The future of automobile society: a socio-technical transitions perspective

Maurie J. Cohen

New Jersey Institute of Technology, University Heights, Newark, NJ, 07102, USA

Available online: 22 Mar 2012

To cite this article: Maurie J. Cohen (2012): The future of automobile society: a socio-technical transitions perspective, Technology Analysis & Strategic Management, 24:4, 377-390

To link to this article: http://dx.doi.org/10.1080/09537325.2012.663962

PLEASE SCROLL DOWN FOR ARTICLE

Full terms and conditions of use: http://www.tandfonline.com/page/terms-and-conditions

This article may be used for research, teaching, and private study purposes. Any substantial or systematic reproduction, redistribution, reselling, loan, sub-licensing, systematic supply, or distribution in any form to anyone is expressly forbidden.

The publisher does not give any warranty express or implied or make any representation that the contents will be complete or accurate or up to date. The accuracy of any instructions, formulae, and drug doses should be independently verified with primary sources. The publisher shall not be liable for any loss, actions, claims, proceedings, demand, or costs or damages whatsoever or howsoever caused arising directly or indirectly in connection with or arising out of the use of this material.
Automobile society has been triumphant for a century. While this success is often ascribed to entrepreneurial tenacity and indefatigable demand, it is more correctly credited to auspicious political, economic and cultural trends. The macro-scale factors responsible for the entrenchment of automobility in developed countries are now moving in reverse direction. A socio-technical transitions perspective emphasises how declining industrial influence, stagnating wages, growing income inequality, increasing vehicle operating costs and changing sociodemographics are now undermining the foundations of automobile society. Three expressions of this process are considered: claims that transport planners are engaged in a ‘war’ against the automobile, emergent evidence that vehicle use is reaching saturation (the so-called ‘peak car’ phenomenon) and apparent disinclination of youth to embrace automobile-oriented lifestyles. Although these developments suggest some instability in the socio-technical system, the lock-in of key features and the paucity of practicable alternatives suggest that declarations of a pending transition are premature.

**Keywords:** mobility futures; transition management; Generation Y; Net Generation; smartphone; iPhone; demotorisation

If we want to understand what doomed the American automobile, we should give up on economics and turn to melodrama… [T]he fate of Detroit isn’t a matter of financial crisis, foreign competition, corporate greed, union intransigence, energy costs or measuring the shoe size of the footprints in the carbon. It’s a tragic romance – unleashed passions, titanic clashes, lost love and wild horses … America’s romantic foolishness with cars is finished.

P.J. O’Rourke (2009)

1. Introduction

The aim of this article is to explore the future of the automobile and its prospective role in society. After a century of increasing indomitability, the prevailing surface transport system is facing several novel challenges. While the emergence of new sources of instability does not herald the impending demise of the car, it does suggest that long-dormant opportunities for change may be opening up. When considering possible transition pathways, it warrants recognising that history
advise us of a paradox: the dissolution of large-scale and seemingly obdurate technical configurations is not typically preceded by grandiloquent pronouncements. Instead, a more imponderable process normally unfolds over an extended period of time. Accordingly, it is conceivable that in due course automobile society will wind down with a long whimper rather than a powerful cataclysm. In short, we may wake up one day some decades hence and quietly wonder what happened to all the cars.

Personal automobility has been a venerated mode of transport in most affluent nations for the past century. While its achievements are often wrapped in pretense celebrating personal freedom and autonomy, the rise of automobile society is more correctly credited to several auspicious political, economic and cultural factors. Unifying these various domains have been the material-intensive connections between vehicle production and key industrial sectors, as well as among a large number of aligned activities such as road construction, vehicle repair, policing and insurance underwriting that altogether comprise a vast socio-technical system. These extensive linkages propelled a virtuous cycle in which mass production of cars contributed greatly to economic growth and improvement in standards of living (Edsforth 1987; Cohen 2003; McCarthy 2007). This dynamic also impelled consumerist lifestyles and enabled automobile manufacturers to accumulate unrivalled political influence. This power was deployed to recruit and align other stakeholders (most notably in oil and property development) behind the automobile and to anchor it in society as a virtual household necessity.

