

## Public Avenues to Private Spaces: Regulating the Car

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Automobility constitutes the entire gamut of practices that foster car culture, whose visual image is one of dignified convoys of individual cars, vehicles whose solitary drivers can remain separated from each other as they collectively pursue private goals on public highways. This is what cars do for liberal society: the experience of driving, identified by the quiet pleasures of the open road, speed, power and personal control, neatly complements the functionality of covering distance, managing time and maintaining certain forms of individuation. Together, they establish quintessentially that which is *modern* and, by definition, permanently desirable.

The car is indeed a social equaliser, it provides its user generous amounts of personal space, expands her opportunities for negotiating external space, and fosters that “calm and considered feeling which disposes each citizen to isolate himself from the mass of his fellows and withdraw into the circle of family and friends<sup>1</sup>.” Without the car and the associated freedom to roam and live where one wants to, liberals might well argue, social hierarchy would perhaps become more significant, and the travails of daily life would be worse in some ways than it was at the turn of the 20<sup>th</sup> century, given the greater resource and population pressures in today’s world. At least in the West, car ownership is now so common that nearly every “free” adult has this unique form of control over time and space. The car’s ubiquity gives it a further sense of being an “ordinary” human endowment, much like one’s dwelling or clothing. The car’s own accoutrements, the highway and gasoline delivery infrastructure, traffic rules, parking structures, licensing procedures, and so on, could be considered the very “training wheels” that condition the individual to become a responsible member of a material and “spatial” society. Largely, these institutions of automobility constitute the physical fabric of modernity and sustain political liberalism’s capacity to reproduce itself as an affirmative set of beliefs in the face of criticisms from various versions of anarchism, fundamentalism, Marxism, post-modernism and so on.

Yet, the car itself is not without its critics, many even within the liberal camp. The social costs of cars are almost imponderable, given the vast and destructive impacts of automobility on the local and global environment, global security, personal safety, equity and access (for children, the elderly, the poor and the disabled), spatial aesthetics, and

social cohesion<sup>2</sup>. The carless individual's experience in an automobilised world of "edge cities," where access without a car is nearly impossible, is itself only one expression of the ways in which automobility can actually constrain human autonomy. There are others: being compelled to drive and be subject to the dangerous actions of others on highways; suffering the environmental consequences of driving, including global warming, which affects present and future generations as well as people in parts of the world where there are virtually no cars; and experiencing the misery of wars being fought to support the interests of gasoline-guzzling nations.

Nowhere is the icon of the car as an arbiter of modernity more compelling than in the United States. The proliferation of automobile culture there has meant the construction of massive motorways designed for local travel in increasingly expansive metropolitan regions, subsidised parking, and tax policies that charged highway use far lower than its social costs and provided subsidies for low-density living. Consequently, the U.S. steadily lost an average of 1.5 million acres of farmland each year since 1960 to strip malls, highways, roads, parking lots, resorts, service stations, single-family homes, and the like, while the average number of cars in use grew nearly five times and the average vehicle miles travelled per American increased by nearly half. The negative consequences of these changes are well known: sprawl, loss of open public spaces, congestion, inefficient transit performance, loss of mobility and access for the poor, elderly and the disabled, and local and global environmental pollution.<sup>3</sup>

### **1. The paradox of democratic environmentalism**

When a democratically elected polity has to confront a severe environmental problem caused by the normal and otherwise sanctioned behaviour of nearly everyone in its constituency, it generally takes one of two distinct regulatory routes. It might try to identify a small number of agents as the primary perpetrators and look for justifiable ways to go after them aggressively. Alternatively, it might formulate hedging measures and pool risks among the majority, much like an insurance agency would, to ensure that virtually everyone pays a small but relatively unobtrusive "premium" whose collective impact might mitigate the extent of the problem. But it almost never chooses the more reasonable third option, that of devising regulation to influence large-scale changes in behaviour towards sustainable outcomes. That would be "political suicide," in contemporary media-speak, given the near certainty in liberal democratic regimes of a mismatch between short-term political priorities and long-term social and environmental needs<sup>4</sup>.

