarding when car is full or there are no more passengers approaching the car. • Check station and platform area to make sure there are no passengers still buying tokens. • Signal Motorman to close rear doors/gates with TWO buzzes. • Assist passengers with seating and answer questions. 	<ul style="list-style-type: none"> • Watch platform area when doors/gates close. • Keep passengers/children away from car before departure. • Give warning of pending streetcar movement • Ask late arriving visitors if they plan to ride the car. If they do, direct them into the station.

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Linden Hills Station platform Departure northbound	<ul style="list-style-type: none"> • When Conductor signals Motorman to proceed north, set controls for forward movement: <ol style="list-style-type: none"> (1) put reverser handle in forward position; (2) move controller handle to the first position (point). • Ring foot gong 2 or 3 times. • Move air brake handle to full release. The car will begin moving automatically when air pressure is released. 	<ul style="list-style-type: none"> • Signal Motorman to proceed north with TWO rings of interior overhead bell when all passengers are seated. • Observe outside rear and sides of car while car is moving forward. • Make the safety announcement: “For your safety, please remain seated while the car is moving and keeps hands, arms and heads inside the car.” • Count all passengers, including babies, as you return to the rear of the car; record the number on the Daily Trip Sheet. • Cycle tokens through the farebox. 	<ul style="list-style-type: none"> • Supervise platform area keeping passengers away from departing car.
Linden Hills passing siding Northbound run	<ul style="list-style-type: none"> • Proceed north on 1st controller notch. • Speed <u>will not exceed</u> 5 miles per hour while on passing siding. 	<ul style="list-style-type: none"> • Observe passengers inside car and area outside car to rear and sides. 	<ul style="list-style-type: none"> • Return to platform duties. • Answer questions from waiting passengers.

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Location & Action	Motorman	Conductor
<p>North Passing Siding switch</p> <p>Northbound run</p>	<ul style="list-style-type: none"> • <u>Shut off power</u> when front of the car is 15-20 ft from switch frog. Coast through the switch no faster than 5 miles per hour. • Apply power after trolley pole passes through overhead frog. • Advance controller though all five notches. Maintain speed and control of car in accordance with overhead targets and any other operations instruction, bulletins, speed restrictions, etc. 	<p>Observe passengers inside the car and the outside area adjacent to car.</p>
<p>William Berry Parkway bridge</p> <p>Approaching Cottage City stop platform</p>	<ul style="list-style-type: none"> • Watch for pedestrians, joggers, animals, etc., on right-of-way • Ring warning foot gong if any persons or animals are on or near the ROW. Ring foot gong on approach to bridge even if you don't see anyone—they may be descending steps or hidden by the structure. • Watch out and be prepared to stop for objects on the rail or overhead wire. • Several short toots of whistle when passing under bridge is traditional. 	<ul style="list-style-type: none"> • Call out “Cottage City” station stop approximately four pole lengths south of the platform. • Watch passengers. Warn them of safety hazard if heads, arms, etc., are hanging out windows. • If passenger(s) indicate they want to get off at Cottage City, inform Motorman with ONE ring of the interior overhead bell.

