9 America the Motorised

> The car is the greatest modern symbol of American freedom … cars are a powerful symbol of what makes America the greatest, and the freest, country in the World.
>
> John Bragg, Center for the Moral Defense of Capitalism, 2001

While the developments in the world oil industry, described in the preceding chapters, were taking place, the economy of the USA experienced major changes. Between 1970 and 2000, the catalyst of the cold-war armaments and space race led to the birth of the computer industries and the so-called 'knowledge economy'. Older companies, like IBM, transformed themselves into new providers of desktop computers; new companies, like Microsoft, grew from humble beginnings to become mega-corporations; and California's Silicon Valley came to epitomise the 'asset-light, knowledge-heavy' world of information and telecommunications technology.

And yet the most remarkable aspect of this thirty-year period of economic transformation was the extent to which it left the cars-plus-oil economic base still broadly intact. Indeed, between 1991 and 1999, while public attention was focused on the rapid expansion of the 'new economy', US production of 'light' motor vehicles increased by a remarkable 48 per cent.[1]

In 1997, with the information technology and telecommunications boom in full spate, the three companies at the top of *Fortune Magazine*'s 500 largest US Corporations were still General Motors, Ford Motor Company and Exxon.[2] In 1999, the USA produced 13 million motor vehicles, a record production level which beat the previous record set in 1978 and comfortably exceeded the 9.9

million production level of its nearest rival, Japan.[3] According to a study carried out by the University of Michigan and commissioned by the Alliance of Automobile Manufacturers, 'The automotive industry is the largest manufacturing industry in the United States. No other single industry is linked to as much of US manufacturing or generates as much retail business and employment.'[4] The study was able to demonstrate 'the high level of indirect employment in the private non-manufacturing sector that is linked to automotive manufacturing', and cited 'business and professional services, wholesale trade, trucking, and finance' as examples of sectoral employment which is 'more linked to the supplier network for automotive manufacturing than is often recognised'.[5] It concluded that, when allowance is made for all the private-sector industrial and non-industrial (service) activities which provide inputs to the core motor manufacturing sector, and when the impact of the expenditure of automotive industry-generated incomes on other non-automotive sectors is taken into account, the total employment created was 6.6 million.[6]

Another report by the US National Research Council in 2003 stated that one in every six workers in the USA 'deals in some way with automobiles and trucks – making them, driving them professionally, insuring them, licensing them, and building and maintaining highways for them'.[7] It also argued that, 'The impact of the automotive industry on society is unlike that of any other industry. The automobile is not just a technology or mode of transportation; it is a fundamental determinant of the entire economy.'[8]

The extent to which the automotive industry has remained extremely important to the US economy can also be gauged by what happened between 1999 and 2002. As the millennium drew to a close, the hectic pace of the IT and telecommunications boom, and the general explosion of stock market prices which accompanied it, stalled and then began to collapse. It was then that the importance of the automotive industry once again became apparent. By reducing interests rates on vehicle finance deals – to zero in many cases – the automotive industry was able to sustain and even increase US consumer spending, with all the multiplier effects which have been described above.[9] US sales of motor vehicles in 1999, which at 17.4 million were already at record levels, continued to increase: to 17.8 million in 2000, remaining at slightly below that level (17.7 million) in 2001.[10]

Of course, the American car industry has itself changed since the early 1970s. About a third of light vehicles purchased in the USA are now produced by a foreign manufacturer, either directly imported or manufactured in a foreign-owned US branch plant. Competition is fierce and the profitability of car making has plummeted: General Motors now makes more money from finance

than from manufacturing. However, in spite of the fact that imports of vehicles from Japan, Germany and South Korea rose substantially during the 1990s, on balance, these developments did not prevent the continued growth of the domestic US automobile industry, as we have observed.

WOULD JESUS DRIVE AN SUV?

