



Trishaw E-Assist Bike Pilot Training Manual

No matter if you are an expert or novice cyclist, the uniqueness of the trishaw presents an opportunity to learn and discover a new skill. Everyone can become a safe and competent volunteer pilot by combining instructional videos, skill descriptions, hands-on experience, and common sense.

Pilot Skills is organized into 10 skill categories that provide information on riding strategies to help pilots understand their rights, responsibilities, and how best to protect everyone's safety. **Content in bold in the skill descriptions highlights key information.**

Cycling Without Age Lanark County chapter reminds all volunteers to cycle within their confidence and ability level.

Additional information:

Videos: <https://cyclingwithoutage.org/the-pilot/>

Cycles Toussaint AMI Manual:

https://cdn.shopify.com/s/files/1/0246/6225/files/AMI_Owners_Guide.pdf?8

Skill Category 1: Administration	
Ride Log & Inspection Sheets	<ul style="list-style-type: none"> • A reference binder is located on each bike (under-seat storage area). In the binder are 'Ride Log' sheets (with pre/post trip inspections and declarations) required for each ride, the pilot handbook (includes emergency numbers) and other helpful information and tools.
Knowledge of Route	<ul style="list-style-type: none"> • Pilots will refer to the reference binder for route summaries as these become mapped out. Pilots are expected walk or cycle the route to become familiar with it before talking passengers for rides. Knowing the route allows you to focus on the passenger's stories and cycling safely. • Volunteers will have the opportunity to participate in the route auditing process, including suggesting new routes and going on auditing rides.
Skill Category 2: Passengers	
Loading & Unloading Passengers	<ul style="list-style-type: none"> • Before loading passengers, prepare the trishaw: <ul style="list-style-type: none"> ○ Ensure the rear wheel lock is unlocked. ○ Activate the parking brake whenever parked. Check that the trishaw is stable by rocking the trishaw back and forth; the wheels should not move. ○ Remove the footplate. • Instruct the passenger to move into the footplate slot before sitting down, and put their foot close to the seat, not near the edge of the footrest. Reverse the process when unloading passengers. • Move the seatbelts aside so the passengers don't sit on them. Seatbelts must always be worn. With only one passenger, distribute the weight evenly by seating the passenger in the middle of the seat and using one combined seatbelt. • The max capacity of the passenger box is 350lbs while the entire trishaw's max capacity is 550lbs. • Helmets must be worn by pilots and passengers.
Conscious Riding	<ul style="list-style-type: none"> • Conscious riding involves the combination of training, common sense, and goodwill. It starts out with you being mindful of the changing care needs of your passengers. By asking staff about the passenger's health, you can best adapt your riding to their care needs. Throughout the ride, check in with your passenger to make sure they are comfortable with the trishaw's speed or ask if they need the blanket. Finally, conscious riding involves the pilot enjoying themselves on the ride. If you are having fun, your passenger probably is too.
Socializing with Passengers	<ul style="list-style-type: none"> • Operating the trishaw safely on the road has priority over socializing with passengers. • Let passengers know that you may not be able to talk at times because you need to concentrate on the road. However, the essence of the bicycle ride is about creating intergenerational relationships and spending time together. Ask questions, listen, talk about what you pass by, and make time to experience things that catch your passenger's attention. Feel free to stop and enjoy the view, or wave and smile to people you see.
Managing Unsafe	<ul style="list-style-type: none"> • Pilots are responsible for the safety of their passengers. It is good