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<p>Cottage City</p> <p>Station stop to pick-up or drop off passengers</p>	<ul style="list-style-type: none"> • Begin to slow speed of car if passengers are observed standing on or near Cottage City platform or if Conductor indicates car should stop with interior overhead bell. <p>For Car No. 1300</p> <ul style="list-style-type: none"> • Stop the car with the front door on the ground platform if passengers are present and indicate they want to board the car or if passengers want to get off. • Open & close front doors after passengers have boarded or alighted from the car. • Inform boarding passengers to pay the fare at the depot. • After passengers are seated proceed north after Conductor directs forward movement with TWO rings of the interior overhead bell. <p>For Car No. 1239</p> <ul style="list-style-type: none"> • Stop car with rear gates on platform. • Open/close rear gates when signaled by the Conductor. • Proceed north after Conductor rings interior overhead bell TWO times. 	<p>For Car No. 1239</p> <ul style="list-style-type: none"> • Verbally direct Motorman to move car forward or back so car’s platform steps are on the small ground platform. • Signal the Motorman to open gates (one long buzz) when car is stopped. • Inform boarding passengers to buy tokens at the station. • After boarding passengers and all other passengers are seated, signal Motorman to close gates. • Signal Motorman to proceed with TWO rings of the interior overhead bell. <p>NOTE. On car No. 1239, passengers board and alight only from the rear platform. The Motorman should try their best to align the rear gates with the small platform. If necessary, the Conductor will verbally direct the Motorman to the final position of the car to ensure the rear gates are on the platform.</p> <p style="color: blue;">On all cars, the signal to proceed north when all passengers are aboard and seated will be given by the Conductor using the interior overhead bell.</p>
<p>Lakewood Cemetery</p> <p>Run to north platform</p>	<ul style="list-style-type: none"> • Observe and comply with overhead targets and other operations instructions, bulletins, speed restrictions, etc. • Watch for pedestrians, joggers, animals, etc., on ROW. • Ring warning foot gong if any persons or animals are on or near the ROW. • Watch out and be prepared to stop for objects on the rail or overhead wire. 	<p>Observe passengers. Warn them of safety hazard if heads, arms, etc., are hanging out windows.</p>

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Lakewood Cemetery Approaching north platform	<ul style="list-style-type: none"> • Turn off power when car reaches yellow overhead target. • Make brake applications to slow the streetcar as it approaches the north platform. • Slow car well ahead of platform. Be prepared to stop short of platform if passengers are on or near the platform. • Ring foot gong several times to signal approach of the car. • Stop car with rear doors on platform. 	Call out <i>“Lakewood Cemetery-Lakewood Cemetery”</i> approximately four pole lengths before car arrives at Lakewood Cemetery platform.
North platform (Lakewood Cemetery) Car is Standing	<ul style="list-style-type: none"> • After coming to complete stop move reverser handle to neutral. • If there are passengers waiting to board, open rear doors/gates after signal from Conductor. • Stand up and go towards the middle of the streetcar so passengers in the rear of the car can hear the talk. • Give the end-of-line welcome and history talk. Use suggested talk found in general procedures memo as a guide. The end of the line talk is an important part of the riders’ streetcar experience. • After talk is done, move back to the front of the streetcar and prepare for southbound run. 	<ul style="list-style-type: none"> • If there are boarding or departing passengers, signal Motorman to open the rear doors/gates (center doors on No. 322). For boarding passengers, step off the car to talk with them so as not to interrupt the Motorman’s end-of-line talk. • Ask departing passengers if they will return by streetcar. If they answer “yes” give each passenger a transfer. Inform passengers of the time of the last streetcar run of the evening. • Tell boarding passengers to purchase fares at the station. • Cycle tokens through the fare box. <p>NOTE: At their option, the Motorman and Conductor may switch roles if the Motorman does not wish to give the end-of-line talk.</p>

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Lakewood Cemetery platform Prepare to depart south	<ul style="list-style-type: none"> • After Conductor sends Motorman THREE rings of the interior overhead bell: <ol style="list-style-type: none"> (1) move control transfer lever to rear movement position. Check to ensure it clicks into place and is properly seated; (2) Move reverser handle to reverse position; (3) Move controller to 1st notch. • Answer Conductor’s request to proceed with THREE rings when all of the above is done and it is safe for the car to proceed south. 	<ul style="list-style-type: none"> • When ready to depart: <ol style="list-style-type: none"> (1) Unfold brake handle/lever and set in full apply position (all the way to the right). (2) Ring interior overhead bell THREE times to direct Motorman to set the controls for movement to the south.
Lakewood Cemetery platform Depart Southbound ⑫	<ul style="list-style-type: none"> • After Conductor applies power advance controller handle to the 1st notch and leave it there until Conductor completes the rolling brake test. • After successful completion of the rolling brake test and the Conductor turns power back on, slowly advance the controller until it is in the fifth notch. • Observe ammeter. Cycle controller to OFF, then back to first position and prepare to advance controller as Conductor turns power off and on. 	<ul style="list-style-type: none"> • After receiving THREE ring reply from Motorman, check that all doors are closed and area outside of the car in direction of travel is clear. • Ring exterior warning foot gong 3+ times. • Fully release air brakes. • When safe to proceed push START switch. • When car attains speed of 5 mph, push OFF switch and conduct rolling brake test. • When car slows and it appears brakes are working properly, release the air and push START switch to resume the run. <p>IMPORTANT. If power does not shut off when the OFF switch is pushed, come to an immediate stop by placing the brake valve in emergency position (all the way to the right).</p>