Environmental regulation relating to automobiles fits this pattern quite nicely. The state acts gingerly when confronting the multitude of

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individual drivers, but is generally more assertive towards auto manufacturers. Members of the public are never required seriously to curtail or even alter consumption patterns *per se*; rather, technological innovations ahead of the individual polluter are generally the primary focus of intervention. In other words, the state prefers to regulate the behaviour of a small and identifiable number of actors rather than that of the majority of its citizens.

Partly, the problem is because automobile pollution defies easy categorisation, that is, the naming of agents who could be discerned as primarily responsible for the problem. Its cause and development are complexly woven into atmospheric chemistry, meteorology, car use, and engine design, and all these factors encourage the conception that it has little or not relation to human agency. In the popular imagination, the automobile manufacturer is the most directly liable party, but even so, cannot be held responsible for causing the whole crisis. Automobility is so entrenched in late modern society that several other determinants than a putative conspiracy between the state and auto-industrial oligopoly have to be invoked for analyzing its circumstances. Similarly, one might defend vehicle owners from strict liability for producing automobile pollution. When owners drive, they are part of an obligatory enterprise that is shared by the majority of the populace. And even if certain *types* of vehicles pollute more than others, it is inappropriate to attribute primary responsibility to owners for possessing such vehicles. The burden of causing air pollution cannot thus be borne solely by the manufacturer, owner, or driver, any of whom could quite justifiably relate their behaviour to the entire milieu they live in of spatiality and mobility.

In the rest of this brief paper I want to explore the implications that this constraint has had on the regulatory modes adopted by the state of California to curb automobile pollution for the past three decades or so. I argue that California's experience provides us with a particularly stark view of the regulatory conundrum because of the dual nature of the stakes: a highly automobilised society having severe local air pollution problems. Moreover, by creating for itself the global reputation of being the intrepid pioneer in the field, the state's leading regulatory agency may have become a victim of its own remarkable success and gotten locked into a particular pattern of regulation. What was initially marvelled at as the agility of an independent and environmentally conscious agency has started to become a strenuous circus act that an overgrown organisation needs to replay over and over, each new performance having to be an improvement on the last. The strain is starting to show even as the agency needs continuously to tread a fine line of legitimacy while devising novel ways to reduce air pollution.

## 2. History

California's enduring talent for exonerating automobility *per se* in its regulation of pollution from vehicles is almost understandable, but yet astonishing in its scale and scope. In Raymond Chandler's Valley of Smokes that was choking under hazy layers of aerosols that blanketed the skies in the 1940s, cars remained innocent bystanders. While Angelenos were complaining of breathing problems, headaches, and eye irritation, the conviction that motor vehicles were not culprits was quite widespread—the director of one agency went as far as to refer to such suspicions as “folklore.”<sup>5</sup> In 1952 Haagen-Smit famously showed that there was a photochemical basis for the formation of ozone in smog, and that the hydrocarbons and oxides of nitrogen from the exhaust gases of automobiles and industrial stacks were the main actors in the process.

A stunning revelation with profound implications for social change? Not quite, as the Governor of California deftly asserted, “smog is a scientific and engineering problem and not a political or legal one.”<sup>6</sup> Already, just as the *means* to regulate automobiles acquired significance the *need* to regulate them was deflected away from questions involving driving or vehicle use to a focus on the engineering features that could reduce emissions per mile driven. Cars, not drivers or the act of driving were the problem, so they would have to be cleaned up using the latest technical solutions.

In 1955, the Federal Air Pollution Control Act was enacted; in 1959 California passed its own laws requiring the state Department of Public Health to establish air quality standards and controls for motor vehicle emissions. With this supporting legislation the California Motor Vehicle State Bureau of Air Sanitation mandated the first automotive emissions control technology in the nation, Positive Crankcase Ventilation (PCV), beginning a decades-long tradition of “technology-forcing” regulation, much to the frustration of neo-liberal policy analysts<sup>7</sup>.

In subsequent decades a large number of human clinical and epidemiological studies revealed damaging long-term effects of ozone and other oxidants, adding to the list of acute and chronic health problems caused by smog. But while awareness of the cause and health effects of smog now infused public policy, there was less and less expression within popular culture of any impending possibility of controls on driving behaviour to mitigate of these risks, indicating the degree to which the policy debates had become professionalised. And although harder to verify, the public discourse of newspaper editorials of the day suggested that popular complaints about air pollution had settled down even as distinct

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interest groups of vehicle manufacturers, oil companies, garage owners and maverick inventors entered the fray.