<p>Passengers</p>	<p>practice to discuss expectations of the ride with passengers before starting out. Pilots must explain to passengers that they must remain sitting for their own safety and to not lean forward which may cause the bike to tip. If a passenger is being unsafe, find a safe location to stop away from traffic and contact the facility for assistance.</p> <ul style="list-style-type: none"> • In most cases, if a passenger is confused, redirect their attention by giving them activities to do along the way such as waving to neighbors and spotting birds. • Passengers must be able to sit upright in the bike and transfer into the bike with minimal or with minor assistance. Those requiring a lift into the bike must be accompanied by the Facility of Residence Support Staff Members (as passenger and pilot). This circumstance requires formal review with the Cycling Without Age Coordinator prior to acceptance of taking this degree of special needs passenger for trishaw rides.
<p>Staff-Volunteer Relations</p>	<ul style="list-style-type: none"> • The combined efforts of volunteers and paid staff can provide high quality service. • Volunteers should share stories and celebrate successes with staff as both groups have the same goal of providing quality care. • When interacting with staff of Senior Residences, patience and understanding is needed as staff members have difficult and demanding jobs. In most cases, please ask staff for assistance rather than making an immediate demand for help. Remember to thank them for their work in making the Cycling Without Age experience possible.
<p>Skill Category 3: Mounting and dismounting</p>	
<p>Mounting & Dismounting</p>	<ul style="list-style-type: none"> • Wait until the trishaw is completely stopped for both mounting and dismounting. • Ensure parking brake is on before dismounting. Always use the parking brake.
<p>Walking & Pivoting</p>	<ul style="list-style-type: none"> • Always walk the trishaw if you are in a crowd, on a sidewalk, or using a crosswalk. It is illegal to cycle in crosswalks. • Be careful when walking or in busy areas or tight spaces. Whenever walking the trishaw, always have at least one hand covering a brake lever in case braking is needed. Never let go of the trishaw if it is in motion; always apply the parking brake before letting go. • The trishaw can be pivoted on its front wheels by lifting the rear rack. Pivoting is useful for turning in tight spaces like sidewalks, crosswalks, pathways, and hallways. Always warn the passenger about your planned movement. Keep your left hand on the handlebar and cover the brake lever in case it is needed. Use the left hand so that the FRONT brakes are engaged, to fully stop the trishaw's motion.
<p>Skill Category 4: Starting</p>	
<p>E-Assist System</p>	<ul style="list-style-type: none"> • Rotate the battery holder key to the left, insert the battery in the space in the rear rack, and then rotate the key on the battery holder to the right: the battery is now locked. • Turn the system on by pressing and holding the power button. Take note of the readings available (battery charge level; assist level; Km/h). • The trishaw features a pedal-assist electric drive system also known as e-

	<p>assist.</p> <ul style="list-style-type: none"> • The e-assist system activates when the pedals are turning and deactivates when coasting. • Choose the desired assist level by pushing the “↑” (up) and “↓” (down) function on the handlebar control. • Find your own e-assist level for cycling comfort. Increase the e-assist level for climbing hills; decrease it for level roads or descents. • To turn the system off when finished riding, press and hold the power button. When the display is off, the system is off.
Strategic Starting	<ul style="list-style-type: none"> • Prior to stopping, shift the trishaw to a low gear to make starting easier. • Using either foot turn the crank backwards until one pedal is at 2 o’clock position – forward and high. Use your body weight to apply forward downward motion, by lifting your bottom from the seat, raising up and forward in one fluid motion and applying that energy to pushing the pedal forward and down, while pulling up on the handlebars with your hands using your body weight combined with your leg and arm muscles to get the bike moving. Once the crank moves, the e-assist will activate.
Managing Hills	<ul style="list-style-type: none"> • Always gear down before a climb and continue gearing down as required to maintain your cadence (rhythm of pedaling) and to avoid last-minute, grinding gear changes. • If you reach the lowest gear and are struggling, stand up on the pedals and use your body weight to assist with pedaling. As this position is more unstable, take care not to lose control of the trishaw. • On descents do not exceed walking speed as the trishaw may become unstable at higher speeds.
Skill Category 5: Stopping	
General Braking	<ul style="list-style-type: none"> • The trishaw uses disc brakes on all three wheels. The right lever controls the rear brake and the left lever controls both front brakes. Apply pressure firmly and evenly on both brake levers to maximize stopping power. Sudden or excessive application of the front brake could tip the trishaw or using just the rear brake could lead to skidding. It is important to always keep both hands on the handlebars when applying the brakes. While riding, cover the brake lever with your fingers so you are always ready to respond. • Take additional care when descending as braking will require additional distance. Initiate braking slowly and earlier than usual. Braking hard on a steep downhill could potentially flip the Trishaw forward. • Take additional care under wet conditions, as the stopping power of your brakes (as well as the brakes of other vehicles sharing the road) is dramatically reduced and your tires do not grip nearly as well. This makes it harder to control speed and easier to lose control. To make sure that you can slow down and stop safely in wet conditions, ride more slowly and apply your brakes earlier and more gradually than you would under normal, dry conditions.
Speed Control	<ul style="list-style-type: none"> • The faster you go: the higher the risk, and the longer it takes you to stop. Pilots must ride at a speed appropriate for the passenger and the conditions.