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Lakewood Cemetery Run South to Cottage City	<ul style="list-style-type: none"> • Call out “<i>Cottage City</i>” station stop when approaching William Berry Pkwy. Bridge. • Watch passengers. Remind them of safety concerns if heads, arms, etc., are hanging out windows. 	<ul style="list-style-type: none"> • Observe and comply with overhead targets and other operations instructions, bulletins, speed restrictions, etc. • Watch for pedestrians, joggers, animals, etc., on right-of-way (ROW) and warn them as necessary. Use foot gong if necessary to warn pedestrians, trespassers, pets, etc.
Cottage City Stop Approaching Cottage City platform Stopping at Cottage City platform to pick-up or drop off passengers	<ul style="list-style-type: none"> • When Conductor turns off power as car approaches Wm. Berry Pkwy. Bridge, shut power off and then place controller handle in 1st notch. • If Conductor slows down to make station stop at Cottage City, shut-off power. • Open rear doors/gates when Conductor signals. • If streetcar does not stop at Cottage City, slowly notch up to 5th notch when Conductors applies power after passing the green target just beyond the William Berry bridge. 	<ul style="list-style-type: none"> • Shut off power when car passes yellow target just to the north of Wm. Berry Pkwy. Bridge. • Speed when going under bridge is 10 miles per hour. • Ring warning foot gong as car passes under bridge. • If passengers are seen on Cottage City platform, bring car to a stop with rear door/gates on ground platform. • Signal Motorman to open rear doors/gates with ONE long buzz of door signal. • Welcome passengers aboard the car and direct them to be seated. • Tell boarding passengers they’ll pay their fare at the depot. • Signal Motorman to close rear doors by TWO buzzes of the door signal.

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<p>Cottage City</p> <p>Depart southbound if the car stopped to pick-up or drop off passengers.</p>	<ul style="list-style-type: none"> When Conductor signals intent to proceed southbound with THREE rings, place controller handle in 1st notch. Check to make sure all passengers are seated. Signal Conductor that it is clear to proceed with THREE bells. Slowly advance controller handle through all five notches as car proceeds southbound. 	<ul style="list-style-type: none"> Inform Motorman of the intent to proceed south with THREE rings of interior overhead bell. Check that all doors are closed and area outside of the car in direction of travel is clear. After receiving THREE bell ring reply from Motorman, Fully release air brakes by pushing brake handle all the way to the left. After all air from brake cylinder is exhausted, ring exterior warning foot gong. When safe to proceed push <u>START</u> switch. 	
<p>North siding switch</p> <p>Approach and pass over north siding switch on southbound run</p> <p>Linden Hills Station Safety Zone (area from the north siding switch until the south side of W. 42nd Street)</p>	<ul style="list-style-type: none"> When Conductor shuts-off power as car approaches north siding switch, shut controller off and then put controller handle in 1st notch. Continue to observe passengers inside car and in area around outside car as car proceeds towards 42nd Street crossing. 	<ul style="list-style-type: none"> Shut-off power when car passes yellow target north of north siding switch. Slow car down so it passes over switch going no faster than 5 mph. After trolley wheel passes the overhead frog, turn power on AND STAND UP. Don't go faster than 5 mph speed through entire Linden Hills Station Safety Zone area from north siding switch to 42nd Street crossing. Shut-off power at yellow target and apply air to brakes if car starts to go faster than 5 mph. 	<ul style="list-style-type: none"> When approaching car is sighted, start to move towards 42nd Street to pick up stop sign. Warn waiting passengers of approaching car. Watch for children and others near track.