However, one particular change in the US motor vehicle industry has also had important implications for the growth in US oil consumption. The share of 'light trucks' in total light vehicle sales – including the fashionable sports utility vehicle (SUV) category – has grown rapidly since the 1980s. In 2000, for the first time, US sales of 'light trucks' exceeded sales of standard automobiles.[11] SUVs and other types of light truck have lower fuel economy standards than automobiles. Until a very modest increase introduced in an April 2003 rulemaking decision by the National Highway Traffic and Safety Administration (NHTSA), an average fuel economy of 20.7 miles per US gallon was permitted for light trucks compared with 27.5 mpg for automobiles.[12] However, SUVs provide higher profit margins to both manufacturers and dealers than standard automobiles. For this reason, the corporate strategy of the so-called 'Big Three' of US motor vehicle manufacturing – General Motors, Ford and Chrysler (now Daimler-Chrysler) – has been to increase the share of light trucks in their total light vehicle output. Between 1985 and 2001, this share increased from 27 per cent to 63 per cent. In other words, the traditional core of the US motor vehicle industry has come to concentrate on the part of the market which contributes disproportionately to the USA's petroleum deficit.

In the aftermath of the 11 September terrorist attacks, the link between SUVs and America's dependence upon 'Arab oil', together with the vehicle's contribution to environmental pollution, led some Americans to begin to question the growing popularity of the SUV. In November 2002, General Motors' HQ was the scene of a lively demonstration by bishops, Jewish activists and evangelical Christians, who appealed to the company to 'take up the moral challenge' of building fewer of the gas-guzzling vehicles. One group of campaigners, the Evangelical Environmental Network based in Pennsylvania, launched their own TV advertising campaign against the SUV, asking, 'What would Jesus drive?'[13] The campaign's leader, the Revd Jim Ball, argued that vehicle pollution was having a damaging impact upon God's creation. 'We are spreading the word that to love our neighbours and care for creation, automakers and politicians need to build cars that reflect our moral values.' Other campaigners underlined the

link between the SUV and rapidly growing oil imports from countries which they saw as harbouring terrorists.

However, Ball's message was rejected by other US evangelicals, many of whom are enthusiastic SUV drivers. The Revd Pat Robertson condemned the anti-SUV campaigners: 'I think the concept of linking Jesus to an anti-SUV campaign borders on blasphemy, and I regard it as a joke,' he declared. Joining the fray, the Sports Utility Vehicle Owners of America published a full page advert in *USA Today*, featuring an individual of Hispanic origin called Jesus Rivera standing proudly in front of his SUV and declaiming that *this* Jesus certainly loved his SUV. In similar vein, a spokesperson for the Alliance of Automobile Manufacturers, proclaimed that Jesus 'may well choose an SUV so that several of his apostles could travel with him'.[14]

AVERAGE AMERICANS AND THEIR CARS

Let us now pay a brief visit to Mr and Mrs Average America and their almost totally motorised way of life at the beginning of the twenty-first century. Together with their teenage daughter, the 'AAs' lived in the suburbs of a large US city. Since they were the average American household they owned two cars and, as such, they belonged to the 38.6 per cent of America's 104,700,000 households who did so, a proportion which had increased from 34 per cent in 1980.[15] However, since they would shortly be purchasing a car for their 16-year-old daughter, the AAs would soon stop being 'average' and form part of the 18.3 per cent of US households who owned three cars, a proportion which had increased from 17.5 per cent in 1980. Once acquired, their daughter's new car would be just one more to add to the 215,580,000 registered vehicles (cars, trucks and buses) owned by US drivers, a number which had increased from 155,796,000 in 1980.

In 2000, Mr and Mrs AA decided to take advantage of the low interest finance deals on offer to replace Mr AA's existing car and to buy a vehicle for Mrs AA. Both the AAs were working and between them they travelled 6,492 vehicle-miles to and from their places of employment each year. However this was only 26 per cent of the total 24,800 vehicle-miles per year which their family travelled, including shopping, family visits, holidays etc.

