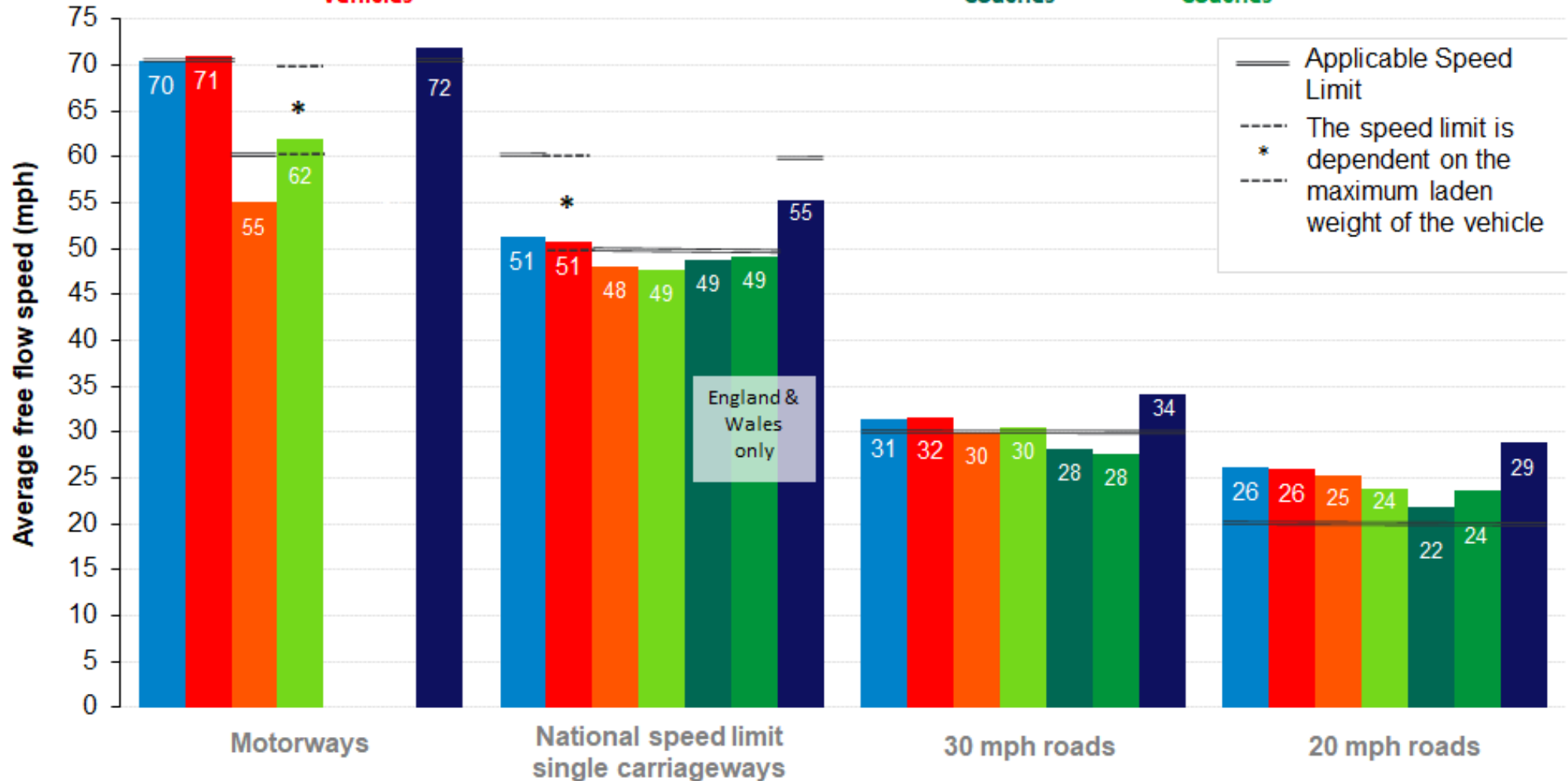