The initial technical improvements were rather modest, although some controls affected vehicle performance because they reduced engine power, leading to the first set of worries related to in-use controls, namely consumer “tampering”. But by the early 1980s, with the introduction of catalytic converters, electronic feedback controls, and computer-controlled engines, the entire underhood architecture of the car had undergone a metamorphosis. Manufacturers subsequently had to adopt on-board diagnostic systems that would monitor all aspects of the engine’s performance in real time, storing codes and warning the driver when problems arose. The computer-controlled vehicles were designed to keep emission control systems within their original specifications for a long period and to permit external interrogation of the past performance of the systems

The result was a far cleaner and somewhat more fuel-efficient fleet with little or no loss in power, although people were driving considerably more, wiping out most of the gains in efficiency and emissions<sup>8</sup>. And despite the many encouraging aspects of technological control, the state was burdened with the same set of policy problems during each cycle of technology advancement—having to persuade manufacturers to install the newer systems and consumer-citizens to bear the higher cost of their vehicles and maintain them properly. The first problem was addressed through a series of delicate manoeuvres in which the regulatory agency, the California Air Resources Board (CARB), effectively withheld the pie of automobile sales from manufacturers who refused to meet vehicular standards. In a climate of increasing global competition after the mid-1970s, this strategy worked brilliantly to get all the major domestic and foreign manufacturers in line, even if they had to restructure their production processes globally in order to sell cars built exclusively to meet California’s standards.

But the second policy problem, persuading vehicle owners to meet certain obligations, turned out to be far more difficult to overcome. Partly it was because this was always regarded as a “political” issue, if only in the narrowly defined sense of politics as “public acceptability”<sup>9</sup>. Moreover, with each advance of technology, the CARB was already finding itself in the difficult position of having to devise viable strategies for monitoring the performance of increasingly sophisticated systems throughout the life of each vehicle. Still, for a long period during the 1980s and 1990s, the performative competence of technology alone seemed to lend legitimacy to the agency’s attempts to introduce new emission controls in vehicles by blending quite nicely with a generalised

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fetishism over new cars. That is to say, the incentive to buy new vehicles, even if they had surveillance technologies built in, was reinforced by advertising claims boasting the improvements in performance for “fuel-injected, fully computerised” engines<sup>10</sup>.

The CARB's approach appears therefore to have developed elements of the two main regulatory options mentioned at the beginning of this paper, although they have remained somewhat bifurcated depending on whether they have been applied to manufacturers or car owners. A relatively small, though powerful group of actors, vehicle manufacturers, has been identified as the primary targets of regulation. To the multitude of car users, it has proposed a relatively painless procedure, the biennial vehicle inspections at decentralised garages, thereby pooling their risks collectively so that each had to “pay” a small premium roughly corresponding to the deviation of their vehicle's emissions from the standard for which it was certified<sup>11</sup>. A variation on this mode, culling out the gross emitters and subjecting them to special penalties, was reluctantly adopted in the mid-1990s with pressure from some scientists and policy makers. But the CARB has assiduously avoided making any attempt to include land-use and transportation planning controls in its regulatory program, occasionally providing the explanation that these were beyond its mandate. Indeed they were.

Still, it is difficult to understand precisely how the CARB could propose, and why automobile manufacturers would eventually comply with, though not without protest, the decades-long regimen of tough emissions standards for new vehicles that were sold exclusively in California. Surely, automobile lobbies must have been all-powerful and could have managed to tame the regulatory juggernaut towards setting far more lenient standards than the draconian ones that came out year after year. A close, and as yet unwritten, analysis of the political economy of air pollution regulation in the state is needed to unravel this mystery, but a few candidate factors are worth mentioning<sup>12</sup>.