In developed countries, the macro-scale factors responsible for the entrenchment of automobility during the twentieth century are now moving in reverse direction and people, without fanfare, are duly adapting their social practices. The most tangible evidence of this shift is apparent in the scuttling of proposals to expand vehicular infrastructure. A growing number of governments in Europe, the USA, and elsewhere are dismantling existing roadways and reallocating public space to other purposes, most notably bicycle lanes, pedestrian districts and other non-motorised activities (Crawford 2000; Wray 2008; Mapes 2009). In addition, urban transit use is on the rise in many cities and car sales are faltering. As outlined below, it would be inaccurate to regard these developments as transitory or to ascribe them exclusively to financial stresses associated with the post-2008 economic downturn.

This article investigates three manifestations of a purported changing relationship between the automobile and society. The following section situates the discussion in research on socio-technical transitions and outlines the methodological context for the inquiry. The third section looks at the situation from a political standpoint by visiting the battlefield on which an alleged ‘war’ on cars is being contested. The fourth section highlights economic evidence that several countries have reached ‘peak car’, the point of maximum vehicle ownership and use. The fifth section examines the automobile as a cultural fixture of contemporary youth lifestyles. The conclusion offers some summarising views on the future of automobile society and reflects on the use of a socio-technical transitions perspective to study transformation of the surface transport system.

2. Socio-technical transitions and the automobile

The study of systems innovation from a socio-technical transitions perspective encompasses several areas of activity and includes research on strategic niche management, constructive technology assessment, transition management, sectoral systems of innovation and deployment of methods such as technology roadmapping, backcasting and bounded socio-technical experimentation (see
Elzen, Geels, and Green 2004). Common to all of this work is an understanding that systems of provision are configurations of political interests, economic determinants, cultural values, physical infrastructures and technological capacities (Rohracher 2001; Verbong and Geels 2007; Kern and Smith 2008; Hekkert and Negro 2009; Voß, Smith, and Grin 2009; Paredis 2011; Spath and Rohracher 2010). On one hand, a socio-technical transitions perspective provides a corrective to theories of innovation predicated mainly on engineering breakthroughs. On the other hand, such a view augments customary social scientific understandings of societal change that frequently evince little appreciation for the disruptive role of novel technologies.

The multi-level perspective (MLP) is an important conceptual lens for work on socio-technical transitions, especially for scholars looking to identify so-called sustainability pathways (Geels 2002, 2005a, 2010; Geels and Schot 2007; Schot and Geels 2008; Genus and Coles 2008; Scrase and Smith 2009; Foxon, Hammond, and Pearson 2010; Verbong and Geels 2010; Cohen 2010; Hodson and Marvin 2010; Lauridsen and Jorgensen 2010; van Bree, Verbong, and Kramer 2010). The MLP consists of three hierarchical tiers: the macro-level landscape, the meso-level regime, and the micro-level niches.

First, the landscape constitutes the highest order scale of a socio-technical system. This is the realm of governmental institutions, sociodemographic trends, and durable investments and it is normally very rigid and characterised by slow processes of evolutionary adjustment. At times, though, concealed tensions can accumulate across the landscape, much like seismic pressure builds along a geologic fault line, and the socio-technical system can experience abrupt realignment.

Second, the meso-level regime comprises the multifarious elements of the incumbent arrangement for delivering a specific good or service. The capabilities of the regime generally develop over time and its constituent components (e.g. manufacturing firms, financing institutions, regulators) demonstrate a high measure of resilience. Indeed, this adaptiveness is the chief source of stability for a prevailing socio-technical configuration as a well-established regime is able to deftly absorb or deflect threats to its primacy. This capacity for resilience derives from a variety of sources including economies of scale, barriers to entry, and ability to manipulate regulatory processes to favourable advantage.

