

# GroupTrack

## Quick Start Guide for Testers

Off-Road Convoy Tracking • Trail Maps • GPS Recording  
May 2026 | Closed Beta | Confidential

## Two Ways to Ride

	Solo Mode (Phone Only)	Group Mode (With Radios)
<b>What you need</b>	Just your Android phone	Phone + Meshtastic radio per rider
<b>Radios required</b>	None	3-4 recommended for full experience
<b>What you get</b>	GPS recording, trail maps, map downloads, track management	Everything in solo mode PLUS real-time convoy tracking
<b>Lead cart</b>	Automatic (you are the only rider)	User selects lead cart before ride
<b>Cell service</b>	Not needed on trail (download maps before)	Not needed — radios use mesh network
<b>Best for</b>	Exploring, solo rides, evaluating app	Group rides, convoy coordination

## 1. First Launch — Permissions

On first launch, GroupTrack requests several permissions. Grant all of these for the app to function properly:

Permission	What to Select	Why
Location	Allow all the time	GPS tracking, trail display, map centering. Must be 'all the time' for background recording.
Nearby Devices	Allow	Connecting to Meshtastic radios over Bluetooth.
Bluetooth	Allow	BLE communication with radios.
Notifications	Allow	Foreground service alerts during GPS recording.
Files / Storage	Allow (if prompted)	Map tiles and trail data stored in shared storage.

*Accidentally denied a permission? Go to Settings, Apps, GroupTrack, Permissions and change it to Allow.*

## 2. Pre-Ride Setup — Do This at Home on WiFi

Everything in this section happens before you leave the house. WiFi is required for map downloads. Radio programming requires a connected radio.

### 2A. Download Maps

GroupTrack stores map tiles locally for offline use on the trail. Download before you ride.

**Step 1.** Open GroupTrack. The Convoy Map loads by default. You can also use the Map Viewer from the menu — same download controls.

**Step 2.** Pan and zoom to the area you plan to ride.

**Step 3.** Tap the menu, then Download Maps.

**Step 4.** Select your tile source: **SAT** (satellite imagery), **TOPO** (contour lines), **HYB** (satellite + trails — best of both), or **TOPO+** (enhanced contours with shading).

**Step 5.** Select zoom levels. z14 for wide area overview. z15-18 for detailed ride area.

**Step 6.** Tap Download. Progress shows in the notification bar.

*Tip: Download z14 for the whole region first, then z15-18 for just the trail system. Both Convoy Map and Map Viewer share the same tile cache.*

## 2B. Program Your Radio (Group Mode Only)

Skip this section if riding solo. For group rides, each radio should run the GroupTrack convoy config.

**Step 1.** Power on your Meshtastic radio (T1000-E recommended).

**Step 2.** In GroupTrack, tap the Bluetooth icon in the top bar.

**Step 3.** Your radio appears in the device list. Tap to connect.

**Step 4.** Once connected, tap menu, then Radio Configuration.

**Step 5.** Tap Apply Convoy Config. This writes the off-road optimized profile.

**Step 6.** The radio reboots with new settings. Wait for reconnect.

**Step 7.** Repeat for each radio in the group.

**IMPORTANT: Radio programming may require two passes. If any errors are returned on the first pass, run Apply Convoy Config a second time. All 40 of 40 fields must validate successfully. Do not proceed to a ride until the config shows 40/40 applied with no errors.**

Setting	Value	Why
Modem Preset	Long Range / Slow	Maximum range in canyons and mountains
TX Power	Maximum (30 dBm)	Penetrate terrain and tree cover
Position Interval	3 seconds	Smooth real-time convoy tracking
Region	US (902-928 MHz)	FCC compliant

*Your original radio config is automatically archived. Restore it anytime from the Radio Configuration screen. All radios in the convoy should run the same config for best mesh performance.*

## 2C. Explore Trails

GroupTrack includes over 5,700 trails from the Utah Geospatial Resource Center covering southern Utah — Sand Hollow, Hurricane Cliffs, Warner Valley, Paiute Trail, and more.

**Step 1.** Open either the Convoy Map or Map Viewer.

**Step 2.** Pan to southern Utah.

**Step 3.** Tap the TRAILS button to toggle trail overlay on/off.

**Step 4.** Trails appear as colored lines. Zoom in to see trail detail.

*Trail data works fully offline after first load. Coverage is expanding — USFS, BLM, and additional states coming soon.*

## 3. On the Trail — Ride Experience

### 3A. Solo Mode (Phone Only — No Radio)

No radio needed. Your phone is the tracker. GroupTrack uses your phone's GPS to record your ride and display your position on the map.

