

There are now over 700 million *motor vehicles*₁ in *the world*₂ - and the number is rising by more than 40 million each *year*₁. The *average distance*₄ driven by *car users*₅ is growing too - from 8 *km*₆ *a day*₇ per *person*₈ in *western Europe*₉ in 1965₁₇ to 25 *km*₆ *a day*₇ in 1995₁₈. *This dependence*₁₀ on *motor vehicles*₁ has given rise to *major problems*₁₁, including *environmental pollution*₁₂, *depletion of [[oil resources*_{14]]}₁₃, *traffic congestion*₁₅ and *safety*₁₆. While *emissions from [[new cars*_{25]]}₁₉ are far less harmful than *they*₁₉ used to be, *city streets*₂₀ and *motorways*₂₁ are becoming more crowded than ever, often with *older trucks*₂₂, *buses*₂₃ and *taxis*₂₄, which emit excessive *levels of [[smoke*_{26]] and [[fumes_{27]]}₂₈. This *concentration of [[vehicles*_{1]]}₂₉ makes *air quality*₃₀ in *urban areas*₃₁ unpleasant and sometimes dangerous to breathe. Even *Moscow*₃₂ has joined the *list of [[capitals afflicted by congestion*_{15] and [[traffic fumes_{27]]}_{34]]}₃₃. In *Mexico City*₃₆, *vehicle pollution*₃₇ is a major *health hazard*₃₅. Until a hundred *years*₁ ago, most *journeys*₃₈ were in the 20 *km*₆ range, the *distance*₄ conveniently accessible by *horse*₃₉. *Heavy freight*₄₀ could only be carried by *water*₄₁ or *rail*₄₂. The *invention of the [[motor vehicle*_{1]]}₄₃ brought *personal mobility*₄₄ to *the masses*₄₅ and made *rapid [[freight*_{47]] delivery₄₆ possible over a much wider *area*₄₈. Today about 90 per cent of *inland freight*₄₉ in the *United Kingdom*₅₀ is carried by *road*₅₁. Clearly *the world*₂ cannot revert to the *horse - drawn wagon*₅₂. Can *it*₂ avoid being locked into *congested and polluting [[ways*_{51]]}₆₂ of transporting *people*₅₃ and *goods*₅₄? In *Europe*₅₅ most *cities*₅₆ are still designed for the *old modes of transport*₅₇. Adaptation to the *motor car*₈₀ has involved adding *ring roads*₅₈, *one - way systems*₅₉ and *parking lots*₆₀. In the *United States*₆₁, more *land*₄₈ is assigned to *car*₈₀ use than to *housing*₆₂. *Urban sprawl*₆₃ means that *life without a [[car*_{1]]}₆₄ is next to impossible. Mass use of *motor vehicles*₁ has also killed or injured millions of *people*₅₃. Other *social effects*₆₅ have been blamed on the *car*₈₀ such as *alienation*₆₆ and *aggressive [[human*_{53]] behaviour₆₇. A 1993 *study*₆₈ by the *European Federation for Transport and Environment*₆₉ found that *car transport*₇₀ is seven times as costly as *rail travel*₄₂ in terms of the *external social costs*₇₁ *it*₇₀ entails such as *congestion*₁₅, *accidents*₇₂, *pollution*₃₇, *loss of cropland and natural habitats*₇₃, *depletion of [[oil resources*_{14]]}₁₃, and so on. Yet *cars*₈₀ easily surpass *trains*₇₄ or *buses*₇₅ as a flexible and convenient mode of *personal transport*₇₆. It is unrealistic to expect *people*₅₃ to give up *private cars*₈₀ in favour of *mass transit*₇₇. *Technical solutions*₇₈ can reduce the *pollution problem*₁₂ and increase the *[[fuel*_{85]] efficiency₇₉ of *engines*₈₁. But *fuel consumption*₈₂ and *exhaust emissions*₁₉ depend on which *cars*₈₀ are preferred by *customers*₈₃ and how *they*₈₀ are driven. Many *people*₅₃ buy *larger cars*₈₄ than *they*₅₃ need for *daily purposes*₈₆ or waste *fuel*₈₅ by driving aggressively. Besides, *global [[car*_{80]] use₈₇ is increasing at a faster *rate*₈₈ than the *improvement in [[emissions*_{19] and [[fuel_{85]] efficiency_{79]]}₈₉ which *technology*₇₈ is now making possible. One *solution*₉₀ that has been put forward is the long-term *solution*₉₀ of designing *cities*₅₆ and *neighbourhoods*₉₁ so that *[[car*_{80]] journeys₇₀ are not necessary - all *essential services*₉₂ being located within *walking distance*₉₃ or easily accessible by *public transport*₇₇. Not only would this save *energy*₉₄ and cut *carbon dioxide emissions*₁₉, it would also enhance the *quality of [[community life*_{95]]}₉₆, putting the *emphasis*₉₇ on *people*₅₃ instead of *cars*₈₀. *Good local government*₉₈ is already bringing this about in *some places*₉₉. But *few democratic communities*₁₀₀ are blessed with *the vision*₁₀₁ - and *the capital*₁₀₂ - to make such *profound changes*₁₀₃ in *modern lifestyles*₁₀₄. A more likely *scenario*₁₀₅ seems to be a *combination*₁₀₆ of *mass transit systems*₇₇ for *travel into and around [[cities*_{56]]}, with *small 'low emission' cars*₁₀₇ for *urban use*₁₀₉ and *larger hybrid or lean burn cars*₁₀₈ for *use elsewhere*₁₁₀. *Electronically tolled highways*₁₁₁ might be used to ensure that *drivers*₁₁₂ pay *charges*₁₁₃}}}}}}}}}

The motor car

geared to actual **road**₅₁ use. Better **integration of** **transport systems**₁₁₄¹¹⁵ is also highly desirable - and made more feasible by **modern computers**₁₁₆. But **these**_{111,115} are **solutions**₉₀ for **countries**₁₁₇ which can afford **them**₉₀. In most **developing countries**₁₁₈, **old cars**₁₁₉ and **old technologies**₁₂₀ continue to predominate.