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The myth of the efficient car

Driver-only private cars turn out to be the most inefficient means of transport, when all the work of maintaining them and all the necessary infrastructure are taken into account, argues Frank Fisher.

In light of the UN Climate Change & Human Health report one might be forgiven for thinking that the economic rationalists governing our society would take efficiency seriously. But in the case of urban commuting quite the opposite is the case. Efficiency in any sense (time, energy or dollars) seems not to enter the minds of our transport planners, let alone the minds of individual commuters who make billions of transport decisions every day.

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The flight from objective rationality in considering the efficiency of our transport arrangements in the city must constitute one of the profoundest, and best hidden, contradictions of urban life today. Despite all the recent studies, impassioned letters, editorials and reportage/ comment about pollution incidents, asthma, carcinogenesis etc, the Australian Bureau of Statistics has just shown us that the environmental situation is getting worse, not better. Melbourne for one, is joyously embarking upon a $2 billion freeway link extravaganza aimed at "improving" motoring conditions for driver-only private cars, and there is no doubt that the democratic majority is solidly behind it.

Somehow, just somehow, we will have to satisfy our transport needs in more efficient ways and communicate them to the Russians, Chinese, Indians, SE-Asians, Latin Americans and Africans who still aspire to commute the way we presently do. If we don't succeed, the inefficiency with which 10 billion humans then commute will snuff us all out in the *Autogeddon* (Heathcote Williams' 1991 book title) of Leakey & Lewin's *Sixth Extinction*.

Twenty years ago, in one of his punchy little books called *Energy and Equity*, Ivan Illich pointed out that if one factors in the time spent parking, servicing, washing, and doing paperwork for our urban commuter car, its average speed over the 2O,OOOkm per year that most of them do, drops well below the average speed attained in actual driving. In addition to this Illich pointed out that if we consider the time spent earning the money to pay for the car and its various parking, servicing and paperwork demands, the average speed declines again. If we now factor in the time taken to generate the infrastructure requirements of the car, such as road and street construction and maintenance services, police, EPA- recognised environmental services, hospital, medical, legal, political, roadside repair, tow truck, ambulance and insurance services, almost all of which are currently debited to our social and bureaucratic resources, the average speed of the commuter car comes down to something our shoes would be ashamed of and the average commuter cyclist would have no trouble exceeding. Coupled with an extensive and fully used metrorail network the potential average speed of bike/rail would take some beating. To underscore the point, factor in the currently unrecognised time spent on environmental, personal and social trauma, and efficiency in relation to the private car as a means of urban commutation becomes a complete *non sequitur*.

Substantial time efficient responses to our commuting requirements need social, not technical changes. For instance, we might dispense with privately owning cars in favor of renting appropriate vehicles when needed, from a dense network of rental outlets provided by the market as demand rises. Renting could be arranged to complement public transport vouchers in salary packages instead of providing a car. This would deal with the serious problem we all have of making our owned or leased vehicles pay for their

keep. Expending all that time and money on our vehicles provides a serious incentive to use them. Their ready availability, sitting right there in their own special rooms in our homes and city offices doesn't help either: nor does knowing that they function best with regular exercise. Shared ownership within a company pool, say, is another, perhaps more difficult option. Whether rented or shared, such options would break some of the knots that lock us into our current irrational economies of commuting. Make no mistake, renting has its benefits: competition-induced cost efficiencies, a range of vehicles suitable for different duties, effective and policeable maintenance and so on.

Mechanical engineers tell us that cars convert roughly 20% of the energy available in petrol to motion. Cars are therefore said to be roughly 20% energy efficient. In practice however, this bald statement is criminally misleading. Other than Grand Prix drivers and car salespeople, most of us drive to move *ourselves* around and not the car or its 5Okg of fuel. The average car is roughly 20 times heavier than its driver, therefore its energy efficiency in moving one person around comes down to 1%. Take into account the energy costs of producing cars and the many elements of commuting infrastructure already mentioned above, and the efficiency associated with automobility declines much further.

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Just filling our cars with petrol involves energy expenditure, let alone the energy costs of servicing all their other needs. Add to these the costs of dismantling and recycling cars (and their infrastructures) when their useful lives are over, the energy costs of high speed police chases, slow speed legal procedures and even slower speed taxation infrastructures to provide refunds on the business use of our private cars say - not to mention the herculean efforts nations make or will make, to maintain access to oil, to make good damage caused by greenhouse-effect-based sea-level rises, cyclone and flood damage, and to overcome the inefficiencies of the psycho-social stresses all these will cause, and the efficiency of the car comes down to a few tenths of one percent. For each Joule taken to push us around then, hundreds will be spent providing infrastructure support and maintenance. Other than electricity from nuclear fission which actually produces no net energy at all (it is subsidised by fossil fuels from other peoples and the future), it is hard to imagine a more extreme case of technological overkill nor a better hidden one.

Take Melbourne's City Link project, the energy used just to construct it would drive the average car to the moon and back many times. Factor in repairing the damage its existence will cause as it extends the life of an urban transport mode so dramatically out of tune with biospheric realities, and our average car is on its way to Mars and back. Another revealing statistic: to provide all of Victoria's electricity you only need to couple some 50,000 cars - only 2% of the state's cars - to generators. Is this really efficiency - not to mention (economic) rationality? And are the consequences of changing these behaviours really more disastrous than the consequences of sticking with them?

Technical heroics are unwarranted. Driver responsibility can trivialise engineers heroic efforts to improve automobiles' mechanical efficiency by just a few percent For example, simply choosing an existing small-engined car can improve the efficiency by which we move ourselves by 100%, and putting a second person in that car can add an additional 100%. And these improvements can be made tomorrow with no capital outlays. Nicer still, both initiatives enhance the efficiency of all the infrastructure I've mentioned. Finally, there is the simple nineteenth century technology already in place: the bicycle combined with the train. There is a lot going for these two humble machines. Together they offer a level of physical, social and environmental joy that can only be appreciated by trying them. We must be prepared to persist for a time but the more we do, the more joyous is the experience. Would it mean losing too much face to show the Chinese, Indians and Africans that *we* want to emulate the way *they* commute now - but with "attitude"?

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