

Tower Navigator – User Manual

(version for TOTA / OK & OM Towers On The Air)

1. Introduction

TowerNav is a mobile web-based navigation application designed for activators of the **Czech Towers – TOTA** program.

It is used for quick tower lookup, displaying the tower location on a map, navigation by car or on foot, and seamless switching to **Tower Logger** afterwards.

The application is optimized for mobile phones and works even with limited signal coverage.

2. Main Features

- Display of the user's current position (GPS).
 - Display of a selected tower from the TOTA database.
 - Car or walking navigation to the nearest accessible point.
 - Display of distance and direction (arrow shows the correct heading).
 - Route loading via navigation API.
 - Button to search for the nearest towers.
 - **Center on me** button – returns the map to the current position.
 - Automatic GPS position tracking (“follow-me”).
 - Mobile-optimized UI, including simplified menus and shortened input fields.
 - Direct integration with **Tower Logger**.
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3. User Interface

The application is divided into two main sections:

3.1 Top Control Panel

Contains:

- **REF field** – for entering the TOTA reference (e.g. OKR-1234).

The field is intentionally shortened to fit mobile screens.

- **Mode button** – select **Walking** or **Car**.
- **Find & Navigate** button – opens the route (car/walking).
- **Center on me** button – moves the map back to the GPS position.
- Remaining distance display.

3.2 Map

Interactive map showing:

- current user position,
- selected tower,
- direction arrow (heading),
- optional navigation routes.

The map supports pinch zoom, rotation, and smooth GPS tracking.

4. Using the Application

4.1 Finding a Tower

1. Enter a reference, e.g. OKR-1234, into the Reference field.
2. Select the navigation mode.
3. Press **Find & Navigate** – the application loads the tower coordinates, marks it on the map, and displays the route.

4.2 Navigation Modes

The application supports two navigation modes:

Car navigation

- Leads to the nearest point accessible by car.
- The user can then switch to walking navigation if needed.

Walking navigation

- Leads directly toward the tower (fastest walking route).

4.3 GPS Tracking (Follow-me)

Automatically moves the map so the user remains centered.

Follow mode is disabled if the user manually moves or zooms the map.

4.4 “Center on me” Button

Restores GPS tracking and recenters the map on the user. Useful when the map was moved by scrolling or zooming.

4.5 “Nearest Towers” Button



Displays the 10 nearest towers from the current position.

5. Technical Information

5.1 Technologies Used

TowerNav uses:

- **Leaflet.js** for maps,
- **Geolocation API** for GPS,
- **TOTA API** for tower data,
- **OpenRouteService / Mapy.cz** routing (depending on version),
- mobile-optimized CSS.

5.2 Mobile Optimization

- Shortened Reference input field.
 - Compact navigation menu to fit screen width.
 - Buttons placed on separate rows for easier outdoor operation.
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6. Recommendations for Field Use

- Enable high GPS accuracy.
 - Do not use power-saving mode – it limits GPS performance.
 - If navigation shows an incorrect direction, tilt and rotate the phone (compass calibration).
 - For offline areas, prepare the route in advance.
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7. Installing TowerNav as a Mobile App

TowerNav can be installed on a mobile device as a **PWA (Progressive Web App)**. After installation, it behaves like a standard mobile app – it has its own icon, runs full-screen, is faster, and works better with weak signal.

7.1 Installation on Android (Chrome, Edge, Opera, Brave)

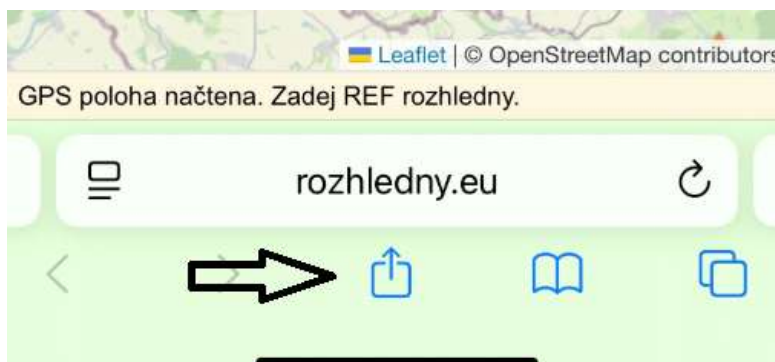
1. Open TowerNav in your browser (Chrome recommended).
2. Tap the **:** menu in the top-right corner.
3. Select **Add to Home screen** or **Install app**.
4. Confirm **Install**.
5. A TowerNav icon will appear on the home screen – from now on, the app launches as a full mobile application.