Mr AA had recently considered joining the 5.2 per cent of US employees who used the public transport system to travel to work (a proportion which had fallen from 6.4 per cent in 1980), but since the time spent travelling would have been about 42 minutes as opposed to the 20 minutes average by car, he had abandoned this idea. When told that in Western Europe 20 per cent of

employees travel to work by public transport, Mr AA imagined it was because they are not wealthy enough to own a car. Mrs AA was previously one of the 11.2 per cent of US employees who got a lift to work with a friend (a proportion which had fallen from 19.7 per cent in 1980), but now that she could afford to have one she was going to purchase a car of her own.

Both the AAs liked the idea of supporting domestic manufacturing so they both bought Fords. Mr AA purchased a Ford Taurus sedan with a 3-litre, 6-cylinder engine, a city fuel economy of 20 miles-per-US-gallon and a highway mpg of 27. For Mrs AA they purchased a Ford Explorer sports utility vehicle (SUV) with a 4-litre, 6-cylinder engine, a city mpg of 14 and a highway mpg of 19. When answering a customer survey a couple of years previously, they were among the 50 per cent of consumers who said they were considering buying a SUV for their next vehicle purchase.[16] They were also among the 30 per cent of consumers who said that safety was the most important attribute when purchasing a new vehicle. The AAs were *not* among the mere 11 per cent of consumers who gave 'fuel economy' as their chief vehicle attribute preference. Their newly purchased SUV was just one of the 9.1 million 'light trucks' (SUVs, campers and pick-ups) sold in 2000 which, for the first time, outsold the number of standard automobiles purchased (8.9 million).[17] Light trucks had been steadily gaining market share since the early 1980s, when the minivan was introduced, but now SUVs were not only replacing cars but over the past few years were replacing other kinds of light truck as well.

The AAs prefer to drive large, powerful vehicles. In 2000, only 24.4 per cent out of a total of 17 million vehicles purchased were small cars, a proportion which had fallen from 38.5 per cent in 1991 and from 41 per cent in 1981. Indeed, according to AutoPacific, a California-based car industry consultancy, in a recent survey only 7 per cent of new-vehicle buyers said they would consider a small car for their next vehicle purchase.[18] Large sedans and SUVs are preferred because not only are they more spacious and comfortable than small cars but, in the opinion of most Americans, they are also safer. Sharing this belief, Mr AA is now trying to persuade his 16-year-old daughter against having a small car. She says she would like a little Chevrolet Cavalier but he'd rather put the same $10,000 to $12,000 into a three-year-old Mercury Grand Marquis, mainly for safety reasons.

His thoughts on this matter were strongly influenced by an article he read in the 2 July 1999 edition of *USA Today* called 'Death by the gallon'. Written by James Healey, the news magazine's motoring correspondent, the article claimed that the introduction of fuel economy standards for new vehicles in the aftermath of the 1973 oil crisis had caused thousands of deaths. In an analysis of crash data

since 1975, when the Energy Policy and Conservation Act was passed, *USA Today*'s correspondent calculated that '46,000 people have died in crashes they would have survived in bigger, heavier cars.' Although the average miles per gallon of vehicles on US roads was now 20 mpg as compared with 14 mpg in 1975, the cost of this reduction 'has been roughly 7,700 deaths for every mile per gallon gained'. Small cars, it was claimed – those no bigger or heavier than Chevrolet Cavalier or Dodge Neon – comprised 18 per cent of all vehicles on the road yet they accounted for 37 per cent of vehicle deaths in 1997 – 12,144 people. 'That's about twice the death rate in big cars such as Dodge Intrepid, Chevrolet Impala, Ford Crown Victoria.' Healey supported this argument by quoting Mr Brian O'Neill, President of the Insurance Institute for Highway Safety, who says, 'We have a small-car problem. If you want to solve the safety puzzle, get rid of small cars.'[19]

Bill Lovejoy, General Motors group vice-president, clinched it for Mr AA when he said, 'When my kids were coming of age, I made sure they had big cars to drive. It's physics. When a large car meets a small car in an accident, the large car wins.'[20]