Finally, the micro-level niches are where entrepreneurs incubate experimental alternatives and look to challenge the dominant means of provision (or an aspect of it). The insurgent niches are generally ill-equipped, poorly organised and inadequately financed, but sometimes spawn options (occasionally quite radical) that attract attention. Either on their own or in joined-up assemblages, the niches can mature to a point where they can disrupt the incumbent arrangement and, in the presence of supportive changes at the meso- and macro-levels, come to supplant it.

In recent years, scholars have employed a socio-technical transitions perspective to study various facets of the contemporary transport system as well as specific features of the predominant automobile (Rosen 2001; Brown et al. 2003; Geels 2004; Vergragt and Brown 2007; Nykvist and Whitmarsh 2008; Hillman and Sanden 2008; Bergek, Jacobsson, and Sanden 2008; Sovacool and Hirsh 2009; Cohen 2009a, 2010; van Bree, Verbong, and Kramer 2010; de Bruijne et al. 2010; Schreuer, Ornetzeder, and Rohracher 2010; Sovacool and Brossmann 2010; Tuominen and Ahlvist 2010; Sanden and Hillman 2011). In conjunction with this work, historical analyses of prior mobility transformations have exposed factors that have ‘locked-in’ (and ‘locked-out’) specific innovations and revealed the contingent qualities of past conversions (Geels 2005b,c; Carolan 2009; Ivory and Genus 2010). This research though has tended to prioritise insurgent niche-based activities and to treat incumbents as relatively inert actors. It has been the workings at the micro-level – infused with exciting ideas and new possibilities – that have received pride of place.
The focus here is rather on the ostensible insuperability of the extent automobile regime. While the outlook for once mighty industrial hubs (Detroit) or particular firms (General Motors) might be problematical, the prospects of the car have been widely regarded as secure for the foreseeable future.\(^4\) In fact, to contend otherwise has been regarded as the height of folly.\(^5\)

Questions about the fate of the prevailing surface transport system are no longer quite so quixotic (see e.g. Sachs 1992; Safdie 1997; Nieuwenhuis and Wells 1998; Tukker and Cohen 2004; Cohen 2006; Moriarty and Honnery 2008; Urry 2008; Dennis and Urry 2009; Mees 2010; Furness 2010). While a transition is by no means impending, weak signals of instability are emergent after more than a century of expanding automotive entrenchment. There are indications in several developed countries that a more delimited role for the car may be evolving.

Getting to grips with these changes raises challenges for conventional research practice. As Phil Goodwin (2010b) argues, when seeking to identify nascent transport tendencies there is little value in focusing on global or national averages. Even statistical means for cities and metropolitan areas may fail to capture incipient trends and, thus, it is necessary to set aside most of the standard quantitative toolkit. One must instead be attentive to more impressionistic evidence at the leading edge of change and this process entails particular focus on young urbanites, elderly empty nesters and so-called cultural creatives. To be sure, millions of people are locked into suboptimal mobility systems owing to inadequate political vision, will, or capacity to contemplate new alternatives, but from a socio-technical transitions perspective these individuals are largely irrelevant.

As Schumpeter (1976) and numerous others (see e.g. Green et al. 2002; Dewick 2006) have noted, socio-technical transitions can be unsettling. There are inevitably winners and losers, and this is especially the case for transport innovations that often reorganise settlement patterns, recalibrate comparative economic advantages and reorder socioeconomic hierarchies. Many sustainability proponents, with their resolute emphasis on ‘win–win’ outcomes, sacrifice candor on the altar of political expediency when they assert that effective planning will mitigate resultant dislocations. Let us be honest here. Foresighted communities will gain, while others will find themselves bereft because of their inability to envisage a future beyond the automobile.

While the intent of this discussion is not to elevate one dimension of the MLP to a superior position, the following sections primarily discuss developments at the landscape scale. This orientation stems from the fact that it is at the uppermost tier of the model that socio-technical disruption is presently most evident. Three expressions of nascent instability are considered: political, economic and cultural. It warrants noting that clear demarcation among these domains is necessarily difficult and overlap is inevitable. Secondary consideration is given to tensions and fractures at the level of the extent regime, as well as to interactions between landscape and regime.

