

Commercializing Highways

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MOST people consider the modern highway system a great success. Automobiles provide 95 per cent of all individual surface trips, and trucks transport an ever-larger majority of all freight. Moreover, the highway systems in Australia and North America are more than self-supporting via user-taxes. Yet I'd like to suggest that our highway systems are in trouble.

The systems are increasingly congested with, for example, \$72 billion in fuel and time being wasted each year in the 68 largest US metropolitan areas due to traffic congestion.

Investment is failing to maintain the existing system, let alone meet the growth in demand. And a large coalition of environmental, urban planning and transit organizations opposes highway expansion and advocates shifting highway funds to transit, bikeways, etc. Their mantra is: 'We can't build our way out of congestion'.

Thus, the highway system is failing to satisfy its customers. And its ability to do so is more constrained with each passing year. My conclusion is that we need a new highway paradigm for the twenty-first century.

Transport economist Gabriel Roth calls the twentieth-century highway paradigm 'Soviet-style'. By that he means a system:

- that is centrally planned, in a top-down fashion;
- whose resources are allocated by political rather than economic criteria; and
- which almost completely avoids the use of pricing.

Roth contrasts the highway system and the telecommunications system. Both are network utilities, in which users traverse interconnected

networks developed and operated by various providers. But there the similarity ends. Today's telecom system is market-driven: owned by profit-making firms, using market prices to equate supply and demand, and directing investment to where it is most needed to satisfy customer demand. A number of other transport experts have reached similar conclusions.

The idea of highways evolving into road utilities has entered serious discussion in several countries. Large-scale national studies have explored this approach in New Zealand, the Netherlands and the United Kingdom. In New Zealand, the previous government's transport ministry did a large planning study on how to divest all highways to a small set of government-owned but commercially run highway corporations.

Several dozen countries have adopted the build-operate-transfer (BOT) model of competitively awarding long-term concessions to private consortia to finance, design, build and operate major new highways (as toll roads) over the past decade. The pioneers were the toll-road systems of France and Italy, developed using this model in the 1960s and 1970s. But during the 1990s, BOT highways spread to other countries in Europe, to Israel and South Africa, to most of Latin America, to much of Asia, and of course to Australia and in a limited way in the USA.

Last year, several countries (Canada, Italy and Portugal) went even further, actually selling off existing state toll-road owner-operators. In each case, what they sold was the physical facilities plus a long-term franchise to operate them

(ranging from 33 to 99 years). And in each case, other operators are also allowed in the toll-road business.

These modest beginnings already show how the new commercial paradigm can address the highway problems I set forth at the outset. Traffic congestion can be tamed by variable pricing. Several French toll roads now charge higher prices during weekend hours when Parisians are returning to the city—and those congested peaks have been flattened and decongested. On two busy commuter freeways in Southern California, tolled express lanes vary their prices by hour of the day and day of the week, ensuring free-flowing traffic right next to stop-and-go traffic in the regular lanes. Studies show that the actual throughput is as high on the 'managed' lanes as on the congested lanes. Variable pricing is also being used on Toronto's all-electronic Highway 407.

Private developers are also addressing the difficult issue of adding capacity in urban areas. In Toronto, there was no room for toll plazas on an urban toll-road with dozens of on-ramps and off-ramps. So a private-sector team developed the world's first fully automated toll-road, using both electronic toll tags and video licence-plate imaging. As on the Melbourne CityLink, there are no toll booths at all. In the suburbs of Paris, a private firm came up with the breakthrough solution for the missing link in the A-86 ring road. Instead of bulldozing through historic Versailles, the firm is tunnelling deep beneath it. Los Angeles planners are considering double-decking portions of several freeways, to add truck-only toll lanes without having to condemn expensive land to widen the existing right-of-way. ▶

These kinds of capacity additions are more costly than traditional free-ways. But that's where the new paradigm comes in. That \$72 billion annual US congestion cost is one measure of what customers might pay for relief—if offered the chance. Large sums of capital are available in the global markets for highway projects that meet real needs—'large' as in \$1.8 billion for the Paris A-86 tunnels, \$1.3 billion for the Melbourne CityLink, and \$1.2 billion for the Cross-Israel Highway. The new paradigm taps into pools of capital—revenue bonds and shareholder equity—that have been little used for highways. But the requirement that each project pass muster with investors serves to weed out highways built for political rather than economic reasons.

There are several political obstacles to phasing in the commercial paradigm. One is dislike of paying tolls. In part, this stems from unhappiness with toll booths—congestion, coins, rear-end collisions, etc. As new technology makes toll booths obsolete, this problem should fade away. Another problem is opposition to 'double taxation.' Since most fuel taxes have historically been introduced as highway user-fees, trucking and automobile organizations oppose paying both fuel-taxes and tolls for the same roadway. Rebates of fuel-taxes for miles driven on toll-roads would address this problem.

A popular misconception is that tolls should pay for the large up-front cost of building a road but should be removed once the initial investment is recovered. This view ignores the substantial costs of properly maintaining and rebuilding the highway. Tolls can and should be a permanent, ongoing funding source—just like electric utility and telecom bills. A shift to investor-owned road utilities, using generally accepted accounting principles, will help educate highway users about highway economics.

Another concern is that tolls are unfair to low-income people—tolls are described as 'regressive'. While

the data are far from clear, the evidence indicates that the amount of driving increases greatly with level of income. In addition, the principal funding sources for highways—fuel taxes—are themselves 'regressive'. Here again, changing to the road-utility paradigm should help. Few people object to direct pricing in air and rail travel, electricity and telecoms service, and letter and parcel service. Once roads are understood as network utilities, pricing will come to be seen as the normal way of doing business.

One other concern is the emerging opposition between highways and transit. Today's anti-highway coalition seldom distinguishes between free roads and toll roads. If it facilitates auto travel, they're against it.

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Proponents of commercialized highways should defend auto-mobility as an inherently good thing. To be sure, when roads are seen as 'free', people may use them more than if they were directly priced. But we should defend the expansion of *priced*, not free, road capacity. Enhanced mobility is a good thing, and people do appear willing to pay billions of dollars to obtain it. As long as they are paying their way, most people would agree that they should have it.

But at another level, pricing and commercialization will create a far more level playing field between transit and highways. A market-driven system, where users cover all

the costs, will lead to a new allocation between auto use and transit, tailored to the specifics of each metropolitan area. Moreover, the congestion reduction brought about by pricing urban expressways will make long-distance express bus transit a far more attractive option. In this regard, it is interesting to note that several US environmental groups have become advocates of pricing and even of road utilities.

The results of a paradigm shift don't appear overnight. Countries such as Australia and the United States need to create a suitable legal and tax-code framework for the emergence of road utilities—and Australia seems to be further along than the United States. In both countries, we will see the continued gradual expansion of privately concessioned new toll projects, rather than a sweeping shift of existing highways to private-sector ownership. Such projects include adding express toll lanes to congested freeways, adding truck toll lanes to highly commercial highways, and adding costly missing links to urban expressway systems.

Once state agencies become more comfortable dealing with highway concession companies on a large scale, and the capital markets have more experience financing a variety of tolled projects, the next stage will be turning over existing highways for rebuilding and modernization as toll roads, with value-added electronic services. By that point, the entire 'higher-level' limited-access road system will have become the responsibility of the emerging road utility industry. Road user-taxes, if any, can then be limited to paying for local streets and roads, since the higher levels of the roadway system will have become self-supporting businesses. And the new commercial highway paradigm will have arrived.

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