FUEL ECONOMY DECLINES, BUT SO DO MOTORING COSTS

The Corporate Average Fuel Economy (CAFE) standards introduced in 1975 required the average fuel economy of all new cars sold by a US car manufacturer to be at least 27.5 mpg: that is some of their cars could be above that as long as others are below. Automobile makers who fall short are fined. However, as we have already noted, until very recently (April 2003), new 'light trucks' were only required to have a fuel economy of 20.7 mpg. SUVs with their lower average fuel economy are classed as light trucks, not passenger cars, a loophole in the law which American lovers of big engines and big cars have been able to exploit. Even so, the CAFE standards have been under constant attack by US motor-industry executives and free-market ideologues, who reject what they see as government interference in business decisions and consumer choice. CAFE has been 'a bad mistake, one really bad mistake. It didn't meet any of the goals, it distorted the hell out of the new car market,' said Jim Johnston, fellow at the American Enterprise Institute and retired General Motors president who lobbied against the 1975 law.[21]

For many Americans, driving large cars is a basic right. Attempts to impose higher CAFE standards for SUVs have become the object of vitriolic attack by organisations like the Cato Institute, the Competitive Enterprise Institute and

the Centre for the Moral Defence of Capitalism. John Bragg, a policy analyst with the last-named centre, pokes fun at the environmentalists' attack on SUVs asking, 'Why would anyone build these horrible engines of death?' answering 'They build them because SUVs have advantages in safety, cargo space and power that Americans demand.' According to Bragg, 'The minivan and the SUV gave America the powerful, spacious vehicles that they had demanded before regulations – they were our reply to Washington's attempts to force everyone into smaller cars.'[22]

Mr AA agrees; and he also agrees with the editorial he has read in his copy of the *Wall Street Journal*, that 'CAFE standards were the environmental lobby's attempt in the 1970s to force "gas-guzzling" Americans to abandon cars that were comfortable and safe in favour of motorised tin cans.' Americans responded 'by ignoring cars and buying SUVs'.[23]

Because of the growing popularity of SUVs and other light trucks, the average fuel economy of new light vehicles actually fell during the 1990s. Between 1973 and 1987 it improved from 14 mpg to 26.2 mpg as a result of the introduction of the CAFE standards. Since then, the fuel economy of new automobiles and light trucks remained more or less constant. But because light trucks increased their market share at the expense of standard automobiles, the fuel economy of the average light vehicle sold fell from 26.2 in 1987 to 24.7 mpg in 2000.[24]

Mr and Mrs AA spend 17.4 per cent of their family budget on motor vehicle transportation (capital as well as running costs), approximately the same as for an average European family. It is the second largest item of expenditure after housing. Their 'freedom' to drive cars and SUVs which are considerably larger and more powerful than European cars is therefore contingent upon the 'affordability' of the vehicles purchased and the availability of cheap fuel. Although the average real price of a new automobile increased between 1990 and 1999, from $19,753 to $21,420, the average rate of interest charged in car finance deals fell from 12.15 per cent to 7.96 per cent. Since wages and salaries also increased between 1990 and 1999, the Automobile Affordability Index (AAI), which expresses the full cost of an average automobile, including finance charges, in terms of weeks of salary, fell – from 29.4 weeks in 1990 to 23.8 weeks in 1999. Indeed, in 1999 the AAI was almost the same as it was in 1979 (23 weeks).