3. The ‘war’ against the automobile

Given popular predisposition to interpret complex policy issues in metaphorical terms (see e.g. Lakoff and Johnson 2003), it is understandable that governments frequently rely on military rhetoric to signal intent and to galvanise support for new initiatives.\(^6\) Over the years, we have been summoned to fight wars on poverty, cancer, drugs and, most recently, terrorism and debt. With respect to transport policy, offensives of varying success have been waged on high gasoline prices, automobile pollution, highway congestion and more.

There is a second variant of this discursive technique. Invoked by policy entrepreneurs looking to stir up partisan passions, outward accusations of warmongering can be an effective way to create binary categories and to vilify political opponents.\(^7\) Such hyperbolic rhetoric is meant to
foster a divisive politics of difference that, when used in a transport policy context, pits cities against suburbs, automobile-oriented regions against transit-based communities and car drivers against other travellers.8

London became the first flashpoint in the current round of putative war against the automobile when the city adopted a congestion-pricing scheme in 2003. In subsequent years, declarations of massing anti-car legionaries surfaced in Toronto, Seattle, New York City and elsewhere.9 In the USA, publication of the report Washington’s War on Cars and the Suburbs by Wendell Cox (2010) gave salience to these allegations.10

The point of departure for the document was a 2009 statement by Transportation Secretary Ray LaHood about the economic benefits of transit operations, the favourable energy efficiency of transit facilities in comparison with automobiles, and the cost savings engendered by transit.11 Washington’s War accused LaHood of ‘parroting lobbyist hype’, misconstruing established definitional categories, relying on outdated data and disregarding research by relevant government agencies. Among other contentions, the report was critical of public subsidies for transit operations and the rise in transit costs over time.12 A more public version of this drama transpired a year later when LaHood remarked, ‘What Americans want is to get out of their cars … many communities want opportunity on the weekends and during the week to have the chance to bike to work, to bike to the store, to spend time with their family on a bike’ (Vestel 2010). Trade association representatives, automobile industry lobbyists and bloggers of various stripes instantly sprang into action to castigate LaHood for his reputedly intemperate remarks.

What might we make of these allegations of ‘war’ on the car? The accusation seems to stem from indignation that the perquisites long granted to drivers are gradually being scaled back. This reversal is further along in Europe, but similar developments are now taking hold in the USA. The usual rules of the game, where automobile interests effortlessly dictate public planning priorities, no longer hold as other claimants – bicyclists, pedestrians, transit users – successfully exert new-found influence on the allocation of resources.

The durability of the established surface transport regime can be attributed to a powerful iron triangle comprising automobile manufacturers (and allied industries), construction/real estate development interests, and transport policy makers and planners. The sway of this triune has been due in no small part to public willingness to countenance this complicit arrangement and the contemporary mobility system is the tangible manifestation of its influence. However, changing political priorities have begun to reconstitute this long-standing relationship. In particular, the larger body politic has over the last three decades come to privilege private consumption over the kinds of public investment required to maintain an effectively functioning automobile society. Under these circumstances, the tacit alliance has been unable to deliver system improvements – especially in metropolitan areas – at a pace sufficient to maintain adequate service quality. Moreover, the emergence of public health concerns about obesity and physical inactivity has opened up space in transport policy debates for new actors and weakened customary governmental resolve to the iron triangle.

In sum, once unreservedly celebrated as the icon of modernity, the car is increasingly regarded as little more than an ordinary piece of household equipment. Moreover, the public regards automobile assembly as a bygone activity hamstrung by ineffectual managers who owe their livelihoods to timely government intervention (Sanchez, Kopp, and Sanzari 2010; Rattner 2010).13 According to a recent national survey, more than 70% of American youth indicated that they would not consider working for a car company.14 While Detroit remains the symbolic capital of the automobile, after years of deindustrialisation the shattered Motor City is a poor contrast to the sparkling office parks of Silicon Valley or the frenzied bustle of the world’s global cities.
Figure 1. Population and automobile registrations, USA, 1905–2005.
Source: United States Department of Transportation, Federal Highway Administration.

