

Release Statement

Global mosaic of travel time per country to selected healthcare facilities, version 1.0.

20 September 2025

Abstract

This data release provides global maps of travel time to selected* healthcare facilities with and without access to motorized transport. Weiss's [1] global 'friction surfaces' containing the estimated time required to traverse each pixel with and without using motorized transportation were used. Locations of hospitals and clinics were derived from "Healthsites" [2]. R package "traveltime" [3] was used for calculation of travel time. These data were produced by the WorldPop Research Group at the University of Southampton.

*(hospital, clinic, health post, health centre, health station, dispensary)

The authors followed rigorous procedures designed to ensure that the used data, the applied method and thus the results are appropriate and of reasonable quality. If users encounter apparent errors or misstatements, they should contact WorldPop at release@worldpop.org.

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Release Content

- global_TT_HC_M_fWS_v1.tif
- global_TT_HC_M_fWS_cls_v1.tif
- global_TT_HC_W_fWS_v1.tif
- global_TT_HC_W_fWS_cls_v1.tif
- global_TT_HC_M_W_fWS_binary_cls_v1.zip
- HF_pnts.gpkg

Suggested Citations

Tejedor-Garavito N., Priyatikanto R., Zhang W., Fang W., Nosatiuk B., Steingraber A., and Bondarenko M. "Global mosaic of travel time per country to selected healthcare facilities, version 1.0" 2025 <https://dx.doi.org/10.5258/SOTON/WP00848>

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File Descriptions

The projection for all GIS files is the geographic coordinate system WGS84 (World Geodetic System 1984).

global_TT_HC_M_fWS_v1.tif

This geotiff raster contains global travel time maps with access to motorized transport.

global_TT_HC_M_fWS_cls_v1.tif

This geotiff raster contains global travel time maps with access to motorized transport classified to five groups:

- 1- [0-30] min
- 2- (30-60] min
- 3- (60-120] min
- 4- (120-180] min
- 5- (180 >) min

global_TT_HC_W_fWS_v1.tif

This geotiff raster contains global travel time maps without access to motorized transport.

global_TT_HC_W_fWS_cls_v1.tif

This geotiff raster contains global travel time maps without access to motorized transport classified to five groups:

- 1- [0-30] min
- 2- (30-60] min
- 3- (60-120] min
- 4- (120-180] min
- 5- (180 >) min

HF_pnts.gpkg

Points location of hospitals and clinics

global_TT_HC_M_W_fWS_binary_cls_v1.zip

Contains binary representation of “global_TT_HC_W_fWS_cls_v1” and “global_TT_HC_M_fWS_cls_v1”

WORKS CITED

1. Weiss, D. J., Nelson, A., Engstrom, R., Moner-Girona, M., & Taylor, N. (2020). Global maps of travel time to healthcare facilities. *Nature Medicine*, 26(12), 1835–1838. DOI: 10.1038/s41591-020-1059-1
2. Saameli, R., Kalubi, D., Herringer, M., Sutton, T., de Roodenbeke, E. (2018). Healthsites.io: The Global Healthsites Mapping Project. In: Hostettler, S., Najih Besson, S., Bolay, JC. (eds) *Technologies for Development*. UNESCO 2016. Springer, Cham. https://doi.org/10.1007/978-3-319-91068-0_5
3. Ryan GE, Tierney N, Golding N and Weiss DJ. traveltime: an R package to calculate travel time across a landscape from user-specified locations [version 1; peer review: 1 approved, 2 approved with reservations]. *VeriXiv* 2025, 2:99 (<https://doi.org/10.12688/verixiv.989.1>)