US gasoline prices are lower than in any other developed industrialised country and in 2000 were at about the same level as those in China ($1.47 in the USA, $1.44 in China). In fact, a gallon cost less than a large bottle of mineral water ($1.90).[25] After allowing for inflation, the 'real' price of a gallon of US gasoline in 2001 was only 3.6 per cent higher than in 1978 and between 1991 and 1999 it was substantially below the 1978 real price.[26]

The huge difference in price between the USA and the other industrialised countries is primarily due to the low level of tax on gasoline. In 1999 tax accounted for 33 per cent of the US price, whereas in Canada it was 49 per cent, Japan 59 per cent and the UK 76 per cent. Roughly the same differences also apply in the case of diesel fuel.[27] This difference in taxation also has an important implication. The lower proportion of tax in the final price of gasoline at the filling station in the USA means that the contribution of crude oil cost to the final price is proportionately larger. In turn, this means that the final price is more highly geared to the crude price in the USA than in other, more highly taxed countries. In this sense US motorists are more exposed to the vagaries of the world oil market than elsewhere and in such a highly motorised society they are especially sensitive to the fluctuations in the gasoline price which accompany those in the crude oil price. Furthermore, according to the president of the National Petrochemical and Refiners' Association, 'The gasoline price in America is probably the best known single price for any product or commodity because it is in on almost every street corner.'[28] It is also, therefore a highly 'political' price and although a higher gasoline tax would probably dampen its future volatility for the reasons explained above, proposing such a tax increase is a guaranteed vote-loser for most US politicians.

BUSH, ENERGY AND THE ENVIRONMENT

The USA is responsible for 44 per cent of all the energy-related carbon dioxide emissions from the industrialised, OECD nations.[29] Although Bush on the campaign trail had seemed to offer a constructive and even-handed approach to the thorny question of American compliance with the Kyoto protocols which limited worldwide emissions of carbon dioxide and other greenhouse gases, three months into his presidency, Bush swiftly abandoned his earlier position and in a letter replying to a group of senators vociferously opposed to Kyoto, he announced that 'he would oppose Kyoto because it exempted 80 per cent of the world, including China and India, and it was an unfair and ineffective means of addressing global climate change concerns.'[30] In the opinion of Paul O'Neil, then Bush's Treasury Secretary, Bush's decision showed all the signs of manipulation by Cheney, master of the political puppeteer's craft.[31] Bush's rejection of Kyoto won widespread approval from the large oil, gas and coal companies but it also reflected the reality of motorised America as a whole.

The combustion of motor gasoline in an internal combustion engine involves a reaction between the hydrocarbons in the fuel and oxygen, with

vaporised water, carbon dioxide and heat energy being the products of combustion. For example, in the case of Pentane, one of the ingredients in petrol, about 3 kilograms of CO2 are released for every kilogram of pentane consumed. One litre of pentane weighs about two thirds of a kilogram so an automobile releases 2 kilograms of CO2 for every litre of motor fuel used. Now let us refer back to Mrs AA and her new Ford Explorer, who we met earlier in this chapter. The average fuel efficiency of her new vehicle is about 16.5 miles per US gallon (or 4.36 miles per litre). So if she travels an average of 10,000 miles per year her vehicle consumes 2,294 litres of fuel and releases over four and half tonnes of carbon dioxide into the atmosphere. In other words, to significantly reduce carbon dioxide emissions Bush would have had to clamp down not only on his corporate energy industry backers but on the motorised lifestyle of millions of ordinary Americans, a lifestyle which, as we have already noted, epitomises the very values of individualism and 'freedom' so lauded by conservative America and its political representatives.

However Bush did have one card to play in the environmental politics game. 'Today I am proposing $1.2 billion in research funding so that America can lead the world in developing clean, hydrogen-powered automobiles.' With these words, Bush's January 2003 State of the Union Address sought to portray his Administration as simultaneously pro-environment and 'doing something' about increasing dependence on foreign oil. According to some of the Administration's supporters this new apparent commitment to a non-gasoline automobile engine 'undermines the argument that Team Bush is the captive of oil interests'.[32] In fact the so-called 'FreedomCAR and Fuel Initiative', which would hand over $1.7 billion of US taxpayers' money to corporate America over a five-year period, did nothing of the sort. The prospect of a commercially viable fuel-cell-powered automobile is certainly one of the more remote alternative technologies currently under consideration. Currently hydrogen is four times as expensive to produce as gasoline and fuel cells are ten times more expensive than internal combustion engines. Even if research were to reduce these costs to equivalence with the conventional auto engine the problem of the slow market penetration rate (owing to the length of time owners retain their current vehicles) would place significant oil savings and environmental improvements decades ahead. This problem is compounded by the fact that Bush's programme lacks any mechanism to hold the automobile industry accountable for converting theoretical plans into real vehicles, or any economic or social mechanism to ensure a transition away from current gasoline-based technology.