4. Have we reached ‘peak car’?

With the exclusion of the World War II years, virtually all of the developed countries have experienced continuous annual growth in automobility over the past century. The trend in registrations for the USA is depicted in Figure 1.

A close look at Figure 1 reveals that during the past decade there has been a heretofore underreported levelling off in the size of the American vehicle fleet and comparable trends are observable in Europe and elsewhere (Brown 2010; see also Voorhees 2010). Recognition of this trend has begun to prompt speculation among transport planners about automobile saturation (Metz 2010). The debate has gathered momentum over the past year as several research teams have turned their attention to the concept of ‘peak car’ (Goodwin 2010a–d, 2011a; Millard-Ball and Schipper 2011; Newman and Kenworthy 2011; see also Puentes and Tomer 2008; International Transport Forum 2011). The issue has also received consideration in the popular press (e.g. Witchalls 2011; Pendleton 2011) and on websites catering to automotive enthusiasts, urban sustainability proponents and close followers of economic trends. 

The notion of peak car draws on the idea of ‘peak oil’ which is the moment in time when oil extraction reaches its maximum and production volume enters a period of terminal decline. The geologist M. King Hubbert expounded the peak oil hypothesis in 1956 which asserted that exploitation in the USA would reach its apogee in the early 1970s. He was ridiculed for years, but with the passage of time it became apparent that extraction in the lower 48 states eventually crested as Hubbert had predicted. A controversy currently centres on the peak of global petroleum production with estimates ranging from claims that the climax has already occurred to projections that it will not arrive until 2020 or beyond.

Peak car captures several facets of automobile saturation: car sales (and registrations), vehicle trips, distance travelled and driving licenses issued. Phil Goodwin (2010c) has assessed the data for the UK and concludes that the phenomenon began to emerge in the early 1990s (well in advance of the post-2008 economic slowdown) and between 1999 and 2009 annual per capita travel distance by automobile in the country declined by 500 miles. 

Kiron Chatterjee and Geoff
Dudley report on a related development – between 1992 and 2007 the proportion of 17–20 year olds in the UK with drivers’ licenses dropped from 48% to 38%. A similar decrease (from 75% to 66%) was evident for individuals in the 21–29 year-old cohort (see Goodwin 2010a, 2011b).

A couple of comparative analyses have recently appeared that begin to extend the geographic scope of the peak car thesis. Newman and Kenworthy (2011) report on declining per capita automobile use (measured in travel distance) in a number of cities including London, Stockholm, Vienna and Zurich. The pattern is even apparent in highly car-dependent cities in the USA such as Atlanta, Houston and Los Angeles. Millard-Ball and Schipper (2011) evaluate data for Canada, Australia, France, Sweden, Germany, Japan, the UK and the USA and find that ‘since 2003, motorised travel demand by all modes has levelled out or even declined in most of the countries studied, and that travel in private vehicles has declined’.

From a socio-technical transitions perspective, several factors may be responsible for this apparent saturation: declining industry influence, stagnating wages, growing income inequality, increasing vehicle operating costs and aging populations. (Another factor – declining interest in automobiles among youth – is addressed in greater detail in the next section.) If confirmed by further analysis, the peak car trend could have sweeping impacts on several policy domains including land-use planning, public finance and climate change mitigation.

5. Generation Y and the automobile

A few years ago, Martin Zimmerman (2009), the automotive correspondent for the *Los Angeles Times*, inquired, ‘Is the love affair between cars and young people starting to cool?’ More recently, Lester Brown (2010) similarly opined that ‘perhaps the most fundamental social trend affecting the future of the automobile is the declining interest in cars among young people’. Such observations bring into view the cultural facets of the socio-technical landscape.

