

Automobility and Freedom

by John M. Meyer (john.meyer@humboldt.edu)

Draft Prepared for RCC Workshop on “Greening of Everyday Life,” 19-21 June 2014.

Comments welcome. Please do not quote without author’s permission.

To speak, as people often do, of the “impact” of... the automobile upon society makes little more sense, by now, than to speak of the impact of the bone structure on the human body.

-- Leo Marx¹

Cars are central to modern life the world over.² When ownership and use of cars becomes widespread in a society – decades ago in most of the western world; more recently in China, India, and many other countries – we can identify substantial change: its centrality to economic activity and growth, transformation of land use and community development patterns, alterations to the rhythms of daily life, novel threats to individual safety, and of course its devastating effect on climate and environmental quality, are only among the most evident.

The significance of cars in contemporary societies cannot be understood if our attention is focused narrowly upon the vehicles themselves. They must be recognized as a central embedded component in a material practice that many have come to call “automobility:” an inclusive term that encompasses the roads and highways, parking structures, driveways and garages, traffic laws and enforcement, gas stations, refineries, dealerships and manufacturers, transformed urban, suburban, and rural forms and landscapes, and many other material components that are integral to driving an individual automobile. But automobility signifies more than this; also essential are imagery and attitudes toward driving and car culture, perceptions of space and speed and of the relation between technological innovation and cultural change, and the ways these intersect with social relations of gender, race, and class, as well as political discourse.³ The material practice of automobility, in other words, is inextricably infused with cultural attitudes, associations, and perceptions. While analytically separable, the physical and cultural aspects are entwined in automobility itself. It is because automobility is absolutely integral to modern societies that Leo Marx’s epigraph is so apt. There is a growing literature on it by sociologists, historians, scholars of cultural studies, transportation planners, and a few political scientists. Yet automobility has rarely been the explicit subject of political theory.⁴

¹ “Technology: The Emergence of a Hazardous Concept,” *Social Research* 64, no. 3 (Fall 1997): 981.

² I frequently use “car,” “automobile,” and “vehicle” interchangeably. Unless otherwise specified, I use these words colloquially to refer to any form of motor vehicle that is typically individually-owned, including trucks, minivans, SUVs, etc.

³ For an excellent survey of the emergence and uses of “automobility” see: Cotten Seiler, *Republic of Drivers: A Cultural History of Automobility in America* (Chicago: University of Chicago Press, 2008), 5–6; Steffen Bohm et al., “Introduction: Impossibilities of Automobility,” in *Against Automobility* (Malden, MA: Blackwell, 2006), 4–6.

⁴ Chella Rajan, one of the few exceptions, argues that “the car and the entire gamut of practices that support it are mistakenly outside the earnest consideration of political theory.” Sudhir Chella Rajan, “Automobility, Liberalism, and the Ethics of Driving,” *Environmental Ethics* 29 (2007): 77. C.f., Julia Meaton and David Morrice, “The Ethics

The entanglement of motorized vehicles and individual freedom can be found in the very etymology of “automobile;” the *Oxford English Dictionary* identifies the earliest definition as an adjective meaning “self-moving.” It seems noteworthy that the “self,” here, might be aptly understood as applied *either* to the vehicle or to the driver. My premise in this chapter is that the material practice of automobility is integral to our contemporary conceptions of individual freedom, and so reflection on automobility can and should inform critical discussions of this freedom. Familiar liberal and republican conceptions remain abstracted from practice in ways that make it difficult to garner insight into automobility. As a result, rather than beginning with such theories and then seeking to apply them to automobility, my aim is to examine automobility and freedom together. In what ways does the ubiquitous practice of automobility – one in which we participate whether we drive or not -- shape understandings of individual freedom and how does this understanding create both constraints and opportunities for critical evaluation of automobility itself? I leave it to others to contest and sort out whether and how the sort of discussion of automobility and freedom pursued here might re-engage with established discourse on the latter.

On the one hand, automobility generates a tremendously flexible – and often appealing -- source of mobility, privacy, and independence. On the other hand, it can be understood as a coercive practice that consumes massive amounts of space, requires lengthy commutes, increases dependence among youth, elderly, and others unable to drive or without access to a vehicle, relies upon extensive state surveillance, harms or eliminates environmental options for future generations, and structures patterns of living, working, and playing that often preclude many from more than nominal use of alternatives even where these are available. I seek to take seriously both these perspectives on freedom – in turn – here.

