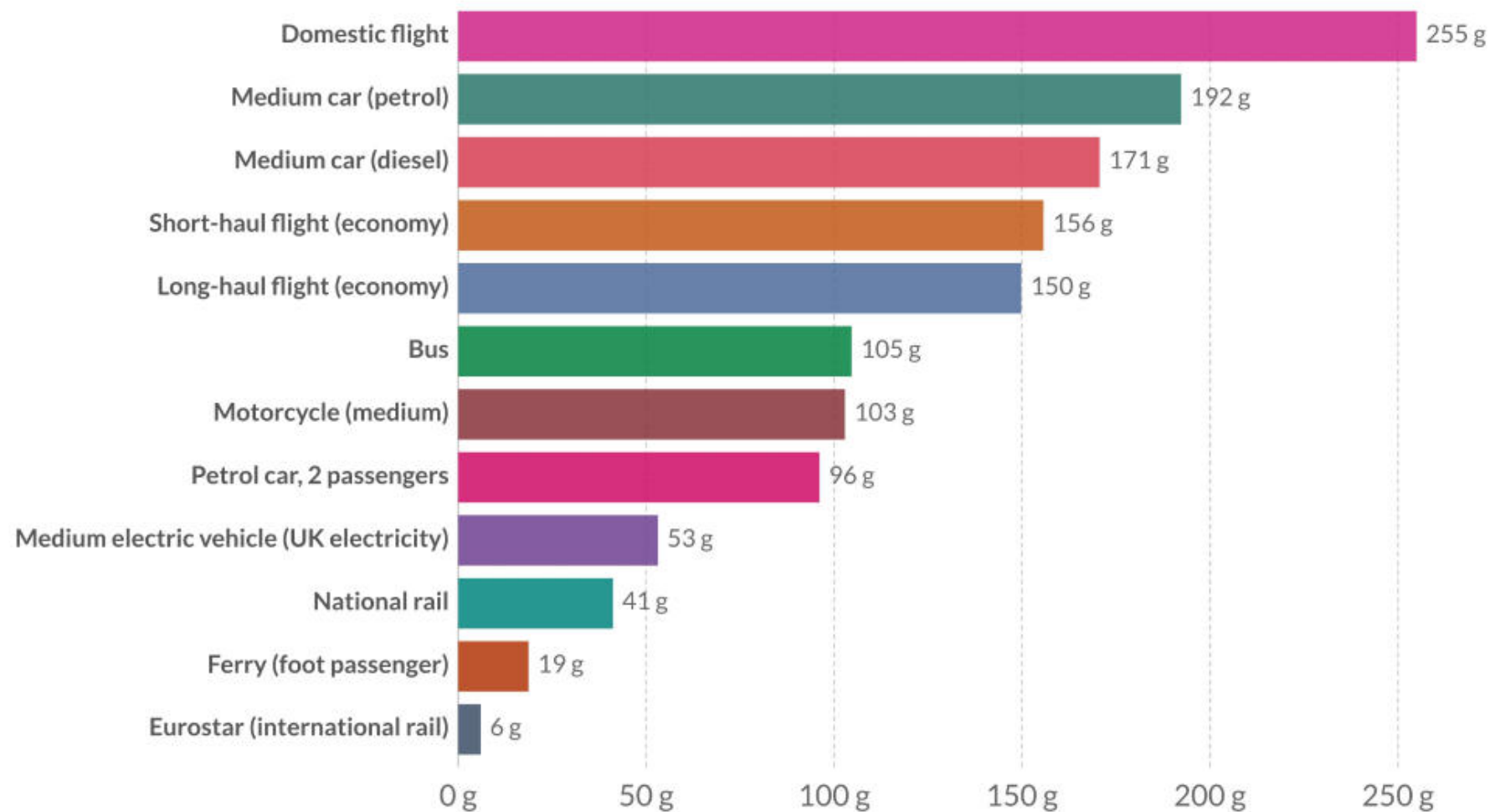# *Graphic Design with ggplot2*

Group Projects

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Group Projects

- Form groups and work on one of the following suggested projects:
  - Carbon Footprint of Travel (OWID / UK.gov)
  - Spending Before and During the Pandemic (JP Morgan Chase)
  - Speed of Languages (Economist / Coupé et al.)
  - US Drought Patterns (Drought Monitor)

Carbon footprint of travel per kilometer, 2018

The carbon footprint of travel is measured in grams of carbon dioxide equivalents per passenger kilometer. This includes carbon dioxide, but also other greenhouse gases, and increased warming from aviation emissions at altitude.

