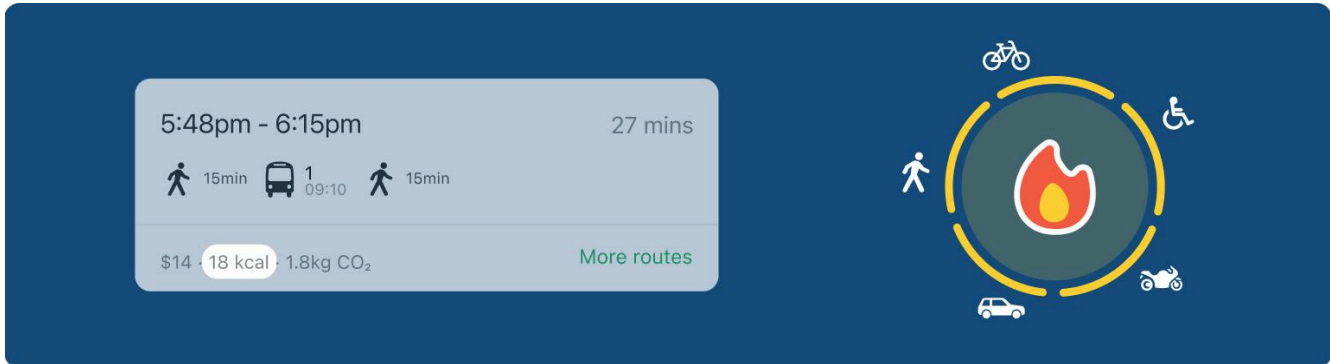
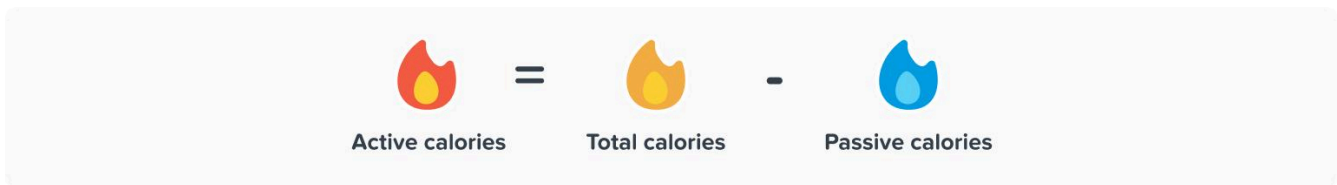



How we calculate calories




Every portion of a trip that corresponds to any of the previous activities will add up to the total calories cost of the trip. The public transport portions of a trip don't add up any calories by themselves, but e.g.: walking to/from the train station does add the corresponding walking calories. Also note that we only add the "active" calories associated to each activity, this is achieved using a formula like this:



 **Riding motorbike**
3 kcal/min¹

 **Driving car**
2 kcal/min²

 **Walking**
Slow: 74 kcal/km³
Medium: 54 kcal/km⁴
Fast: 48 kcal/km⁵

 **Cycling**
Slow: 28 kcal/km⁶
Medium: 23 kcal/km⁷
Fast: 23 kcal/km⁸

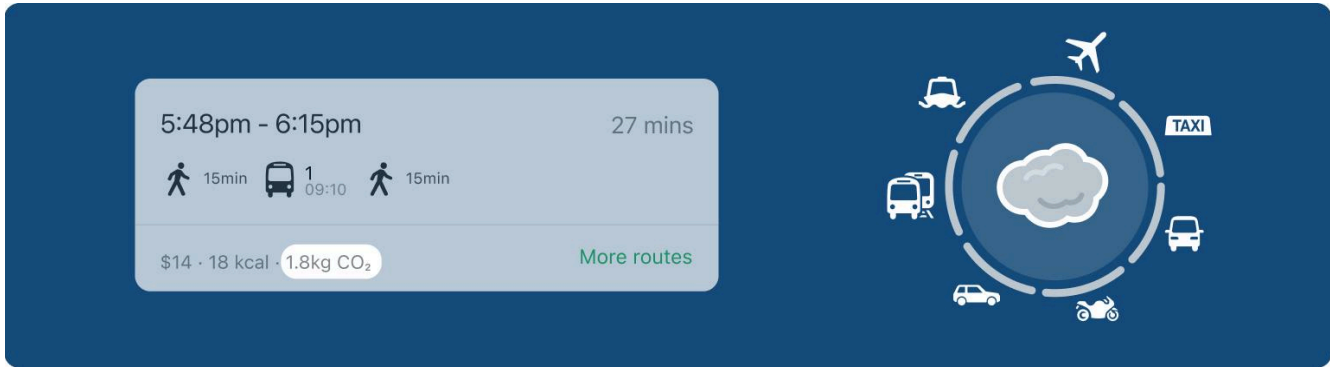
 **Rolling a wheelchair**
120% x Walking calories

 **Passive calories**
1 kcal/min⁹

Sources:

- <http://www.wolframalpha.com/input/?i=calories+burnt+1hr+motorcycle+driving>
- <http://www.wolframalpha.com/input/?i=calories+burnt+for+1hr+driving+car>
- <http://www.wolframalpha.com/input/?i=calories+burnt+for+1km+walking+at+2km%2Fh>
- <http://www.wolframalpha.com/input/?i=calories+burnt+for+1km+walking+at+4km%2Fh>
- <http://www.wolframalpha.com/input/?i=calories+burnt+for+1km+walking+at+6km%2Fh>
- <http://www.wolframalpha.com/input/?i=calories+burnt+for+1km+cycling+at+8km%2Fh>
- <http://www.wolframalpha.com/input/?i=calories+burnt+for+1km+cycling+at+12km%2Fh>
- <http://www.wolframalpha.com/input/?i=calories+burnt+for+1km+cycling+at+16km%2Fh>
- <http://www.wolframalpha.com/input/?i=calories+burnt+1hr+doing+nothing>

How we calculate carbon emissions



The carbon cost is measured in kg of CO₂ emissions. The carbon emissions for a trip are the sum of the emissions of each segment, and are reported per passenger kilometre.

Per-vehicle emissions



Car*

171 gram/km



Motorbike*

111.38 gram/km¹



Taxi / TNC**

257.25 gram/km



Van / shuttle bus***

49.6 gram/km²

Per-passenger emissions:



Commuter train

41 gram/km¹



Bus

117.74 gram/km¹



Light rail / tram

28.61 gram/km²



Subway

28 gram/km²



Ferry

111.31 gram/km¹



Intercity coach

27 gram/km



Intercity train

35 gram/km



Plane

244 gram/km¹

Sources:

(1) EEA'16: <https://www.eea.europa.eu/publications/term-report-2016/download>

(2) https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69314/pb13625-emission-factor-methodology-paper-110905.pdf

Notes:

(*) Motorbike and car emissions are customisable as input parameters to routing, so that API users can adjust them according to specific vehicle emissions and occupancy rates.

(**) When converting to per-passenger emissions, regular taxi trips assume a single passenger, while taxi pooling assumes two passengers, halving the emissions.

(***) When converting to per-passenger emissions, assumes average occupancy of 5 passengers per vehicle.