

Unclog roads with a vehicle area tax

Such a levy will unclog roads, bring down travel time and let people travel more. Total road fuel consumption and emissions may also fall. It is a win-win policy whose time, locally and globally, has come, says **Vivek Moorthy**.

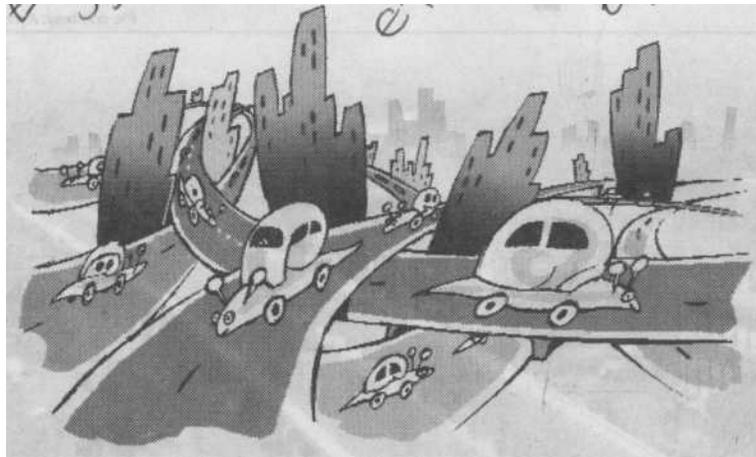
BANGALORES unbearably bad roads detract attention from the worldwide malaise of severe road congestion. In Bangkok, despite its elevated rail system, peak-time speed has been two miles per hour. The record for the longest traffic jam is 109 miles between Paris and Lyons.

Congestion occurs because road space is free. Unfortunately, there is so little awareness of the need for some type of congestion charging. Merely providing public transport or building roads is not good enough. In London, despite the tube and excellent bus system, travel speeds at peak time in 2000 were under 10 mph, roughly the same in 1900 for the horse and coach. Traffic speeds and public transport usage picked up after the Mayor Ken Livingstone introduced a £5 toll on entry into central London in 2003. As for building roads, in Los Angeles, despite 10-lane expressways, officials predict that commuting time will double over the next 10 years.

The solution clearly is to charge for road space. It is best to charge for road space with a vehicle area tax, labelled VATAx, levied at a flat rate per sq m of the vehicle's taxable area, measured around its protrusions. VATAx must be fully revenue neutral; it is not really a tax in the conventional sense. The revenues should not go to the government but should be used to reduce as far as possible all petrol taxes and all other vehicle taxes, with any surplus returned as income tax rebates.

For convenience, VATAx should be collected once a year. Taxing road space directly tackles congestion preemptively at its root. Compared to prevailing forms of congestion charging, VATAx causes no disruption to traffic, and is easiest and least costly to implement. By contrast, high-tech schemes such as scanning licence plates and electronic billing, as in London and Singapore, are just not suited to Third World conditions.

For VATAx to deliver, the recommended flat tax rate should be high enough to make cars largely unaffordable and drastically reduce car owner-



ship. In isolation, just reducing car ownership is bad policy — like staying indoors to avoid the rain, instead of devising a sturdy umbrella to go out. More mobility, for work and leisure time, is both essential and desirable. A sound transport policy should, within limits, increase travel (defined as passenger kilometres) and also reduce travel time to the destination. VATAx can do both.

When cars are largely unaffordable, owner-drivers will be compelled to look for alternative ways to travel. If public transport exists, they will switch to it. But when public transport does not exist or is of poor quality, a steep VATAx would overnight create, demand for travel by a range of commercial passenger vehicles (CPVs), mostly on a shared basis. I use the word vehicle and not car, since CPVs can cover the entire gamut from small two wheelers to mini-cars to luxury sedans to vans, mini-buses and big buses, if only regulators permit. Those who can afford or greatly cherish the independence of an owner-driven vehicle will trade down to mini-cars and two wheelers.

Through a combination of trading down to smaller owner-driven vehicles and switching to using shared CPVs, road us-

age will improve. Suppose earlier 100 people commuted to work alone, each driving their 9 sq m sedan, road usage is 9 sq m/passenger. After VATAx, suppose half of them trade down to driving 3 sq m mini-cars and the other half switch to 20 sq m CPV mini-vans that carry 10 each, thus using 2 sq m/passenger. Average road usage falls sharply to 2.5 sq m/passenger, under a third of that earlier. Further, with fewer, and smaller owner-driven vehicles that need to be parked, prime road space in busy areas gets freed up.

IT MAY seem good policy to give tax concessions to smaller vehicles as Japan and some other countries do. Such a policy, for vehicles under 700 cc, is under consideration for the upcoming Union Budget (ET?). However, smaller vehicles should not attract a lower VATAx. What counts is road area per passenger, not per vehicle. A mini-bus is more space efficient than a mini-car since per passenger less road space is used. Concessions for small vehicles will lead to more road space per passenger, as compared to a flat VATAx rate. Congestion is also linked not just to vehicle area on the road, but also number of ve-

hicles. A mini-bus that occupies the same road area as 10 scooters causes less congestion. Further, bigger vehicles would tend to be CPVs on the move, seldom needing to be parked in busy areas.

Over time, the scope for redesigning vehicle design and seat arrangement to provide more passenger seats per sq m is immense, but the incentive to do so can only come with a steep VATAx. The basic automobile design — engine in front, luggage boot in the back, has not changed for decades. Most city vehicles do not need much luggage space, if any at all. The engine can be underneath the driver, as in golf carts and in 'autos'. Putting the engine below reduces aerodynamic efficiency and the maximum speed, compared to a normal car. But city vehicles need not be designed to travel at more than 40 kmph. We are better off with stodgy space savers with a maximum speed of 40 kmph that do travel at 30, than with sleek sedans that can touch 150 but that crawl at 10.

The mobile phone and related technology have greatly revolutionised the convenience, speed and flexibility with which passengers in one area can get to their destination using CPVs, alone or shared, almost door to door. Public transport may not be required.

So far nothing has been said about the energy crisis and global warming, issues that get far more attention world wide than road congestion. Very briefly, with VATAx, fuel per passenger-km and emissions per passenger-km, although not necessarily per vehicle, will fall. It can help greatly to achieve the goals of reducing both fuel consumption and emissions. It is not possible here to discuss the legal and political hurdles to implementation. The essay on the website unclogroads.com deals with this issue. In brief, with VATAx, passengers' travelling can go up, and travel time will come down. Total road fuel consumption and emissions may also fall. It is a win-win policy whose time, locally and globally, has come.

(The author is a professor at IIM-B)