7.2 Installation on iPhone (Safari)

Apple allows PWA installation only via **Safari**.

1. Open TowerNav in the Safari browser.
2. Tap the **Share** icon (square with an upward arrow) at the bottom.
3. Select **Add to Home Screen**.
4. Confirm the name **TowerNav** and tap **Add**.
5. The app icon will be saved to the iOS home screen, and TowerNav will run in a separate window without an address bar.



Přidat k rychlé poznámce 

Hledat na stránce 

Přidat na plochu  

Anotovat 

Tisknout 

Zrušit

Přidat na plochu

Přidat

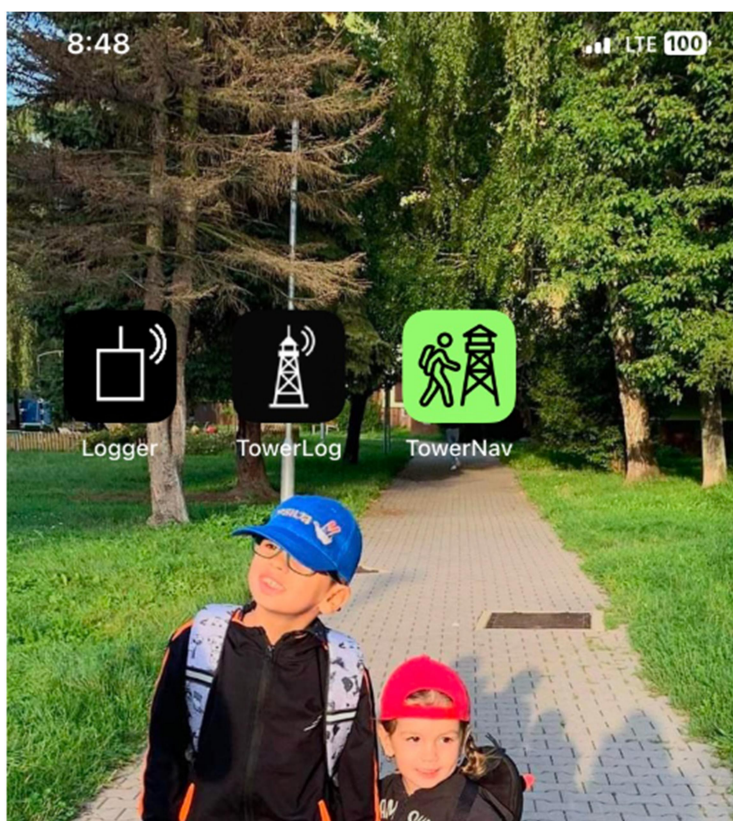


TowerNav



<https://rozhledny.eu/towernav/inde...>

Na plochu bude přidána ikona pro rychlý přístup k webovým stránkám.



7.3 Advantages of PWA Installation

- Faster launch than using a browser.
 - Full-screen operation without address bar or browser controls.
 - Usable even with weak signal – some data is stored locally.
 - Automatic updates without user intervention.
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8. What to Do If Location Does Not Load in TowerNav

If TowerNav cannot detect your position, GPS is usually disabled or not permitted on your phone.

This is not an application error – a quick settings check is sufficient.

iPhone / iOS (Safari, PWA on Home Screen)

- Open **Settings**
- Select **Privacy & Security**
- Tap **Location Services**
- Find **Safari**
- Set:
- **While Using the App**
- enable **Precise Location**

If it still does not work:

- Go to **Settings → Safari → Website Settings → Location**
- Set to **Allow**

Note:

If location access was previously denied, iOS will not ask again – it must be enabled manually in settings.

Android (Chrome / PWA)

- Open **Settings**
- Select **Location**
- Make sure Location is enabled
- Then go to **Settings → Apps → Chrome**
- Select **Permissions → Location**
- Set **Allow while using the app**

If TowerNav is already running:

- close the application
- reopen it from the home screen icon

Important Information

- TowerNav uses the phone's GPS, not network-based location
- location is requested only after pressing a button
- without location permission, navigation and nearest-tower search will not work

How to Know Everything Works Correctly

- after pressing **Center on me**, the map moves to your position
- a locator (e.g. JN89...) is displayed
- nearest towers can be searched

If You Are Still Unsure

Try:

- turning Airplane Mode on and off
 - restarting the phone
 - reopening TowerNav from the home screen icon
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9. Support

Application author:

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Project **Czech Towers – TOTA**

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