Reducing peak road speeds where people are saves energy and significant cash. New research from Future Transport shows fuel efficiency peaks with speed capped at 20mph. This “real life” model factors in stop/start urban traffic. Less acceleration saves precious resources as over twice as much energy is required to get to 30mph. Drivers get up to 10p per mile fuel saving without trips taking longer. That’s a 30% saving in urban fuel costs.

In built up settlements like towns and villages, the key determinant of fuel consumption is the number of times you accelerate back up to the speed limit after slowing down or stopping at hazards, junctions, parked cars, lights, etc. The higher the speed limit then the greater that acceleration influences fuel consumption.

Engineering consultants at Future Transport¹ modelled the fuel efficiency in accelerating from stopped to between 5 and 40mph. For a typical urban drive cycle - with repeated acceleration and deceleration - fuel efficiency peaks at a top speed of 15-20mph. But the real benefit to drivers from an urban 20mph limit is the savings in fuel costs. For a BMW X5 there is a 9.9p per mile additional fuel cost from repeatedly accelerating to 30mph compared to 20mph at 220m intervals (typical of urban roads in towns and cities). Whilst this drops to 3.9p extra at 500m intervals (typical of urban major arterial roads in light traffic), it is still a significant additional cost for an insignificant change in journey time. And at an extra 9.9p per mile that’s £247 pa for a 5 mile urban commute.

This scientific data is convincing evidence that a wide area 20mph speed limit cost effectively reduces fuel use, thereby reducing fuel poverty for the car dependent. The Institute for Welsh Affairs (IWA) recommended a national default 20mph limit in its Decarbonising Wales report² and the European Transport Safety Council has endorsed a 30km/h urban default³ to reduce dependence on Russian oil. Evidence for substantial public health benefits, shifts to active travel & other modes – with reduced traffic volumes is already conclusive⁴.

20mph limits are highly societally cost effective, even before the 20% casualty savings, which pay back to society in just a few months – see cost benefit calculator⁵ for your local authority figures. And you can also save up to 10p a mile on your fuel bill.

¹ https://futuretransport.info/urban-traffic-research/
⁴ https://www.gov.wales/20mph-task-force-group-report
⁵ https://www.20splenty.org/cost_benefit_calculator