I. The View of “Auto-freedom”

The cowboy spirit is about freedom, about going places and about answering to no one. The automobile not only embodies that spirit, it gives it life.

-- Matt DeLorenzo, Editor-In-Chief, *Road and Track* magazine⁵

My aim in this section is to sketch, fairly, four senses in which automobility enables individual freedom. I do not present these arguments as inherently convincing or shared by all, but I also do not intend to construct straw-man arguments. While I raise crucial challenges for these manifestations of freedom in a later section, the challenges cannot be adequately appreciated unless we first take these manifestations seriously. That is, the challenge of developing resonant, engaged criticisms requires that we first truly recognize these influential, if often under-articulated, freedoms.

and Politics of Private Automobile Use,” *Environmental Ethics* 18, no. 1 (1996): 39–54. Steve Vanderheiden, “Assessing the Case against the SUV,” *Environmental Politics* 15, no. 1 (February 2006): 23–40, doi:10.1080/09644010500418688.

⁵ Matt DeLorenzo, “Unhorsing the American Cowboy - The Road Ahead: The Automobile as Societal Evil?,” *Road and Track*, August 7, 2009, <http://www.roadandtrack.com/column/unhorsing-the-american-cowboy>.

To take them seriously means that we cannot simply position ourselves as outsiders and dismiss them as “false consciousness.”⁶ Conversely, although I will have little to say about it here, nothing in this section is meant to naturalize this dominant view of freedom. That is, nothing here ought be viewed as inherently inconsistent with an empirical account of the rise of automobility’s dominance that describes a heavy hand of the state and capitalist interests in structuring a particular model of economic development and of the built environment that reinforces this view of auto-freedom, nor is it inconsistent to describe the multiplicity of ways in which popular culture reinforces this view.⁷ I label four aspects of auto-freedom that I consider here: identity, control, market preferences, and human flourishing.

a. Identity

Not too long ago, I whiled away a couple hours waiting in a state government office, reading an especially critical and persuasive book on the politics of automobility. And yet, the experience couldn’t have been more disorienting: the office was the Department of Motor Vehicles; I was there waiting for my 16-year-old son to take, and ultimately pass, his driver’s license exam. Persuasive though it was, nothing in this book could counter Jake’s enthusiasm: for him, as for many US teens in the past several generations, obtaining a driver’s license is a vitally important rite of passage. Although as adults we might readily overlook or dismiss it, the exam itself requires a demonstration of knowledge and skill and – in a sense – an independent evaluation of maturity; passage reflects a mastery of complex and sometimes arcane state laws as well as demonstration of driving skill witnessed and evaluated by agents of the state. The license reflects a key step toward full, adult involvement in society – and a substantial means of escape from parental surveillance. A license to drive wasn’t the only thing that Jake wanted. To truly obtain the independence he has sought required, in his opinion, not merely a license, but a vehicle – something that took much longer. Where driving has been viewed as a key form of social participation, then the converse also seems true: Chella Rajan argues that “anyone incapable of owning and driving a car in present day North America has to be seen as lacking all the capacities and capabilities of citizenship.”⁸

As a driver, in the words of Cotten Seiler, one has “opportunities for the spectacular expression of freedom and autonomy so affirming to the individualist.”⁹ And that freedom is a central form of adult participation in many countries beyond North America. Even in relatively compact European countries with extensive public transit, the connection between driving and freedom

⁶ Mathew Paterson, *Automobile Politics: Ecology and Cultural Political Economy* (Cambridge: Cambridge University Press, 2007), 122–123.

⁷ Paterson does an especially thorough job of surveying both the political economic and cultural forces at work: *Ibid.*, 91–165; For a history of these forces in the US, see: Christopher W Wells, *Car Country: An Environmental History* (Seattle: University of Washington Press, 2012).

⁸ Sudhir Chella Rajan, *The Enigma of Automobility: Democratic Politics and Pollution Control* (Pittsburgh: University of Pittsburgh Press, 1996), 33.