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<p>Linden Hills Station area</p> <p>Linden Hills Station Safety Zone (area from the north siding switch until the south side of W. 42nd Street)</p> <p>Approach southbound</p>	<ul style="list-style-type: none"> • Leave the controller in 1st notch through the entire Linden Hills Station safety zone. • Observe all activities inside the car and in area outside of the car. 	<ul style="list-style-type: none"> • Approach Linden Hills Station and 42nd Street crossing with power off and brake handle in lap position. • Apply air to brakes so cars' speed is <u>no faster than 5 mph</u> as it approaches the south siding switch and 42nd Street. • Ring warning foot gong several times when car passes pedestrian underpass, the north end of the platform and the south siding switch. • Remain standing while operating through the Linden Hills Station Safety Zone area. • When the crossing guard is seen in the middle of 42nd Street, proceed through the crossing at a walking speed (4 mph). • If there is no crossing guard, MAKE FULL STOP. 	<ul style="list-style-type: none"> • Move into center of 42nd Street on east side of track to stop auto and pedestrian traffic as the car passes over the pedestrian underpass. • Direct auto and pedestrian traffic to stop when the car approaches 42nd Street.
<p>42nd Street</p> <p>Crossing 42nd street southbound</p>	<ul style="list-style-type: none"> • Keep controller handle in 1st notch. • Observe all activities inside the car and in area outside of the car. • After front of car has passed the center of W. 42nd Street slowly advance controller handle to 5th notch. 	<ul style="list-style-type: none"> • Closely observe auto and pedestrian traffic on Queen Ave. and 42nd Street. • If no crossing guard, and the crossing is clear of autos and pedestrians apply power. • Ring warning foot gong several times as car passes over 42nd Street. 	<ul style="list-style-type: none"> • Leave center of 42nd Street when car passes. Return to north side of 42nd Street. • Direct potential passengers into station to buy tokens

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<p>Isaacs Carbarn</p> <p>Approach and stop at Isaacs Carbarn</p>	<ul style="list-style-type: none"> • Keep controller handle in 5th notch as car travels towards George Isaacs Carbarn. • Observe all activities inside the car and in area outside of the car. • Shut off controller when Conductor shuts off power. Put controller on 1st notch. • When car comes to a full stop at the end of the southbound run, shut off controller. • Put reverser handle in neutral position. • Open rear doors/gates if Conductor requests it. 	<ul style="list-style-type: none"> • Maintain power as car travels southbound towards Isaacs Carbarn. • Ring warning foot gong at approximately every other line pole. • Shut off power when car passes yellow target. Coast until car reaches Isaacs Carbarn switch. • Apply air brakes if necessary so car crosses carbarn switch at 5 mph. • Stop car when it reaches the red target with an “S” on it. • On carbarn open house days or to drop off a passenger, stop car with front door (1300) rear gates (1239) on temporary step box/platform. • Signal Motorman to open rear/center doors with ONE long buzz. 	<ul style="list-style-type: none"> • Direct potential passengers into station to buy tokens. • Keep watch out for northbound streetcar.
<p>Isaacs Carbarn</p> <p>Depart northbound</p>	<ul style="list-style-type: none"> • Close rear doors upon receipt of door signal from Conductor. • Put control transfer lever in forward movement position. Check to ensure it is properly seated. Put reverser handle in forward position. • Request clearance from Conductor to proceed north by TWO rings/buzzes. • After receiving TWO ring/buzz answer from Conductor ring foot gong 2 or 3 times. Release air brakes and apply power. • When car attains 3 to 5 mph speed, shut off power and conduct rolling brake test. When you see movement of the air pressure gauge, release brake and apply power to continue the run. 	<ul style="list-style-type: none"> • Request that Motorman close rear/side doors/gates with TWO rings/buzzes if they are open. • After Motorman requests permission to proceed north by TWO rings/buzzes of interior signal system, fold-up brake handle and secure it in closed position. • Check that passengers are seated. • Answer Motorman’s request to proceed with TWO rings/buzzes of interior signal. 	