'The president's announcement is encouraging,' said Ed Murphy, general manager of refining and marketing with the American Petroleum Institute,

adding that, 'fuel cells are an exciting new technology that could figure prominently in America's energy future.' Energy *future* indeed. In the interim any serious attempt to deal with America's current problem of gas-guzzling, such as a really significant tightening of mandatory car manufacturers' average fuel efficiency standards, could be conveniently shelved. Indeed, the US environmental campaign group, the Natural Resources Defense Council, compared the oil savings from what they describe as an 'optimistic' fuel-cell engine scenario (100,000 fuel-cell vehicles per year by 2010 and 2.5 million by 2020) with their own fuel economy proposal (an average mandatory vehicle fuel consumption of 40 mpg by 2012 and 55 mpg by 2020), showing that potential oil savings between now and 2020 from their own programme are almost 25 times greater than those from the introduction of fuel-cell vehicles. Even in 2030, when fuel-cell vehicles would be more prevalent, savings from fuel-economy improvements would still be five times as great.[33] Far from indicating a new 'greener', less 'oily' Bush, the FreedomCAR and Fuel Initiative confirmed him as resolute friend of the oil industry and a generous contributor to US corporate welfare.

AMERICA'S MOTOR FUEL REQUIREMENTS 1999–2050

Let us return to Mr and Mrs Average America and multiply our data for this 'sample' household by all 104,700,000 US households to reach a figure for America's total motor fuel requirements. We know that the annual vehicle-miles travelled for a three-person household like the AA's is 24,800 miles. We will assume that the average fuel economy for both the AA's vehicles taken together and combining both city and highway use, is around 20 mpg; so the total volume of gasoline consumed by the AAs each year is 1,240 US gallons. On this basis, the total motor-vehicle fuel consumption of all US households would be 129,828 million gallons. Since there are 42 gallons to a barrel, we can calculate that US households consume 3,091 million barrels of transportation fuel per year, or 8.5 million barrels per day.[34]

Of course, this calculation is based on the assumption that the average fuel economy of all light vehicles on US roads today is the same as the combined average fuel economy of the AA household's two vehicles. It could be different: on the one hand, the total stock of cars is older than the AA's vehicles (which will therefore lower the average mpg); on the other hand, the total stock of light vehicles will also be considerably less 'weighted' by the presence of SUVs (which will therefore raise the average mpg). In fact, these factors appear to cancel each

other out. The actual fuel economy of the average US light vehicle is indeed, 20 mpg, so our calculation of 8.5 million barrels per day for total US light vehicle fuel can stand. It is still an estimate, but one which compares quite well with the US Bureau of Transportation Statistics own figure of 8.2 million barrels per day.

To this we must add the motor fuel consumed by America's heavy trucks – those used for commercial road transport. The USA has 7,858,000 registered heavy trucks of which 2,154,000 are long-haul, so-called 'combination' trucks capable of pulling heavy trailers. In addition there are around 750,000 buses of different types. Heavy trucks and buses consume around 36,300 million gallons per year (2.4 million barrels of fuel per day). Adding the fuel consumption of heavy trucks and buses to the fuel consumed by light vehicles gives us a total motor-fuel consumption of 10.6 million barrels per day. To put this figure into perspective, it is roughly equivalent to the total daily petroleum consumption of South America, Africa and the former Soviet Union combined.

Looking to the future, the US Department of Energy's Energy Information Agency (EIA) forecasts that America's total oil requirements will continue to rise to around 26.7 million b/d in 2020, compared to 19.5 million b/d in 1999, an increase of 37 per cent. Demand for all transportation fuels will rise by over 40 per cent between 1999 and 2020.[35] Indeed, by 2020, demand for fuel from the transportation sector of the US economy alone (19.22 million b/d) will be about the same as the *total* US demand for petroleum in 1999 and most of this increase will be the due to higher demand from America's cars and trucks.