⁹ Seiler, *Republic of Drivers*, 142.

is frequently made. Danish mobility scholar Malene Freudendal-Pedersen summarizes her empirical research:

When the interviewees were each asked why they have a car, the answers given had the same theme: 'I love the feeling of freedom' or 'it is simply the freedom and the time you save' or 'it gives me so much extra freedom to have the car' or 'when you're 18 you almost live in your car. We could do things – it was freedom.'¹⁰

Yet while a license is a form of social involvement and driving may be seen as a capability of citizenship, participation in the system of automobility is not manifest as a form of public engagement. Instead, as Seiler also notes, it is manifest as withdrawal from politics, "oriented toward 'a display of energy' – movement and consumption in lieu of democratic entanglement."¹¹

Cars themselves have also been important forms of self-expression and expression of group identity. We've come a long way from Henry Ford's proclamation that "Any customer can have a car painted any colour that he wants so long as it is black."¹² Manufacturers, of course, have become increasingly sophisticated in producing an array of colors, sizes, and styles that are advertised and marketed to distinct demographic identities and embraced by many as an expression of such identities. Additionally, a history of car subcultures engaged in detailing and customizing vehicles has existed at least since the 1960s: "largely white and working-class 'hot rod' or 'stock car' enthusiasts and Chicano/Latino and African American 'lowriders,' as well as the more recent Asian-American 'import street racer' culture, illustrate the dominance of automobility even in the fashioning of distinctive 'ethnopolitical identit[ies].'"¹³

b. Control

Cars offer seemingly substantial flexibility, privacy, and control – all closely tied to notions of individual freedom. To drive is to not be bound to a train or bus schedule, nor to the fixed routes that they travel on. Unlike walking or bicycling, which also allow for this flexibility, driving insulates one from the weather and often (but definitely not always) allows for movement across greater distances more quickly. Driving can allow me to go where I want, when I want to – day or night, summer or winter, rain or shine. Perhaps it is not surprising, then, that at least in the US it is "the most automobile-like public transit mode, taxicabs, [that] already carries more passengers than all other kinds of public transit... put together."¹⁴

Cars allow us to control our interior environment – both to keep out the external elements and to adjust temperature and seating to our preferences. Driving also allows for substantial control

¹⁰ Malene Freudendal-Pedersen, *Mobility in Daily Life: Between Freedom and Unfreedom* (Ashgate, 2009), 61.

¹¹ Seiler, *Republic of Drivers*, 142.

¹² Henry Ford and Samuel Crowther, *My Life and Work* (Doubleday, Page & Company, 1922), 72.

¹³ Seiler, *Republic of Drivers*, 9.

¹⁴ James A. Dunn, "The Politics of Automobility," *The Brookings Review* 17, no. 1 (1999): 43.

over where we live, work, shop, and play. Again, one of Freudendal-Pedersen's Danish informants is valuable for identifying this as more than North American exceptionalism:

'Cars take you exactly where you want to go. You can take a detour and then drive 3km down a road, and jump out on a deserted beach, where there is no one else. One feels a certain power when driving a car: this is why people love it – power and freedom.'¹⁵

Loren Lomasky – in a philosophical defense of driving – summarizes this element of control hyperbolically yet with considerable insight:

In the latter part of the twentieth century, being a self-mover entails, to a significant extent, being a motorist. Because we have cars we can, more than any other people in history, choose where we will live and where we will work, and separate these two choices from each other. We can more easily avail ourselves of near and distant pleasures, at a schedule tailored to individual preference. In our choice of friends and associates, we are less constrained by accidents of geographical proximity. In our comings and goings, we depend less on the concurrence of others. We have more capacity to gain observational experience of an extended immediate environment. And for all of the preceding options, access is far more open and democratic than it was in preautomobile eras. Arguably, only the printing press (and perhaps within a few more years the microchip) rivals the automobile as an autonomy enhancing contrivance of technology.¹⁶

There are also important senses in which the control enabled by automobility has challenged hierarchies, and constrained discrimination based on gender, race, and class. "Despite the violence and intimidation directed toward black drivers," Cotton Seiler observes of the US in the first half of the twentieth century, "the road... to some degree provided a space where the everyday discrimination and coercion African Americans faced in other public spaces – in stores, theaters, public buildings, and restaurants, for example or on sidewalks and public transportation – could be blunted, circumvented, and even avenged."¹⁷ This became more salient, he argues, with the rise of anonymous, place-less, limited-access interstate highways beginning in the later 1950s.¹⁸

Car ownership and the freedom to drive have also often been viewed as empowering for women. The movement to legalize women driving in Saudi Arabia indicates the attractions of such freedom in places where it does not exist.¹⁹ More generally, robust cross-national

¹⁵ Freudendal-Pedersen, *Mobility in Daily Life*, 81.

