Are speed limits worthless?

Despite benefits on road safety, costs, and environmental impact, speed limits are often considered as an (unbearable) constraint by many, as illustrated by the low compliance rate with temporary limits during pollution peaks. How relevant are speed limits on roads and highways? What can be expected from them in France?

Speed limits vary across the EU: from 80 to 100 km/h on road, from 90 to 130 km/h for highways. Saving time is a main motivation for driving always faster. Yet, as speed increases, time saving gains become smaller: switching from 110 to 130 km/h shortens the trip much less than from 70 to 90 km/h. Besides, a temporary high speed is not a guarantee of a high average speed. Sometimes, the opposite is true: lower speed limits can lead to shorter trips! This has been seen on various urban expressways in French cities.

As an illustration, the French highway corporation APRR has reported 50% less congestion, and shortened average travel times during peak hours on a part of highway A13 since the implementation of a traffic regulation system that can adjust and decrease speed limits.

Beyond this, speed limits have indisputable benefits: lowering fuel consumption, and in turn environmental impacts (greenhouse gases, local air pollution), lowering noise, less driving stress, etc.