First, and perhaps most importantly, the CARB would have preferred to regulate manufacturers than vehicle owners in any case, given the complexity of having to deal with transportation and land-use policies influencing the total miles driven. And since even the gains it was making in the early years of regulating new vehicles were being eroded by the increases in miles driven, it chose to go even more aggressively than it had in the former direction. Second, California represented a huge market comprising roughly a million new vehicles per year in its peak, and if the CARB was going to dig its heels in and propose tough new standards, no manufacturer wanted to lose its chance to participate in it. This dynamic was made more complex by competition among manufacturers; the

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Japanese and Europeans routinely being more willing to comply with new standards to gain market share. And finally, between the late 1970s and the mid 1990s, many of the technology fixes proposed by the CARB were done so in consultation with automotive industry experts, which provided substantial room for manufacturers to influence modest changes that helped them streamline emissions control technology into their normal vehicle design development.

But in the early 1990s California literally came to the end of the tether in its approach to limiting vehicular emissions. For both new and existing vehicles, emissions control had become a matter of considerably high stakes for which the possibility of direct closure has all but expired. New vehicle standards for carbon monoxide, hydrocarbons and oxides of nitrogen were ten to twenty-fold tighter than they were before the controls were initiated and the emphasis had shifted dangerously to in-use emissions. Things were just as tough for vehicles in use.

In September 1990, in an announcement that shook the industry and the environmental movement, the CARB adopted a Low-Emission Vehicle and Clean Fuels program requiring that by 1998 a minimum of two percent of the vehicles offered for sale by major automakers in California be Zero Emitting Vehicles and that this be extended to five and ten percent, respectively, by 2001 and 2003. The regulations, which were designed with biennial reviews to monitor the development of technology, were modified substantially over the years, the most dramatic revision being the one in 1996, which essentially rescinded the 1998 and 2001 mandates, but kept the ten percent requirement for 2003. The reasons for the *volte face* were probably multiple, including intense political lobbying by the oil and automotive industry and uncertainties in battery technology. But as Mark Brown argues, the CARB ignored the tremendous public support for electric vehicles and imputed to them instead the “unacceptability” of having vehicles with relatively short ranges:

...despite enormous public opposition to changing the mandate, CARB determined that very few consumers would want to buy the currently available EVs....CARB's conception of citizenship was closely bound up with its understanding of technology and expertise... The Board appealed to experts as the voice of the public good, discounting the very statements it had solicited from the public itself. While CARB faced intense political pressure to postpone the program, its appeals to expertise were not simply ways of

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rationalising a decision caused by interest group lobbying<sup>13</sup>.

Subsequent reviews completely modified the 2003 mandate without actually removing the 10% requirement, but allowing manufacturers partial credits for selling low emission vehicles rather than “pure ZEVs”<sup>14</sup>. Even as these policies were being shaped into increasingly tangled forms, discussion elsewhere in the state had commenced to develop a strategy to reduce petroleum dependence in California. This was necessitated by the realisation that a combination of extremely stringent local air pollution regulations governing the siting of refineries, complex refining requirements related to the CARB’s low emissions mandate, and falling oil reserves in California would lead to a growing shortage of transportation fuels in the state<sup>15</sup>. This placed the CARB in an awkward position: a strong ZEV mandate and incentives to reduce driving would have gone a long way towards mitigating the problem, but the agency had somehow locked itself out of both options.

The most recent drama in the state’s air pollution regulatory history involves the passage of Assembly Bill 1493 in 2002, which would require the CARB to develop carbon pollution, or greenhouse gas, standards for vehicles in model year 2009 and beyond. It is likely that the bill’s success was itself predicated on a number of important political considerations at the time: a strong environmentalist lobby, a growing sense of despair over the issue of petroleum dependence (which would have been alleviated considerably by introducing more energy efficient and therefore “greenhouse gas friendly” vehicles), and a Democratic governor who wanted to push strong energy legislation in the wake of the electricity debacle in the state. At the same time, some of the provisions in the bill clearly reflect the compromises that were made to various political lobbies. These include bans on mandatory trip reduction measures or land use restrictions, additional taxes on fuels, vehicles or vehicle miles travelled, reductions in vehicle weights, or reductions or limits on speed limit reductions or limitations, or restrictions on vehicle-miles-travelled<sup>16</sup>. In other words, the language of the bill was simply a continuation of the philosophy adopted by Governor Knight a half-century earlier, that “automobile pollution is a technical” rather than political problem.