¹⁶ Loren E. Lomasky, "Autonomy and Automobility," *Independent Review* 2, no. 1 (1997): 15.

¹⁷ Seiler, *Republic of Drivers*, 125.

¹⁸ *Ibid.*, 126.

¹⁹ Hala Al-Dosari, "Saudi Women Drivers Take the Wheel on June 17 - Opinion - Al Jazeera English," June 16, 2011, <http://english.aljazeera.net/indepth/opinion/2011/06/201161694746333674.html>.
<http://www.saudiwomendiving.blogspot.de/>

evidence demonstrates that registration and ownership of cars is predominantly male (e.g., 64% in the US; 75% in Sweden)²⁰ and that men drive considerably more – and for different purposes – than women.²¹ Many conclude that this inequity is a constraint to be overcome, since as one feminist scholar put it, “mobility and control over mobility both reflect and reinforce power.”²²

c. Expressed preference in the marketplace

Industry analysts have long referred to a “saturation point” for motor vehicle sales. Previously defined as one vehicle per household, it is now defined as a point where every driver has access to one. By that definition, the US today is over-saturated: there are *more* cars than there are licensed drivers.²³ Moreover, only about 2 percent of passenger trips utilize public transit in the US.²⁴ Again, the US is at the end of the spectrum in this regard, but the same trend can be found in a diverse array of societies. In European countries with both public policy and societal characteristics that favor public transit and bicycles over cars – costly fuel, excellent transit systems and bicycle infrastructure, and high population density – cars nonetheless now account for 80 percent of travel.²⁵ China’s dramatic growth rate over the past two decades has reached 120 million passenger cars in 2013 (and 240 million vehicles overall) and is projected to add an additional 100 million over each of the next several decades.²⁶ Such projections are often presented as though they are describing a spontaneous natural phenomenon. China’s history of state control over the economy and its continued constraints on political freedom make the recent explosion of driving and cars appear as the eruption of pent-up natural desire in spite of these limits. All this seems to reinforce the assertion of economist Charles Lave over two decades ago that “people increasingly and relentlessly choose the automobile over other forms of transportation.”²⁷

²⁰ “TrueCar.Com Analyzes Vehicle Registration and Gender Differences,” accessed March 20, 2014, <http://blog.truecar.com/2010/06/11/truecar-com-examines-gender-differences-in-vehicle-registrations/>; Gerd Johnsson-Latham, “A Study on Gender Equality as a Prerequisite for Sustainable Development,” *Report to the Environment Advisory Council*, 2007, 53, http://www.uft.uni-bremen.de/oekologie/hartmutkoehler_fuer_studierende/MEC/09-MEC-reading/gender%202007%20EAC%20rapport_engelska.pdf.

²¹ Susan Hanson, “Gender and Mobility: New Approaches for Informing Sustainability,” *Gender, Place & Culture* 17, no. 1 (February 2010): 12, doi:10.1080/09663690903498225; Adella Santos et al., *Summary of Travel Trends 2009 National Household Travel Survey* (U.S. Department of Transportation, June 2011), 29, <http://www.osti.gov/scitech/biblio/885762>.

²² Doreen Massey quoted in: Hanson, “Gender and Mobility,” 14. Hanson makes it clear, however, that support for this conclusion is equivocal and context dependent -- a point to which I return.

²³ Daniel Sperling and Deborah Gordon, *Two Billion Cars: Driving Toward Sustainability* (New York: Oxford University Press, 2010), 13.

²⁴ *Ibid.*

²⁵ *Ibid.*, 14.

²⁶ Bloomberg News, “China Vehicle Population Hits 240 Million as Smog Engulfs Cities,” *Bloomberg*, accessed July 26, 2013, <http://www.bloomberg.com/news/2013-02-01/china-vehicle-population-hits-240-million-as-smog-engulfs-cities.html>. Sperling and Gordon, *Two Billion Cars*, 210.

²⁷ Lave quoted in: Elmer W. Johnson, “Taming the Car and Its User: Should We Do Both?,” *Bulletin of the American Academy of Arts and Sciences* 46, no. 2 (November 1, 1992): 14.