As discussed above, the expense of acquiring and operating a vehicle is likely becoming a limiting factor and such constraints are especially relevant for the 75 million Generation Y-ers of driving age in the USA because of their generally weak post-2008 employment prospects. However, of at least equal importance is the automobile’s ostensible loss of appeal among members of the generation born during the 1980s and early 1990s. The captivating allure of the car seems to be dissipating and this numinous quality, probably more than anything else, has been behind the entrenchment of automobile society (Frank 1997; Foster 2003; Seiler 2008). Over the last couple of decades, during an era of congested roadways and expanding interest in urban lifestyles, youth culture has gradually come to regard a personal vehicle as a necessary, but by no means compelling, accoutrement. To some degree, Mini, Scion and Smart have bucked this trend, but these brands cannot on their own reanimate the mania that once enveloped the automobile.

Critical to this shift in sensibilities has been the advent of smartphones and electronic social media (Davis 2011; Bilton 2011). The rapid uptake of handheld devices to access the Internet is a reminder that beneath all of the marketing artifice, the most celebrated use of the automobile over the years has been as a social networking tool for youth. Today, however, it is no longer necessary to drive a two-ton vehicle across town to meet up with friends or parade down the main drag. An iPhone allows participation in these same activities; the fact that the experience occurs on a virtual basis does not seem to be a constraint, at least most of the time. Sociability, as technological visionary Buckminster Fuller long ago anticipated, has largely been ephemeralised (see Luke 2010). In addition, one does not need to be of legal driving age to engage in this new mode of interaction; smartphones can preempt driving as a social practice and become ‘locked-into’ youth lifestyles years before a car becomes a practicable option. While members of this cohort
will probably acquire a personal vehicle as they get older – in part because of the paucity of practicable alternatives and the persistence of countervailing commitments – they are unlikely to become enthusiastic about spending long hours behind the wheel. For the time being, though, automobile manufacturers are hitting up against this barrier. Anecdotal evidence from the USA suggests that dealers are having considerable difficulty selling cars to Gen Y-ers (see e.g. Ostroff 2010). The marketing response thus far has been to integrate Internet functionality into the cars themselves, a design strategy that Ford has pioneered with the introduction of its Sync system. Daimler and Peugeot are separately experimenting with car-sharing and other schemes that sever the link between ownership and use.

6. Conclusion

Allegations of ‘war’ against the automobile, declines in vehicle ownership and use, and apparent diminished appeal among youth are indications of emergent instability in the contemporary surface transport system. In terms of the MLP, change is developing at the landscape scale and starting to reverberate at the regime level. It remains to be seen, however, whether niche-based champions of insurgent alternatives will be able to exploit this incipient volatility. For the time being, inertia as a result of the lock-in of key features of the prevailing socio-technical system will likely enable the automobile to retain its incumbent position in the short- to medium-range future.

Despite important cross-national variations, automobile society in the developed countries is the manifest outcome of several interlocking and coevolving developments at the landscape level of the MLP: political potency deriving from geographically concentrated industrial economies, expansion of the middle class, oil-supply arrangements that ensured low prices and adequate throughput volumes, public finance structures that guaranteed ample resources for infrastructure investment and relatively youthful populations. Several other favourable factors more directly associated with the creation of a consumer society have also contributed to the entrenchment of the prevailing socio-technical regime.

First, automobile society has been both cause and consequence of a widely celebrated process of population dispersal that gave rise to new settlement patterns and reformed consumption and production geographies – most notably the establishment of suburban housing developments, employment centres and shopping facilities. Second, mass marketisation of the car led to the creation of readily recognisable brands that during the twentieth century became emblematic signifiers of social status. Third, the individualising of lifestyles over the last several decades has favoured privatised modes of travel over public alternatives. Finally, the diffusion of easy-to-access consumer credit made automobility a relatively affordable means of transport regardless of socioeconomic standing.

Many of these macro-scale factors are now moving in reverse direction and undermining the foundations on which automobile society has been constructed. While these changes have been unfolding slowly over the last few decades, they are now becoming mutually reinforcing and starting to reshape both the socio-technical landscape and the landscape-regime interface. The pace of realignment inevitably varies across countries (and within them) and divining a better understanding of these differences will be an important research task for coming years. As these new circumstances become apparent there will no doubt be exultation from some quarters and anguish from others. Indeed, we are already beginning to see the early expression of these reactions and they will surely become more dramatic in coming years. To understand this process of transition, it will be helpful to assume a vantage point that acknowledges the historical lessons of the sailing ship, steamship, canal boat and railroad. While the automobile has over the arc
of its distinguished run been a source of immense personal enjoyment, a powerhouse for the accumulation of vast industrial fortunes and an important medium for demonstrating national pride, it will not be with us forever. The demise of the car is not imminent, but it is probably safe to say that we are now closer to the end of automobile society than we are to its inception.