	<ul style="list-style-type: none"> Generally, passengers enjoy riding at 5-10km/h as it feels much faster than for the pilot. Always ask passengers if the speed is right for them. CWA preference is walking speed which encourages the passenger to converse with the pilot.
Skill Category 6: Shifting, turning, and cornering	
<p>General Shifting</p>	<ul style="list-style-type: none"> The trishaw has a 9-speed rear cassette and one front chain ring. The trigger shifter is on the right side of the handlebar. Use your index finger to shift up to a higher gear, and your thumb to shift down to lower gear. A 'lower' or 'slower' gear is one which is easier to pedal and is helpful for climbing hills. A 'higher' or 'faster' gear is harder to pedal and is helpful for increasing speed and descending hills. Remember a derailleur will shift only if you are pedaling forward. Never shift while pedaling backward or while stationary. Never pedal backwards immediately after shifting. This could jam the chain and cause serious damage to the trishaw. When shifting, reduce pressure on the pedals temporarily. This will result in smoother shifting.
<p>Strategic Shifting</p>	<ul style="list-style-type: none"> Always shift into the lowest, easy gear before you stop at an intersection. This requires thinking ahead because it can take 1-2 full pedal revolutions to complete a shift. Shift into a lower gear well in advance of hills. Never change gears while crossing an intersection because a mis-shift may mean you stall or struggle in the intersection. If you find yourself stuck on too high a gear, especially on hilly terrain, you can change gears by engaging the parking brake, dismounting the trishaw, lifting the rear wheel, downshifting, and moving the cranks with your hands or feet so the chain can move across the cassette.
<p>Turning & Cornering</p>	<ul style="list-style-type: none"> Check your mirror and shoulder check to make sure a turn is safe. Signal well in advance, being careful that you do not confuse other road users if there are side driveways between your present position and the turn. Decrease your speed and prepare your body to lean into the corner. Place both hands on the handle bar in the direction of the turn. Shoulder check again to make sure you are safe. As you enter a corner, look towards the end of it and into the next section of road. Avoid sudden braking and sharp turns. Keep your grip on the handlebars relaxed as it will give you better control. When turning on inclines, the weight of the passengers will pull the trishaw towards the downhill side, potentially tipping the trishaw. Slow down, be prepared and have a strong grip on the handlebars to maintain direction of travel.
Skill Category 7: Riding in traffic, General	

<p>Straight Line Cycling</p>	<ul style="list-style-type: none"> • Pilots should ride in a straight, predictable line so other road users can behave appropriately. • Pilots should be able to cycle in a straight line while conducting a shoulder check. • Give parked cars a wide berth in case a door opens (avoid being ‘doored’). • When cars are parked intermittently, ride in a straight line instead of swerving in and out between the parked cars, to increase your visibility and predictability.
<p>Lane Positioning</p>	<ul style="list-style-type: none"> • Get a feel for the width and length of the trishaw, as you will have to develop a new sense of spatial awareness compared to your standard bike. • The law requires vehicles moving at less than the normal speed of traffic to keep as close as practicable to the right-hand curb or edge of the roadway but this does not mean hugging parked cars or edge of the road: ride approximately one meter from curbs and parked cars when safe to do so. When safe, pilots should take extra space to maneuver around hazards without running the risk of hitting the curb or going off the edge of the road. • If there is no shoulder or bike lane and the curb lane is narrow, the law allows you to take the whole lane by riding in the center of it. This can be safer than riding near the curb, which may encourage motorists to squeeze by where there is insufficient room. Be prepared for the odd frustrated driver who is not familiar with the safe and legal operation of a bicycle.
<p>Visibility & Space Margins</p>	<ul style="list-style-type: none"> • Wear bright clothing such as a fluorescent yellow or orange t-shirt, vest or jacket. • To ride safely, you need to keep areas of space, called space margins, around the trishaw. • Continually ask yourself: <ul style="list-style-type: none"> ○ Do I have space to stop safely? Is there space ahead? Space behind? ○ Is there a car behind that might crash into me if I stop suddenly? ○ Do I have enough space to steer onto the shoulder? • Never cycle in a vehicle’s blind spot, either beside or behind it. Increase your space margins to achieve better visibility. When a driver of a vehicle takes their foot off the brake, the vehicle can roll backwards; therefore, leave extra room when stopped behind these vehicles. • Do not pass a vehicle waiting to make a right-hand turn. Stop and wait for the vehicle to turn. It might be waiting for some reason other than your trishaw and might turn into you if you attempt to pass.
<p>Hazard Perception</p>	<ul style="list-style-type: none"> • Anticipate behavior and movements of other road users by consistently thinking about the next 30 seconds. Do this by scanning between the front of the trishaw and about a half a city block ahead for potential hazards. • Always keep your eyes moving and try not to fixate on one spot. Avoid looking at your hands or feet when shifting or braking. • Pilots should be able to make safe decisions while dealing with more than