The sense that automobility is a reflection of consumer demand manifests another contemporary association of cars and freedom. The global growth of car-centric transportation systems is seen here as a response to the free choices of sovereign consumers in the marketplace. Such choice extends not just to vehicles themselves, but to the lower density, sprawling landscape of development that complements driving and is therefore an integral component of automobility.

A consequence of this naturalistic perspective on the global growth of automobility is that the search for structural alternatives to this growth, in the form of public transit and higher density in-fill development, can readily be presented as paternalist or elitist. As a satirist, libertarian P.J. O'Rourke overstates the case, but it nonetheless remains salient to many: "Why do politicians love trains? Because they can tell where the tracks go. They know where everybody's going. It's all about control. It is all about power... Politicians hate cars... because cars make people free."²⁸

d. Human Flourishing

The desire for more mobility is human nature.
-- Daniel Sperling and Deborah Gordon²⁹

The vast majority of trips taken with a car were not taken prior to its availability and could not be taken without it today.³⁰ This is a crucial point, as it defies arguments that better public transit infrastructure could, by itself, dramatically reverse automobility. Yet those added trips have enabled greater choice regarding where one lives and where one works, which need not be in close proximity either to each other or to a transit line. They allow for easier exit in search of better schools for one's children and they help accommodate the scheduling challenges of households with two wage-earning adults. They enable travel with less advanced planning and enable vacationing in more diverse and less congested locations. In all these senses, increased mobility appears to increase individual freedom. It is not merely the absence of restriction, or freedom of movement (a potential that need not be actualized; sometimes termed "motility"³¹) that is valued and sought to be maximized here, but freedom as movement (mobility itself). It is the new trips that automobility enables us to take that are often regarded as increasing opportunities for human flourishing.³²

²⁸ O'Rourke quoted in: Michael C. Moynihan, "Driven Crazy," *Reason*, November 2009, <http://reason.com/archives/2009/11/03/driven-crazy>.

²⁹ Sperling and Gordon, *Two Billion Cars*, 7.

³⁰ John Urry, "The 'System' of Automobility," *Theory, Culture & Society* 21, no. 4–5 (October 1, 2004): 28, doi:10.1177/0263276404046059.

³¹ V. Kaufmann, M. M Bergman, and D. Joye, "Motility: Mobility as Capital," *International Journal of Urban and Regional Research* 28, no. 4 (2004): 751.

³² See the critical discussion in: Katherine J. Goodwin, "Reconstructing Automobility: The Making and Breaking of Modern Transportation," *Global Environmental Politics* 10, no. 4 (November 2010): 70–75.

Whereas the earlier manifestations of “auto-freedom” discussed here focused upon the instrumental value of automobility to individual freedom, if it can be persuasively linked to human flourishing itself, then the increased mobility that automobility enables could be argued to have intrinsic value. Lomasky argues that “...automobile transport is a good for people in virtue of its intrinsic features. Automobility has value because it extends the scope and magnitude of self direction.”³³

On the one hand, then, the argument for linking automobility to human flourishing itself is the most ambitious of the arguments outlined in this section and has the potential to encompass all of them. On the other, it most clearly brings to the fore those core questions about the nature of the good life. To the extent that we wish to engage critically the notion of auto-freedom sketched to this point in the chapter, it is ultimately the argument that allows the greatest leverage.

II. Challenges of Automobility

Even ardent defenders of automobility concede that there are challenges. As James Dunn acknowledges,

The automobile is the solution to most Americans’ transportation needs. But its very success has generated serious problems – most notably, congestion, pollution, and energy inefficiency – that need to be addressed by public policy.³⁴

In Dunn’s formulation, these problems are negative externalities that can and should be mitigated without fundamentally altering the system of automobility itself. Yet the challenges are so extensive and intensive that it must remain an open question, at this point, how they might be addressed. Here, my aim is simply to catalog a number of these challenges in order that we can subsequently explore approaches to change.

The problems acknowledged by Dunn certainly are among the most discussed and visible. The amount of time people spend stuck in traffic has become dramatically worse in recent decades in the US and worldwide. While there has been a plateau in the past several years in some places, the overall picture is of more people in more places stuck in traffic for longer times.³⁵ Even though emissions from new cars have been reduced dramatically over the past several decades, urban air pollution from cars also remains a serious problem due to the increase in their numbers and in vehicle miles traveled.³⁶ Finally, automobiles directly constitute about 20

³³ Lomasky, “Autonomy and Automobility,” 8.