Acknowledgements

I am grateful to two anonymous referees for their cogent comments on a prior version of this article.

Notes

1. Early entrenchment of the automobile is partly (and ironically) attributable to the support it received from proto-sustainability advocates in the field of public health. Reform-minded sanitary professionals championed the car during the early years of the twentieth century because it promised to make horses for urban transport obsolete. It was, of course, at the time unthinkable that in due course households would outfit themselves with two and more vehicles.

2. The personal car has also served as an important source of public revenue through the collection of vehicle and gasoline taxes and other licensing and operational fees. In short, numerous political and economic stakeholders have had an interest in an expanding system of automobility.

3. The New York Times architecture critic, Michael Kimmelman (2011), recently captured the changing situation in the following terms: ‘All around the world, highways are being torn down and waterfronts reclaimed; decades of thinking about cars and cities reversed; new public spaces created’.

4. This is not to say that the automobile has not over the years attracted critics motivated by pollution, safety, or other harms, but they were typically seen as malcontents who failed to adequately appreciate the benefits of automobility. See Ladd (2008) for a comprehensive account.

5. The advent of battery-electric vehicles and the longer-range commercial potential of hydrogen-fuel cells both represent highly partial interventions for addressing the range of problems that beset the automobile.

6. I have elsewhere detailed the political use of military metaphors in public policy controversies (Cohen 2009b).

7. An early salvo was launched by the American political commentator B. Bruce-Briggs in a 1973 book entitled The War Against the Automobile. The volume was a response to publications such as Ralph Nader’s Unsafe at Any Speed (published in 1965), as well as more belligerently titled writings such as Daniel Patrick Moynihan’s 1966 essay ‘The War Against the Automobile’ (The Public Interest) and Lewis Mumford’s article ‘The American Way of Death’ (New York Review of Books) from the same year.

8. The warrant of this distinction is largely unfounded. Let me take myself as an example. I own a car (actually two) and normally use it on a daily basis. I also walk, run, bicycle and use public transit. Sometimes the car is useful and sometimes it is not. I am grateful for not having to rely on it for all trips. Strategies to divide the world into pro- and anti-automobile coalitions may be polemically powerful, but they are ultimately based on artificial distinctions.

9. De Place (2011) provides a useful media analysis of the Toronto and Seattle cases. See Shaer (2011) on the New York City situation where an alleged ‘bike-lane war’ has been taking place.

10. Cox is a transport policy consultant who previously served on the Los Angeles County Transportation Commission and several federal committees and working groups. He is associated with a number of conservative think tanks and writes frequently about transport affairs for publications in the USA and UK. Cox drafted the document as a visiting fellow at the Heritage Foundation and it was published as a ‘special report’ by the Foundation.

11. Cox charged that the primary source for these observations was a ‘flawed’ report prepared for American Public Transportation Association by the Victoria Transportation Policy Institute, a research and consultancy organisation based in British Columbia.