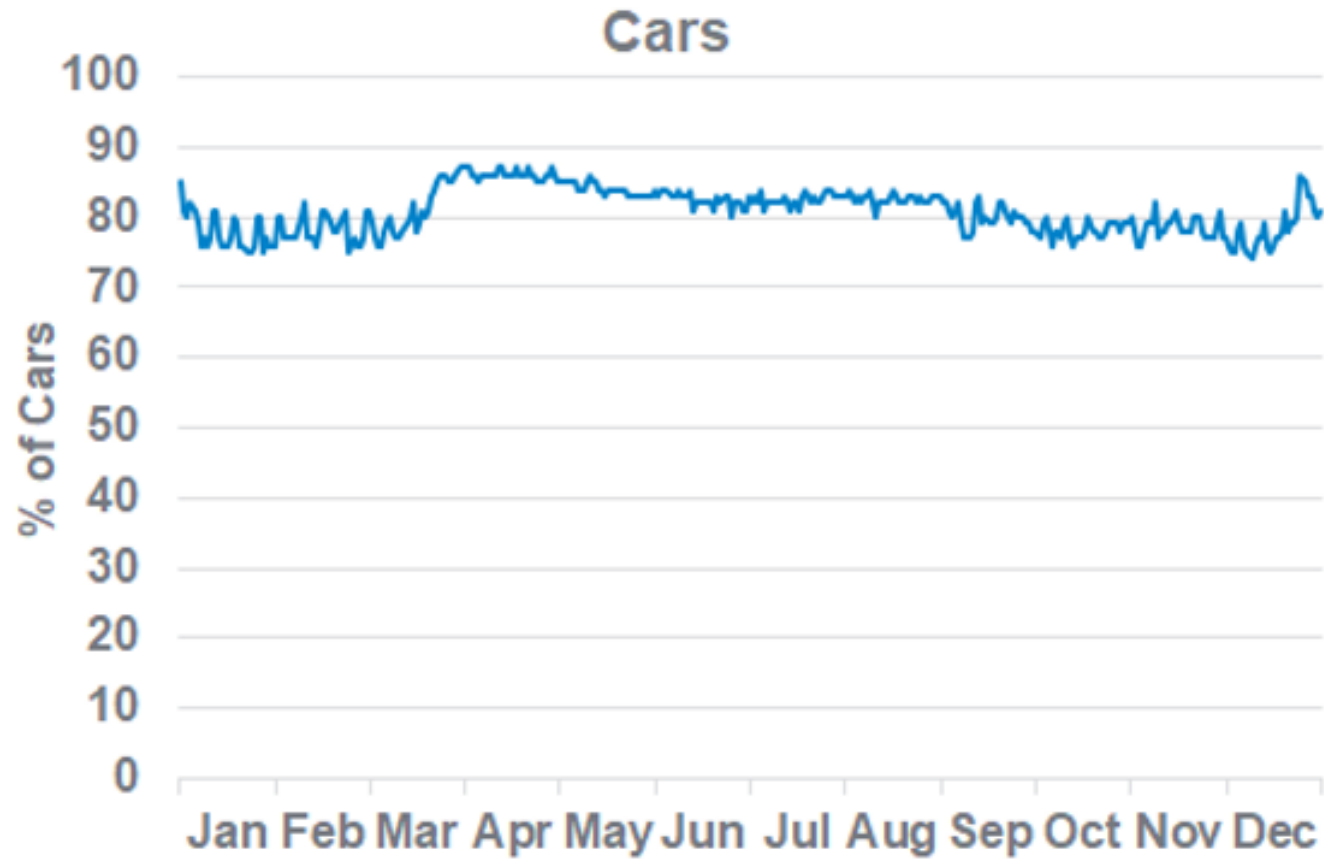