#### Starting a ride:

**Step 1.** On the Convoy Map, tap the Record button.

**Step 2.** Recording starts immediately. No lead cart selection needed — you are the only rider and lead is assigned automatically.

**Step 3.** The record button turns red. Your position shows on the map.

**Step 4.** Ride! Your track draws on the map in real time.

#### During the ride:

- Your position updates on the map as you move
- Downloaded map tiles display even with no cell service
- Toggle TRAILS to see trail overlays on the map
- The map auto-pans to follow your position while recording

#### Stopping a ride:

**Step 1.** Tap the Stop button.

**Step 2.** Enter a name for your track when prompted.

**Step 3.** Your GPX file is saved. View it later in Map Viewer or Work With Tracks.

### 3B. Group Mode (3-4 Radios — Full Convoy Tracking)

Every rider sees every other rider's position in real time — no cell service required. The mesh radios communicate directly with each other.

#### Starting a group ride:

**Step 1.** All riders: power on radios, open GroupTrack, confirm radio is connected (Bluetooth icon shows connected state).

**Step 2.** Riders should appear as cart icons on each other's maps.

**Step 3.** One rider taps the Record button.

**Step 4.** A dialog appears: **select the lead cart**. This is the rider at the front of the convoy. Tap their callsign to designate them as lead.

**Step 5.** Recording starts. All riders are visible on the map.

#### What you see during a group ride:

- Cart icons for every rider with their callsign label
- Lead cart highlighted at the front of the convoy
- Convoy spread — distance between the lead and tail riders
- Speed and heading for each rider
- Real-time track colored by which cart passed through each segment
- Position updates every 3 seconds via mesh radio

### Best practices:

- Select lead cart before the group starts moving
- All radios should run the convoy config (Section 2B) — two passes if needed, 40/40 fields
- Keep radios powered throughout the ride — BLE drops if a radio powers off
- Start GPS recording before you move

*Even two radios are useful — you see each other and the distance between you. Three to four radios give the full convoy experience with lead, middle, and tail positions.*

## 4. After the Ride — Managing Tracks

### Viewing tracks on the map:

- Step 1.** Open Map Viewer from the menu.
- Step 2.** Tap the TRACKS button and choose **Select Tracks to Display**.
- Step 3.** Select one or more tracks to display on the map.
- Step 4.** Tracks render as colored lines over your downloaded map tiles.

### Importing tracks from other apps:

- Step 1.** Save GPX or KML files from Gaia, onX, or other tools to your Downloads folder.
- Step 2.** In GroupTrack, open the convoy menu, expand MAP SETTINGS, tap **Work With Tracks**, then tap the **Import** button in the header. (Also available from Map Viewer's TRACKS dropdown.)
- Step 3.** Select the files you want to import using checkboxes, or tap Select All.
- Step 4.** Tap Import. Multi-track files (like onX bundles) are automatically split into individual tracks.
- Step 5.** The recap dialog shows how many tracks were imported, skipped, or failed.

### Managing existing tracks:

Open the convoy menu, expand MAP SETTINGS, tap **Work With Tracks**. (Also available from Map Viewer's TRACKS dropdown.) You can rename, delete, share, move to Downloads, fix creation dates, search, sort, and filter your track library.

## 5. Troubleshooting

Problem	Solution
Radio not showing in scan	Toggle Bluetooth off/on in Android settings. Power cycle the radio. A radio can only connect to one p
Map is blank or gray	You need map tiles. Connect to WiFi and download tiles for your area (Section 2A).
No GPS position on map	Check that Location is set to 'Allow all the time' in Settings, Apps, GroupTrack, Permissions.
App shows ANR dialog	Tap 'Wait.' First launch is slower. Report to the GroupTrack team if this persists.
Trails not showing	Tap the TRAILS button to toggle visibility. Pan to southern Utah where trail data is currently available
Track not recording	Confirm the record button is red (active). Verify background location permission is granted.
Radio keeps disconnecting	Some budget Android devices have BLE compatibility issues. Use a name-brand phone.
Radio config errors	Run Apply Convoy Config a second time. All 40/40 fields must validate. Two passes may be needed
Other riders not visible	Confirm all radios are running the same convoy config and show as connected.

## 6. Providing Feedback

Your feedback shapes GroupTrack. As a closed beta tester, you are directly influencing the app's development.

- Report bugs with as much detail as possible — what you were doing, what happened, what device you're on
- Tell us what works well and what feels awkward
- Screenshots or screen recordings are extremely helpful
- Feature suggestions are welcome

**Thank you for testing GroupTrack. Your time on the trail is building the app.**