12. See Litman (2011) for a more comprehensive critique.

13. A November 2010 Harris Poll found that in the USA the automobile industry (along with oil, pharmaceuticals, health insurance, tobacco and telecommunications) was one of the least likely economic sectors to be thought of as honest and trustworthy. Only 8% of respondents answered the following question in the affirmative: ‘Which of these industries do you think are generally honest and trustworthy – so that you normally believe a statement by a company in that industry?’ For further details on the survey and its results, see http://www.harrisinteractive.com/NewsRoom/HarrisPolls/tabid/447/mid/1508/articleId/648/ctl/ReadCustom%20Default/Default.aspx
15. For example, see Grist, Fast Company, The Daily Green, The Bellows, Felix Salmon, Autoblog and CleanMPG.
17. Millard-Ball and Schipper (2011) use the term ‘peak travel’ which captures a more diverse array of transport modes. It is also interesting to note that the peak car hypothesis has its own sage-like forerunner in the person of Denys Lawrence Munby (1919–1976), an Oxford-based transport economist who identified the peaks of several transport modes using an unprecedented dataset assembled over his career (Crabtree 2011).
18. A complementary (though not comparable) increase in non-motorised and public transport was noted for the same period.
19. According to Hartwell (2010), the experience of buying a car for many Gen Y-ers is tantamount to a visit to the dentist.
20. The author-poet Frederick Seidel (2011) recently considered the extent to which smartphones and similar devices are coming to replace motorcycles. He asks forlornly, ‘Are motorcycles passé? Are they sort of over? … The iPhone, 4S, the iPad 2, the 11-inch and 12-inch thin, light MacBook Air computers – these are the sleek gorgeousness young people go on about, have to have, and do have in the millions … . It’s their operating speeds that thrill. Young people cut a bella figura on their electronic devices’ (italics in original).
21. Japan is likely the most prominent exemplar of this trend of declining interest in automobile among youth. The Japanese use the term *kuruma banare* – which translates roughly into ‘demotorisation’ – to describe this cultural shift (Kashiwagi 2008; Kageyama 2009).
23. For instance, Deloitte & Touche has been conducting an annual ‘Automotive Generation Y Survey’. The 2011 instalment is entitled ‘Gaining Speed: Gen Y in the Driver’s Seat’. An indication of the magnitude of the research challenge is signalled by the report’s observation that ‘what is most important to Gen Y has changed each year Deloitte has fielded this survey [3000 respondents in 2011]. In 2009, a premium was placed on safety. In 2010, more emphasis was devoted to value. According to 2011 survey results, “cockpit” technology and the shopping experience have emerged as the leading differentiators for Gen Y when considering and purchasing an automobile’.
24. The case of the UK provides an interesting contrasting example. In a joint statement issued in January 2011, Transport Secretary Philip Hammond and Communities Secretary Eric Pickles announced removal of national planning restrictions established in 2001 requiring local councils to limit the number of parking spaces in new residential developments and to set high parking charges. The policy revision was prompted by a desire on the part of ‘the Government [to call] off Whitehall’s war on the motorist by scrapping the national policy restricting residential parking spaces and instructing councils to push up charges’ (my italics). See http://conservativehome.blogs.com/localgovernment/2011/01/parking-space-limits-for-new-homes-and-higher-parking-charges-guidance-scraped.html

Notes on contributor

Maurie J. Cohen is Associate Fellow at the Tellus Institute and Associate Professor at the New Jersey Institute of Technology where he is Director of the Program in Environmental Policy Studies and the Program in Science, Technology and Society. He has held prior academic positions at the University of Leeds, Binghamton University (State University of New York), Mansfield College (Oxford University) and Indiana University. Dr Cohen is the co-founder and co-convener of the Sustainable Consumption Research and Action Initiative (SCORAI), an international knowledge network comprising academics, policy makers and practitioners working at the interface of material consumption, sustainable systems innovation and economic transition. He also serves as the editor of Sustainability: Science, Practice, and Policy, an open-access e-journal dedicated to the wide dissemination of scholarly research and professional insights on sustainability and is a Board Member of the Princeton School Gardens Cooperative. Dr Cohen’s books include Exploring Sustainable Consumption: Environmental Policy and the Social Sciences (with Joseph Murphy), Risk in the Modern Age: Social Theory, Science, and Environmental Decision Making, and The Exxon Valdez Disaster: Readings on a Social Problem (with J. Steven Picou and Duane Gill). Dr Cohen received his PhD in Regional Science from the University of Pennsylvania.
References


Goodall, C. 2011. ‘Peak stuff’: Did the UK reach a maximum use of material resources in the early part of the last decade? http://www.carboncommentary.com/wp-content/uploads/2011/10/Peak_Stuff_17.10.11.pdf.