	<p>one potential hazard at a time. They must adjust their following distance in response to changing road conditions.</p>
<p>Skill Category 8: Riding in Traffic, Lanes and Intersections</p>	
<p>Intersections & Crossings</p>	<ul style="list-style-type: none"> • A bicycle always loses in a collision with a motor vehicle, so be prepared to yield even if you have the right of way. • Follow the “rules of the road” while exercising extra caution. Hand signals and eye contact with pedestrians and drivers is important. Remember, pedestrians have the right of way. • Remember, drivers can look your way and still not see you. Watch the vehicle’s front wheel to see what it is doing. • Treat every driveway like an intersection and watch for emerging traffic. Do not assume that a driver backing out of a driveway has seen you.
<p>Changing Lanes</p>	<ul style="list-style-type: none"> • Decide well in advance that you want to change lanes. Look ahead and in your mirror for hazards, shoulder check, signal, and shoulder check again. • Steer steadily into the other lane, looking ahead in the direction you want to go. Make sure you maintain speed as you change lanes to remain predictable for other road users. Remember; do not change lanes in an intersection or crosswalk. • Do not pass moving traffic on the motorists’ right side, since car drivers often neglect to shoulder check during right turns.
<p>Choosing a Safe Gap</p>	<ul style="list-style-type: none"> • A gap is the space you need to move safely across an intersection or to merge into a line of traffic. Deciding on whether a gap is big enough to be safe is not always easy. You need to consider the speed of traffic, the time it will take to do your maneuver, and the time it will take the trishaw to accelerate (longer than a regular bicycle). • Be careful not to underestimate the speed of approaching vehicles. They are often travelling much faster than they appear.
<p>Hand Signals</p>	<ul style="list-style-type: none"> • Hand signals are the primary communication tool on the trishaw. Always make hand signals well in advance of any turn to give other road users plenty of warning. Hold the signal for at least 5 seconds with fingers spread wide to make sure other road users see what you are doing. • Correct hand signals: <ul style="list-style-type: none"> ○ Right Turn: Either: <ul style="list-style-type: none"> • Extend left arm, bent up 90 degrees at the elbow, or • Extend right arm straight out. ○ Left Turn: Extend left arm straight out. ○ Stop: Either: <ul style="list-style-type: none"> • Extend left arm, bent down 90 degrees at the elbow, or • Extend left arm straight down and behind, with the hand splayed in a “stop” sign. • The proper turning sequence is: look ahead and in your mirror for hazards, shoulder check, then hand signal, then replace both hands on the handlebars, shoulder check again, then make the turn. • In the case of an emergency maneuver, the need for the cyclist to keep both hands on the handlebars may sometimes outweigh their need to signal. Safety should prevail, at the pilot’s discretion.
<p>Mirrors & Shoulder</p>	<ul style="list-style-type: none"> • The trishaw is equipped with a rear-view mirror. This safety device allows