Looking even further into the future, the Department of Energy's Office of Transportation Technologies (OTT) examined a number of different scenarios for US transportation fuel demand until the year 2050. The 'base case' presented by the study is that total US petroleum demand increases from 19.5 million barrels per day in 1999 to 44 million b/d in 2050 and transportation demand increases to 30 million b/d, of which 21 million b/d is consumed by light and heavy highway vehicles.[36] This 'base case' assumes that light vehicle fuel economy does not improve over the next fifty years, because the increase in the oil price over this period would be modest. At the same time, the study notes that, by 2050, 'oil is assumed to be virtually 100 per cent imported.'[37]

In alternative scenarios, where different kinds of technological improvement (hybrid electric vehicles, fuel-cell-powered vehicles etc.) are factored in, there remains the problem that such technologies take a very long time to diffuse throughout the national vehicle stock. Due to relatively slow replacement rates, the inertia in the current stock of vehicles results in a substantial delay between the initial deployment in the market and realisation of the petroleum-saving benefits. For example, if the advanced vehicles followed a ten-year market

penetration curve starting at 10 per cent of the market in 2001 and reaching 100 per cent by 2010, the on-road fuel economy of the stock would not double until about 2030. With a more realistic twenty-year penetration of the market, the stock fuel economy takes 38 years to double.

The intention of the OTT study was to show how essentially unrealistic is the 'base case' once two further constraints are added to the argument – the growing oil demand from the developing world and the possibility that conventional world oil production will peak around 2020. While the second of these two 'constraints' is arguably too pessimistic (see Chapter Ten), the OTT's concern that America would become increasingly vulnerable to oil price shocks unless measures are swiftly introduced to reduce highway consumption of petroleum was convincing. Their policy conclusion was that the government should be more prescriptive and interventionist in changing the public's existing preference for petroleum-fuelled motorisation. The OTT concluded that, to ensure an orderly transition from conventional fuels and stagnant fuel economy to new fuels and a more efficient fleet, there was a strong need for new policies 'at least some of which are likely to meet resistance from the general public and/or the auto industry'.[38] To date neither the auto industry nor the general public have anything to fear on this score.

FREEDOM'S JUGGERNAUT

At the end of Chapter One, we referred to the American motor vehicle as a 'juggernaut' – the ancient Hindu religious idol carried in procession by a huge wheeled vehicle under which the devotees of Krishna were supposed to throw themselves in adoring ecstasy. The religious metaphor may seem exaggerated, but it is nevertheless important to recognise the key ideological function which the automobile plays in the American value system. According to the Michigan University study of the US automotive industry to which we have already referred: 'Automobility facilitates individual determination, individual freedom of movement, self-directedness, privacy, choice of destination arrival time, and control over immediate environment. To many, automobility is the core of individualism in America.'[39] Indeed, in the words of the conservative policy analyst John Bragg: 'The car is the greatest modern symbol of American freedom… cars are a powerful symbol of what makes America the greatest, and the freest, country in the World.'[40]

Sentiments such as these formed part of the ideological bedrock of that small group of men and women who took control of the USA on 12 December

2000.[41] This new right-wing Republican Administration – an alliance between the corporate oil and energy interest represented by the 'Axis of Oil' and a group of extreme Reaganite ideologues dubbed 'neo-conservatives' by the media – would not fail to take whatever action was deemed necessary to safeguard America's completely motorised way of life. But as the new millennium dawned, and America's dependence on oil imports from the Gulf reached a new all-time high, there were grave warnings of an impending energy crisis of unprecedented severity; and although there were different views as to the precise nature of that crisis – as we shall see in the next chapter – there was general agreement among the different expert bodies of opinion that such a crisis was fast approaching.