³⁴ Dunn, “The Politics of Automobility,” 40.

³⁵ For the US, see: David Schrank, Bill Eisele, and Tim Lomax, *Urban Mobility Report 2012* (Texas Transportation Institute: Texas A&M University System, December 2012), <http://mobility.tamu.edu/ums/>.

³⁶ Peter Dauvergne, *The Shadows of Consumption: Consequences for the Global Environment* (The MIT Press, 2008), 46.

percent of global emissions of carbon dioxide and other climate change gases; considerably more in the US.³⁷

In addition to these high-profile problems associated with cars, we must add others: the relative immobility and dependence of non-drivers, especially children³⁸ and a growing elderly population;³⁹ the increasing tax burden in many countries to support an aging and sprawling automobility infrastructure; rising obesity correlated with car-dependent communities;⁴⁰ the tremendous percentage of land devoted to car use (2/3 in Los Angeles);⁴¹ the growing number of injuries and deaths worldwide, despite dramatic improvements in vehicle safety;⁴² and geopolitical tensions, conflicts, and warfare caused or exacerbated by contested access to oil. One could readily add to this list.⁴³ Yet it does reinforce the point made by Leo Marx in this chapter's epigraph that we are well beyond the point where we can meaningfully speak of the "impact" of the car on society; these problems and others constitute fabric of our lives and communities and so the horizon within which political theorizing and strategies for change must take place.

Many who discuss the practical challenges of automobility characterize the strategies to address them in a dichotomous manner. Two especially prevalent dichotomies frame the potential strategies as either technical or political and as either private or public.

a. Changes to Cars vs. Changes to Us

Strategies for change are typically presented as either technical, focused on changes to the car itself (e.g., hybrid or electric vehicles; improved design for fuel efficiency, safety, emission control, and recyclability), or they are political, focused on behavioral changes (e.g., promoting public transit and bicycling, carpooling, etc.) and structural changes to create new options and remake our communities in ways that reduce reliance on cars.⁴⁴

This dichotomy – between changes to cars and changes to us – is often appealing to those who seek to defend automobility because it seemingly offers one pathway to address problems through a technical fix – by changing cars – which appears to be consistent with auto-freedom

³⁷ Ibid., 57.

³⁸ Paterson, *Automobile Politics*, 137.

³⁹ Matt Palmquist, "Old Without Wheels," *Miller-McCune*, August 2008, <http://www.miller-mccune.com/culture-society/old-without-wheels-4419/>.

⁴⁰ L. D Frank, M. A Andresen, and T. L Schmid, "Obesity Relationships with Community Design, Physical Activity, and Time Spent in Cars," *American Journal of Preventive Medicine* 27, no. 2 (2004): 87–96. Howard Frumkin, Lawrence Frank, and Richard J. Jackson, *Urban Sprawl and Public Health: Designing, Planning, and Building for Healthy Communities* (Island Press, 2004).

⁴¹ Dauvergne, *The Shadows of Consumption*, 56.

⁴² Ibid., 59–60 Again, this is due to exponential growth in vehicle miles traveled and numbers of vehicles on the road.

⁴³ Paterson provides a more complete survey of these practical challenges: *Automobile Politics*, 32–60.

⁴⁴ Ibid., 192.

and avoids the more contentious sorts of strategies – and the complex interdependencies inherent in automobility – that appear to threaten this. Thus in 1954 California’s governor could assert that “smog is a scientific and engineering problem and not a political or legal one.”⁴⁵ Much more recently, the editor of *Road and Track* writes that:

There is no denying that the automobile has a social cost — clean air, use of resources, accidents. In all fairness, these costs must be weighed against the benefits — mobility, freedom and independence. Manufacturers have done much to minimize the car's impact on the environment, energy and safety. Yet, despite these gains, there are those who can't abide these freedoms. ... These arguments against automobility are cloaked in language about cleaning up the environment or improving fuel economy. But I believe it's convenient cover for a larger agenda that would dispense with the widespread use of the automobile — or at least create an environment where their use is severely curtailed or strictly controlled. ... So, in some quarters, the view of the automobile and the freedom it confers on the masses have shifted from that of a social good to a necessary evil.⁴⁶

b. Private vs. Public

The decades of explosive global growth of car ownership and miles traveled, in the face of many practical challenges such as climate change, congestion, and so forth, is often taken as a classic case of conflict between private desires and the public interest.⁴⁷