<p>Checks (Note: not all Trishaws are equipped with mirrors)</p>	<p>you to keep track of the traffic behind you without having to turn and look away from the road in front.</p> <ul style="list-style-type: none"> • Mirrors do not replace shoulder checks as there is a large blind spot that can only be seen by shoulder checking. • Shoulder checking is vital for making safe turns or whenever you change your road position. It means looking back over your shoulder to see what the traffic behind you is doing. You must be able to shoulder check without wandering from a straight path. Remember a mirror does not replace the need to shoulder check in any circumstances. • The gesture of shoulder checking can also communicate to drivers that you know they are behind you.
<p>Skill Category 9: Riding in Traffic, Navigating obstacles</p>	
<p>Managing Obstacles</p>	<ul style="list-style-type: none"> • Always prioritize the safety and comfort of the passenger over the condition of the trishaw. For example, choose to ride over broken glass rather than making a sudden turn into traffic. • Avoid puddles since they might hide potholes or debris. • Always cross train tracks at a right angle or walk the trishaw across. • Small hazards such as rocks, paper cups, or small potholes can be ridden over. Remember that if you put the hazard directly between the two front wheels, it will hit the back wheel.
<p>Curbs & Bumps</p>	<ul style="list-style-type: none"> • When possible, warn the passenger of upcoming bumps. Reduce your speed and shift to a lower gear before travelling up or down curbs. Approach mountable curbs straight on and at a reasonable speed to minimize the swaying of the passenger’s seats. • Pilots may need to walk the trishaw up or down mountable curbs. Be aware of the potential for tipping the trishaw when doing so. Approach mountable curbs straight on if walking or travelling slowly to minimize tipping. Avoid vertical curbs to prevent getting stuck and damaging the undercarriage of the trishaw.
<p>Pedestrians, Cyclists & Pets</p>	<ul style="list-style-type: none"> • When approaching these obstacles from behind, slow down and ring your bell well in advance, then again as you approach. • If a person does not hear the bell, say firmly, “Passing on your left”. • Thank the people as you pass them • Dogs on leash can be a problem as they might dash in front of the trishaw as you pass, running under the wheels or getting their leash caught. Slow down and ensure the pet is under control before passing. • Dogs off leash are rarely under the control of their owners. Treat them as you would a stray: let them know you’re there, exercise caution, and give them a wide berth. • An aggressive dog is dealt with by stopping and requesting the owner take control of the dog. Do not be aggressive back to the dog or the owner. Your passenger’s safety and comfort are your first priority.
<p>Skill Category 10: Riding in Traffic, Communication and sharing</p>	
<p>Sharing the Road</p>	<ul style="list-style-type: none"> • Emergency vehicles displaying flashing lights and sirens always have the right-of way. All traffic must clear out of the way and stop. Stay vigilant during this clearing as drivers may focus on the sirens rather than your safety.

	<ul style="list-style-type: none"> • When the upper red lights of a stopped school bus are flashing and the flashing stop arm is extended, traffic in both directions must stop. If you are coming from behind the bus, stop at least 20 meters away, and a safe distance when approaching from the opposite direction. • People riding bicycles are a legitimate and recognized part of traffic and they have a legal right to safe riding conditions; however, the prevailing North American societal attitude holds the convenience of the driving majority above the safety of the cycling minority. All pilots should be aware of the status quo and adopt a cautious attitude when sharing the road with drivers.
<p>Communication</p>	<ul style="list-style-type: none"> • All road users communicate to give warnings, give responses, signal intentions, and to show their presence. Pilots must be confident using a variety of communication tools including hand signals, a bell, eye contact, body language, and lane positioning. • When you stop for pedestrians, make eye contact so they know you have seen them and it is safe for them to cross. • When “making eye contact” with drivers, remember that it’s not possible to tell if the driver has actually seen you. He or she may be facing you without having seen you. Continue to ride with caution. • Watch a vehicle’s front wheel to determine what it is doing. This is the best way to read a car’s motion and direction. • Bicycles are quiet, so warn other cyclists and pedestrians of your approach by using your handlebar bell. You can also shout “Passing on your left”.
<p>Managing Road Rage</p>	<ul style="list-style-type: none"> • Driving can sometimes be frustrating. Some motorists become angry because: <ul style="list-style-type: none"> ○ Roads are congested, ○ People have stress in their lives and are rushing to get somewhere, ○ Aggressive driving behavior is normalized in a car-dependent society, and ○ People think of cars as a status symbol and part of their own self-image. • The best way to prevent road rage is not to respond. Pilots can avoid road rage by: <ul style="list-style-type: none"> ○ Ignoring behavior aimed at provoking reactions and keeping distance from it ○ Reducing your own stress by taking deep breaths and not taking it personally • Pilots may become angry or impatient because of the driving environment. Remember to be patient and courteous as all road users make mistakes. Please positively represent CWA in all situations.