Average free-flow speeds by vehicle type and road type in Great Britain, 2020

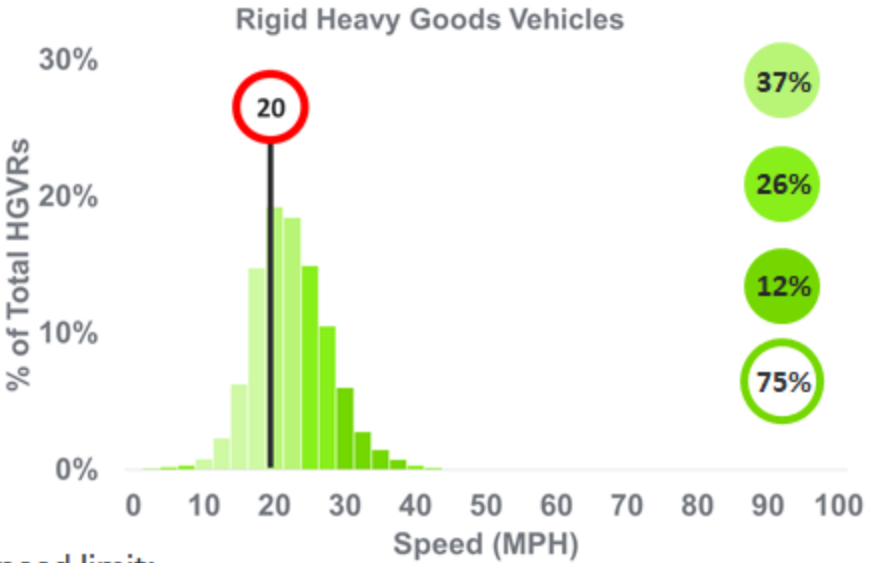
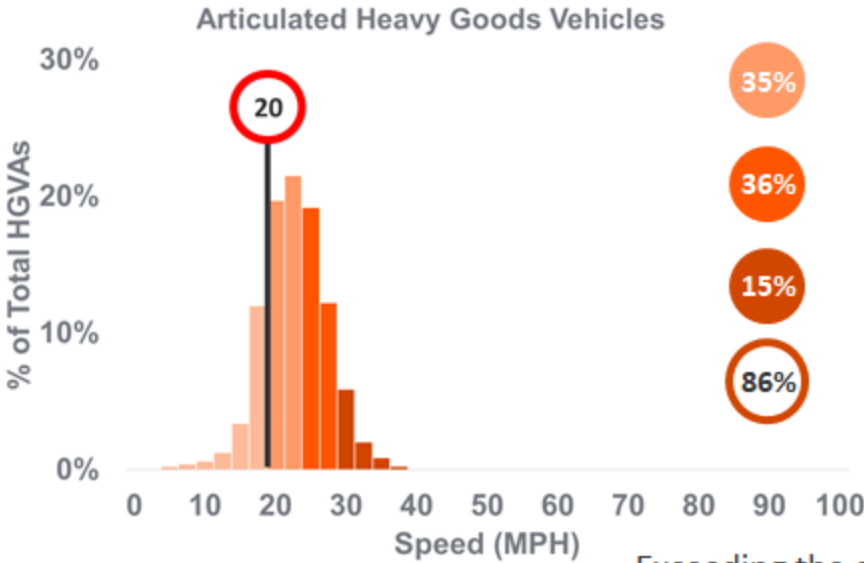
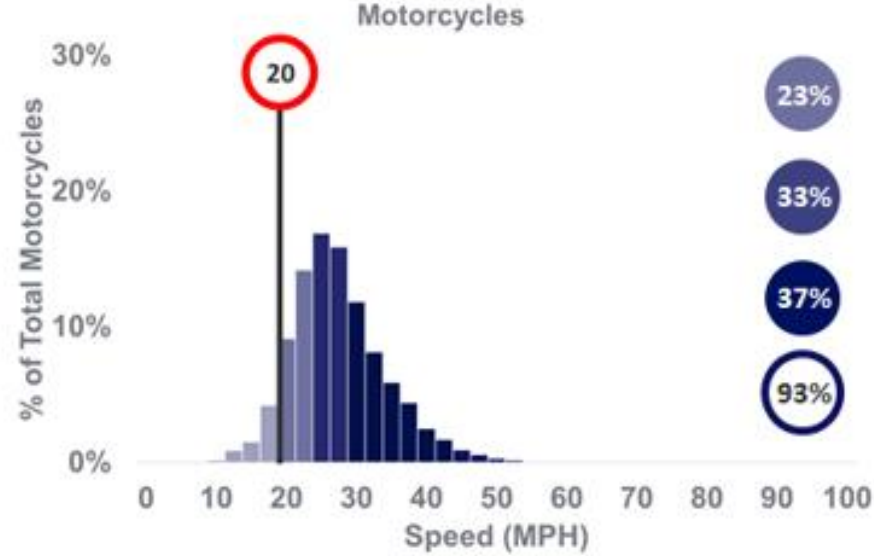
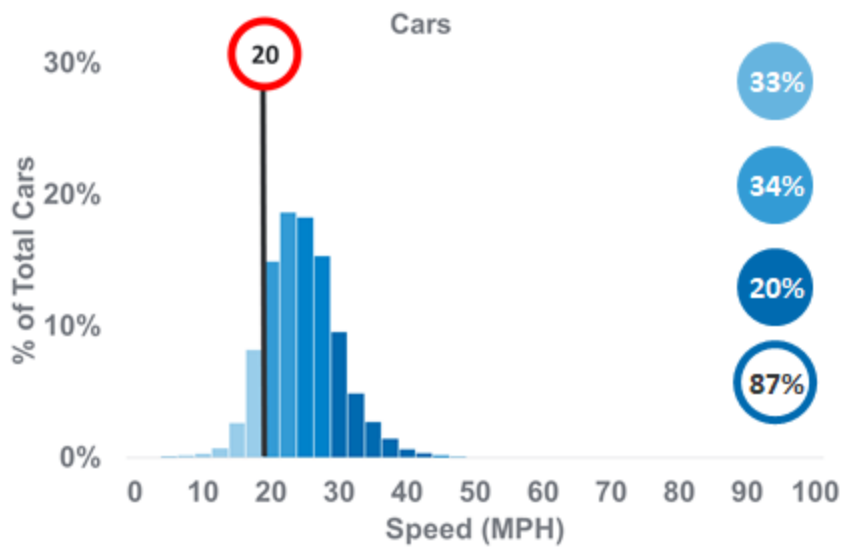


