WHO's Health Economic Assessment Tool (HEAT) for walking and cycling: assessments via API

Thomas Götschi, UC Berkeley; WHO consultant | Tomasz Szreniawski, HEAT Lead developer

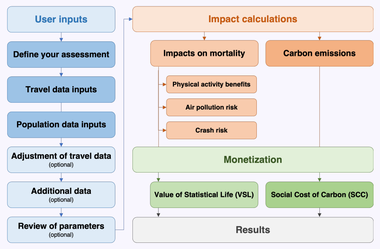
P1.34

The HEAT web interface guides users through a single health impact assessment, step-by-step. For projects covering **many locations, years or scenarios**, the HEAT API lets you **automate repeated assessments**: configure a single assessment, prepare a table of variations, and run them through the API.

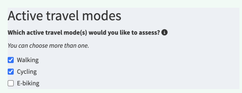
Single HEAT assessment

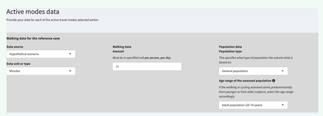
New to HEAT?

A free online calculator to assess health and carbon impacts of walking and cycling, and monetize these.
www.heatwalkingcycling.org



The HEAT user interface

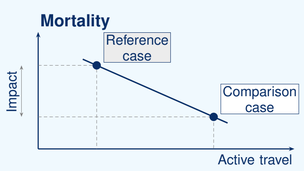


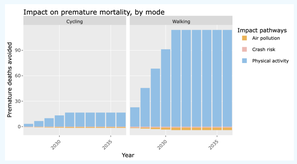


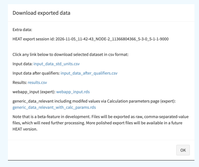


In the web interface you select active modes, enter travel and population data, and various other specifications.

Calculate and export







The tool compares a reference with a comparison case to estimate impacts.

Export **webapp_input.rds**: this file contains the assessment parameters to reuse and vary through the API.

Many assessments with HEAT API

Build your own code, or contact HEAT support (heatwalkingcycling@who.int) and we will share an R code template with you. You will also have to contact us to obtain an access token. Note: This feature is in beta; support may take some time.

1 Prepare a table of scenarios

A scenario is a unique combination of inputs: location, year, active travel, etc. One row = one assessment.

Scenario	Location	Year	Travel
1	Place A	Year 1	Value 1
2	Place B	Year 2	Value 2

2 Run the code for each row

The available R tutorial/template processes one scenario at a time.

Apply your table rows to the exported webapp inputs profile one row at a time

Submit to the remote HEAT API

Receive and append the results

Next row: repeat until the results table is complete

3 Process the results

Use the complete table for plots, trends and sensitivity analyses.

Example applications

The HEAT API is a beta feature available upon request. Example case studies include:

- **Portugal:** Multiple scenarios in Lisbon (Félix et al., 2025. *Reproducible methods for modeling combined public transport and cycling trips and associated benefits: Evidence from the biclaR tool*)
- **England:** walking and cycling assessments across multiple cities.
- **Netherlands:** retrospective cycling assessments over many years (since 1975).
- **Europe:** cycling scenarios across 30 countries. Below median (6 min/person/day), raise to median. Above median, raise by 20%. See figure below.

Grey: baseline; gold: increase; green/red: net health benefits/harm; blue/red: monetary valuation 2026–2036.
Results for illustrative purposes only. Data updates are forthcoming. Do not cite or quote.

How to get access to the HEAT API?

- Start here: scan the QR code and follow the instructions, or visit www.heatwalkingcycling.org and contact support for access.

Scan for API instructions

AI declaration: Generative AI (OpenAI Codex) assisted with drafting, code and figure preparation, and layout. The authors retain responsibility for the content.