Mode	g CO₂
Domestic flight	255 g
Medium car (petrol)	192 g
Medium car (diesel)	171 g
Short-haul flight (economy)	156 g
Long-haul flight (economy)	150 g
Bus	105 g
Motorcycle (medium)	103 g
Petrol car, 2 passengers	96 g
Medium electric vehicle (UK electricity)	53 g
National rail	41 g
Ferry (foot passenger)	19 g
Eurostar (international rail)	6 g

0 g   50 g   100 g   150 g   200 g   250 g

Graphic Source: Our World in Data

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Year-over-year percent change in spending by essential category
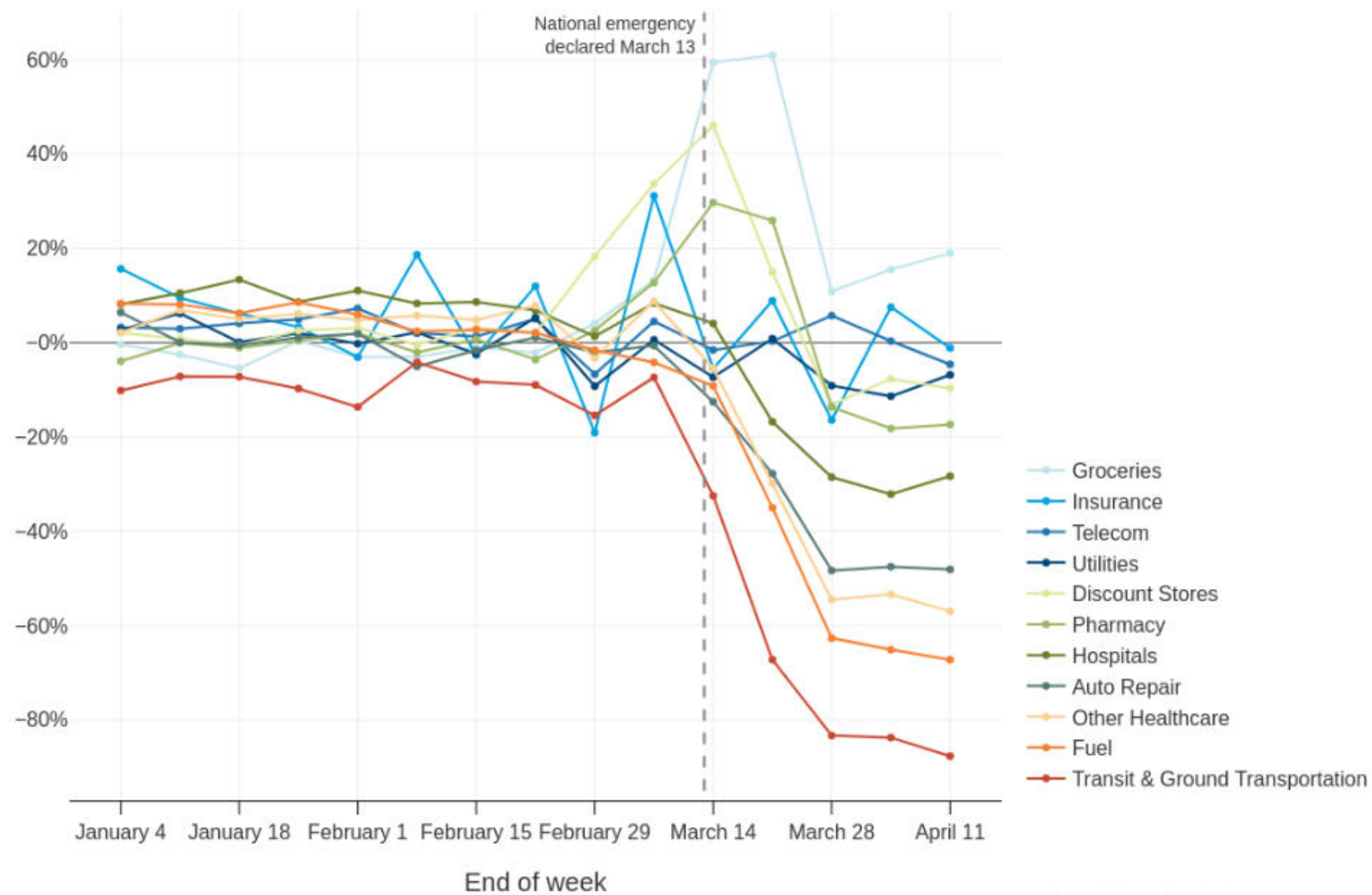
Source: JPMorgan Chase Institute