Comment on the graph

Proportion of vehicles exceeding the speed limit in Great Britain on 20mph roads, 2020



Distribution of vehicle speeds on 20mph roads in Great Britain, 2020



Exceeding the speed limit:

- By up to 5 MPH
- Between 5 and 10 MPH
- By more than 10 MPH
- Total

What The Graph 25: teacher notes

Notes/comments

- There are three graphs here, all taken from the same government publication about adherence to speed limits. (With thanks to @CoreMathsTom for the tip.). They could all be used, or just one of them.
- The graphs seem to me to be good representations of the data.
- **Graph 1:** The average speed for cars is 70mph and that is the speed limit, so unless everyone is driving at exactly 70mph all the time, there are some people exceeding the limit.
- Are there the same number of cars above and below the speed limit? (Not necessarily)
- Buses are allowed to drive on motorways. The report says: “Statistics on buses’ speed compliance on motorways are not published, as the sample size did not meet the data quality threshold required”.
- HGVs have equipment that records the speed, so it can be checked later. Some vehicles (like buses and coaches) have limiters so they cannot exceed a certain speed. Maybe that’s why they don’t speed as much. Or maybe it’s because the drivers are driving for a living and don’t want to lose their livelihood.
- Motorbikes have a higher average speed. Is this because they are more manoeuvrable (and can more easily overtake than cars can) or because they are more likely to be driven by younger (male?) drivers? (Or is that stereotyping and unfair ... ?)
- The 20mph limit is exceeded (on average) by every type of vehicle.
- The colours of the vehicles matches the colours of the bars – which is very clear.
- They only measured speed on ‘free-flowing routes’. There were no accidents or roadworks and they also avoided roads with traffic-calming measures, speed cameras and sharp bends. This causes issues with the 20mph routes, because many of them have something to slow traffic down. They write:
 - The 20mph ‘free-flow’ sites tend to be on ‘through routes’ rather than smaller residential streets – reflecting the constraints both of finding ‘free-flow’ traffic conditions and locations suitable for the installation of automatic traffic monitoring equipment. Thus quieter residential streets which may make up a large proportion of 20mph roads will be under-represented in the data.

Continued on next slide.

What The Graph 25: teacher notes (continued)

Notes/comments

- **Graph 2:** From the first graph, the average speed for cars in 20mph areas was 26mph. It is not a surprise that ~80% of cars are speeding in a 20mph area.
- Why are there wiggles in the graph? Presumably this is because at weekends people behave differently than they do during the week (are there 4 or 5 wiggles per month?). Does the fact there is less traffic at a weekend make it easier to speed, or are people in less of a hurry at the weekend (not late for work)?
- Why is there a sudden leap upwards? The graph is from 2020. In March 2020 lockdown started, and car traffic was reduced to between 30 and 40% of the usual amount. This makes it easier to drive faster?
- **Graph 3:** This is a composite (I added the Motorbike graph to the others because it is interesting.)
- The colours of the bars is less helpful this time: there are four shades of each colour, with the lightest appearing to the left of the speed limit and three shades (getting darker) to show how far above the limit they were. The key at the bottom of the graph explains the different shades (but only for one colour). The white circle shows the total percentage that were speeding.
- These figures show the percentage that were speeding. In reality, you are not prosecuted for going only a small amount over the limit.
- Having said earlier that the 20mph zone data is less representative ... it is interesting that the report focuses very largely on 20mph infractions!

Sources:

- <https://www.gov.uk/government/statistics/vehicle-speed-compliance-statistics-for-great-britain-2020/vehicle-speed-compliance-statistics-for-great-britain-2020#average-free-flow-speeds-by-road-and-vehicle-type>
- <https://www.gov.uk/government/statistics/transport-use-during-the-coronavirus-covid-19-pandemic/covid-19-transport-data-methodology-note>