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Mainline south of 42 nd Street Northbound run and approach to 42nd Street crossing	<ul style="list-style-type: none"> Follow targets. Ring warning foot gong every other pole when going northbound. Observe the outside front and sides of car as the car approaches 42nd street. Ring foot gong as car approaches the 42nd street sidewalk. When crossing guard is seen in the middle of 42nd Street, proceed through the crossing at a walking speed (4 mph). If there is no crossing guard, make full stop. Apply power (1st notch) and cross 42nd Street at walking speed (4 mph) when it is safe to proceed. 	<ul style="list-style-type: none"> Observe passengers to ensure they are seated. Observe area outside of car for any hazards. Announce “<i>Linden Hills station—Lake Harriet</i>” station stop when approaching 42nd Street crossing. 	<ul style="list-style-type: none"> Move into center of street to stop auto and pedestrian traffic when approaching car is sighted. Stop all auto and pedestrian traffic as streetcar crosses street. Warn pedestrians of approaching streetcar if necessary.
42 nd Street Crossing the street and entering south siding switch and siding	<ul style="list-style-type: none"> Go through 42nd Street crossing no faster than 4 mph. Observe pedestrians to ensure they are clear of tracks and approaching car. Ring warning foot gong. Enter south siding switch only when yellow end of the single point of south siding switch is clearly visible. <u>If in doubt STOP.</u> Apply power (1st notch only) as car passes through switch and onto siding to maintain dead slow speed. Shut-off and re-apply power as car passes yellow painted area. Stop car at north end of platform. 	<ul style="list-style-type: none"> Observe passengers to ensure they are seated. Observe area outside of car for any hazards. Prepare for passenger unloading. 	<ul style="list-style-type: none"> Leave center of 42nd Street when car passes. Put stop sign in storage spot and go towards streetcar to assist with unloading and loading.

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Linden Hills station platform Car is stopped and Passengers are unloading from the front (1300) or rear (1239)	<ul style="list-style-type: none"> • Controller power is off. • Put reverser handle in neutral position. • Open rear doors/gates when Conductor buzzes door signal. • (Car 1300) Open front doors and tell passengers to exit by front platform. • Step down to platform to assist departing passengers. • Remove reverser handle from controller if leaving the front end of the car for any reason. 	<ul style="list-style-type: none"> • When car stops, signal Motorman to open rear doors/gates with ONE long buzz of door signal. • (Car 1239) Instruct passengers to exit by the rear platform. • Give platform attendant tokens from fare box as necessary. 	<ul style="list-style-type: none"> • (Car 1300) Assist with loading. • (Car 1239) Assist with passenger unloading. • (Car 1239) Tell boarding passengers to wait until alighting passengers are off the car before allowing them to board.

PROCEDURES FOR TWO CAR OPERATIONS.

1. Operation of an individual streetcar in two-car operations will follow the basic procedures outlined above except for the following.
 - When the northbound car leaves the loading platform to begin its run the streetcar will come to a complete stop when it reaches the pedestrian underpass.
 - When the southbound car passes the northbound car the northbound car is then clear to proceed north.
 - When a southbound car reaches the pedestrian underpass and the second car is not in sight **the southbound car will stop** and wait for the other car to go onto the siding before proceeding southbound. If in doubt as to the situation, the Operator of the southbound car will call the Foreman-in-Charge or Starter on the radio to request further instructions or to clarify the situation.

2. Special Operations Instructions.

- Depending on the nature of the special operation there will be either a Foreman-in-Charge or a Starter will be designated to act as a dispatcher for the duration of the special operation.
- In multi-car operations all operating personnel should ensure that radios are working and monitored at all times. Periodic radio checks are highly recommended to ensure that constant communication with the Starter/Foreman and all cars is maintained.
- If a Starter is designated during multi-car or special operations, or any other kind of special car movement, streetcar Operators will follow the instructions given to him/her by the Starter either in person or by radio message.
- In some instances a special Operating Order will be issued to govern streetcar movements during the period of time of the special operations. All operating personnel should read the Operating Order. If there are any questions or confusion regarding the meaning of any part of the Operating Order, personnel must get clarification from the Starter or Foremen-in-Charge.
- Streetcar Operators will always request permission from the starter to enter single track in either direction during multi-car operations. When it is known **or suspected** that another streetcar is operating, Foremen and Operators will operate the car in such a manner that they can stop the car within half the distance of their line-of-sight in the direction of travel. **SAFETY FIRST.**