Graphic Source: JPMorgan Chase Institute

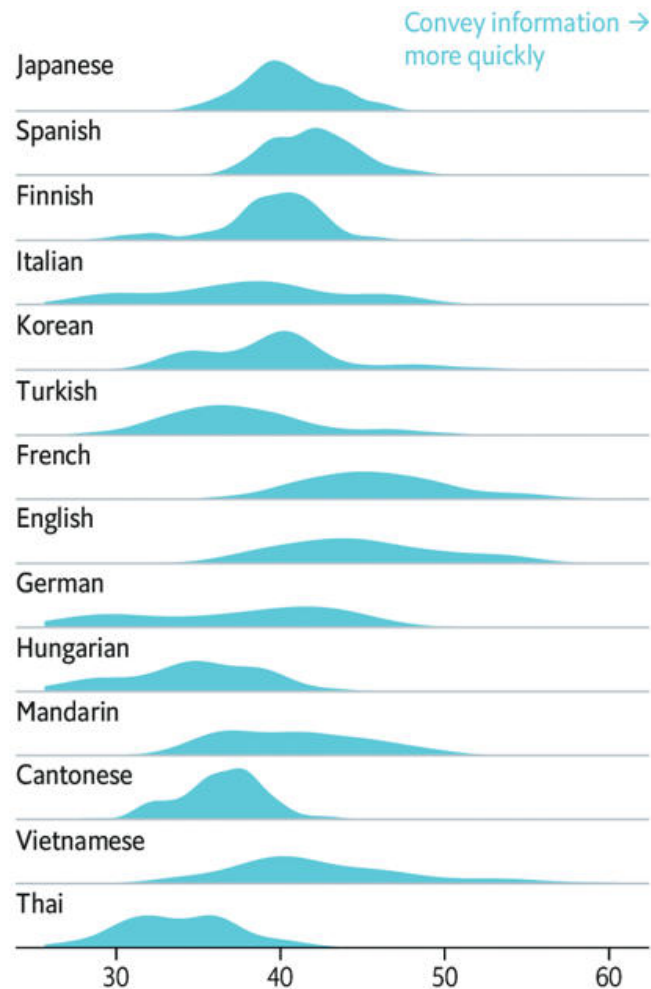Cédric Scherer // rstudio::conf // July 2022

Say no more

Syllable rate and information rate in selected languages

Syllables per second
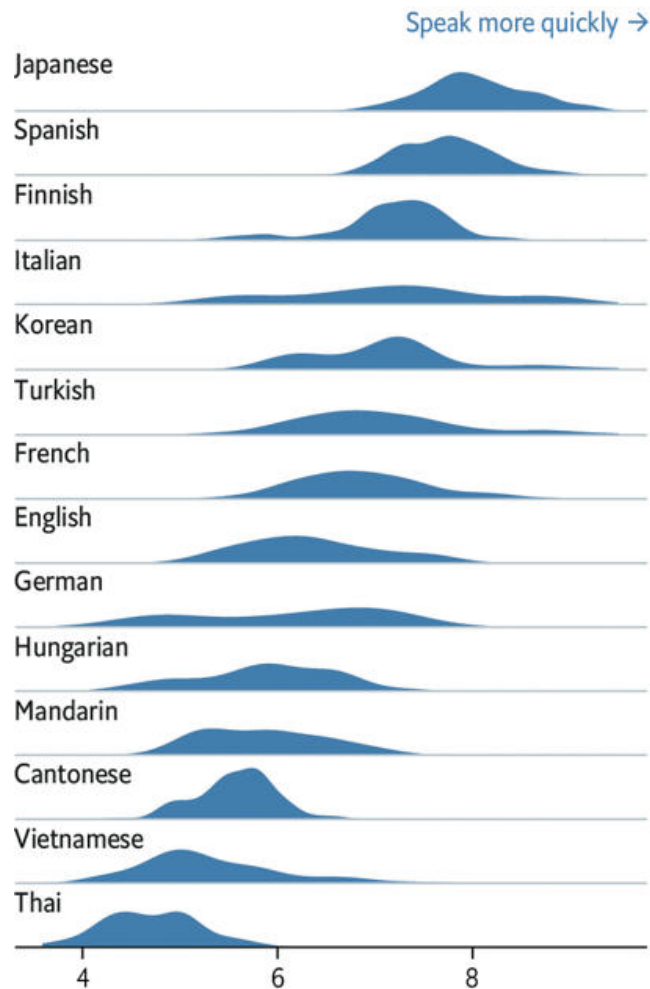
Information rate, bits per second

Speak more quickly →

Convey information → more quickly

Japanese · Spanish · Finnish · Italian · Korean · Turkish · French · English · German · Hungarian · Mandarin · Cantonese · Vietnamese · Thai

Source: "Different languages, similar encoding efficiency: Comparable information rates across the human communicative niche" by Christophe Coupé, Yoon Mi Oh, Dan Dediu and François Pellegrino, *Science Advances* (2019)

The Economist