At any rate, despite growing public awareness of the links among land-use, transportation, life-style choices and climate change (e.g., [www.transact.org](http://www.transact.org)), the CARB’s discourse is more than likely to remain focused on emissions control technology from new vehicles<sup>17</sup>. In the past, such a strategy only led to ever more convoluted forms regulation with narrowly defined technology categories with increasingly costly

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implications for administration. But the CARB's fascination with technology and actuarial practice appears in no way to be diminishing, as evident in the most recent changes it has proposed to the ZEV mandate<sup>18</sup>.

### **3. Conclusions**

Both by chance and circumstance, the control of automobile pollution in California has been represented, acted upon, and thereby constrained as a technocratic problem that leaves the polity with few choices. This predicament has paralyzed the state's capacity to respond to what it perceives to be a double gesture from its citizens: they demand clean air but are unwilling to take responsibility for achieving it, especially when it involves setting limits on automobile use. But the official reading is specious because it is founded on an individualist metaphor that, in turn, contracts the space of politics and fosters a security mode of governance. By relying on elaborate techniques of risk management and technological controls, policy tends to move away from a shared public effort to generate normative discourse. At most, under a narrow utilitarian logic, "willingness to pay" forms the principal component of the consumptive aspects of the problem, and the task of (state-organised) production to meet this demand is simply to select the most cost-effective administrative program for implementation.

To the extent that automobility is itself entrenched as a set of routine practices, there has been little hope for citizens themselves to articulate any long-term common interests that could lead to meaningful policy solutions. This apparent public disengagement from political affairs has had further vitiating consequences: the domination in policymaking by interest groups representing industry, academia and the state bureaucracy itself, whose only common theme has been the development of new technology rather than the realisation of social policy ideals. The vast majority of drivers have thereby become even more alienated than ever from the conditions of their daily life, at the same time as their ability to speak as responsible citizens has been clouded by the lure of advertising.

In its insurance-oriented view of social behaviour, state administration degenerates towards limited solutions that are concerned with optimising ownership of cars and providing incentives to buy newer cars, rather than addressing the political demands for a common future of transportation and clean air. The contradictions in this model have become increasingly apparent, but it is by no means obvious that these will yet give root to a new form of democratic and pluralist politics around automobile pollution, given the institutional embeddedness of automobility in daily life.

### Notes

1. Quotation from Tocqueville, 1966 [1840], 477.
2. Delucchi, 1997; Pucher, 1999.
3. Cervero, 1986; Ewing, 1994; NAP, 1998.
4. cf. Howitt and Althshuler, 1999.
5. Krier and Ursin, 1977: 74.
6. Ibid., 95.
7. Crandall et al., 1986.
8. The growth in vehicle miles traveled was in fact quite a serious concern for air pollution regulators. In California, between 1960 and 1970, there was a 55% increase in total miles traveled; in the 1970s, this grew by a further 41% (CARB website [www.arb.ca.gov](http://www.arb.ca.gov)).
9. Howitt and Althshuler, 1999.
10. Wernick, 1994; Paterson, 2001.
11. Rajan, 1992.
12. Unfortunately, the few political studies of automobile pollution regulation do not quite tell this part of the story well; see, for instance, Krier and Ursin, 1977; Lowry, 1992; Hempel, 1995; Grant, 1995; Rajan 1996; Gómez-Ibáñez et al., 1999; Brown, 2001.
13. Brown, 2001.
14. CARB, 2001.
15. Under the mandate of state legislation, a number of studies were conducted by the California Energy Commission to study the problem ([http://www.energy.ca.gov/fuels/petroleum\\_dependence/](http://www.energy.ca.gov/fuels/petroleum_dependence/)), many of which recommended that more energy efficient vehicles be introduced for sale in the state, which would provide the dual benefit of reducing criteria air pollutant emissions and gasoline consumption. Environmentalists were making similar arguments; see, for instance NRDC, 2002.
16. California Legislature, 2002.
17. See, for instance, CARB 2002a. Notably, perhaps as a way to counter strong opposition from automakers to the bill, environmentalists expressed warm support for it (<http://www.nrdc.org/media/pressreleases/020722.asp>).
18. CARB, 2002b.

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