This is true among advocates on both sides of this perceived dichotomy. Thus James Q. Wilson argued for privileging the private, stating that “the debate between car defenders and car haters is a debate between private benefits and public goods,” and concludes that this is “no real debate at all” given “the central fact that people have found cars to be the best means for getting about.”⁴⁸ André Gorz, firmly positioned on the “car hater” side of this debate, also framed his argument in terms of this public-private divide, simply reversing the polarity and favoring the public side:

The worst thing about cars is that they are like castles or villas by the sea: luxury goods invented for the exclusive pleasure of a very rich minority, and which in conception and nature were never intended for the people. Unlike the vacuum cleaner, the radio, or the bicycle, which retain their use value when everyone has one, the car, like a villa by the sea, is only desirable and useful insofar as the masses don't have one... For when everyone claims the right to drive... everything comes to a halt, and the speed of city traffic plummets...⁴⁹

⁴⁵ Quoted in: Rajan, *The Enigma of Automobility*, 23.

⁴⁶ DeLorenzo, “Unhorsing the American Cowboy.”

⁴⁷ Sperling and Gordon, *Two Billion Cars*, 12.

⁴⁸ James Q. Wilson, “Cars and Their Enemies,” *Commentary*, July 1997, 20.

⁴⁹ André Gorz, *Ecology as Politics* (Boston: South End Press, 1980), 69, 72.

III. Inside criticism of “auto-freedom”

These dichotomies between changing cars and changing us, as well as that between private freedom and the public interest, can be useful to a point. Yet they threaten to obscure more than they illuminate about the challenges of promoting freedom in a society defined by automobility.

The prospect of a technical fix to cars – the effort to “minimize the car's impact on the environment, energy and safety,” in the words of the *Road and Track* editorial – holds the allure of avoiding threats to individual freedom. Conversely, structural and behavioral changes, including restrictions on driving, appear to be inherently at odds with auto-freedom. Yet neither side of this dichotomy is as clear as it seems.

Technical “fixes” have included new safety requirements and equipment, including shoulder belts, airbags, and requirements for crash-worthiness. They have also included requirements for catalytic converters to minimize pollutants, outlawing of leaded gasoline, and fuel-efficiency standards. Vehicles that use hybrid or electric motors or other new fuels and new materials have also been categorized in this way. Of course, many of these “technical” changes have also been highly political – both in the sense that they entail active citizen engagement and contentious public debate about social ends, and in the sense that they result in government mandates and regulation that constrain the power of auto manufacturers.⁵⁰

Nor have these “technical fixes” escaped the concern for auto-freedom. In addition to strong industry opposition, these have, at times, been resisted by consumers in part on the grounds that they would increase costs. Some – such as emissions testing requirements -- also impose direct obligations on drivers. James Q. Wilson, whom we have seen positioned himself as a strong proponent of cars, proposed and celebrated another sort of fix: cameras that monitor speeding and devices that could measure “the pollution of cars as they move on the highways and then ticketing the offenders.”⁵¹ Whatever one concludes about such surveillance-based approaches, they clearly cannot be counterpoised to a political approach and are hardly uncontroversial from the perspective of individual freedom. Equally evident is that these approaches resist the dichotomization of public and private. Chella Rajan characterizes this as the “enigma of automobility”:

...cars serve to create privatized space for individual drivers, but driving propagates socially shared effects that could quite conceivably undermine the individualist credo of personal vehicle use.⁵²

Or, as Mathew Paterson summarizes the point, these approaches to the challenges of automobility “start with simple technological devices but increasingly entail surveillance

⁵⁰ Ralph Nader’s network of activist organizations, which developed out of his influential challenge to General Motors regarding auto safety, is tellingly named “Public Citizen.”

⁵¹ “Cars and Their Enemies,” 21.

⁵² Rajan, *The Enigma of Automobility*, 8.

techniques and end up with wholesale management down to the level of individual journeys, driving techniques, practices, and so on.”⁵³

At the same time, while some changes have proven very successful at “fixing” the particular problem they were developed to address, others have been overwhelmed by the growth in overall number of vehicles and miles driven per vehicle. The result has been to mitigate what would have been an even greater problem, but not to reduce it.⁵⁴ Because these strategies are targeted narrowly, they do little to modify other problems. Moreover, a number of challenges are generated by the sheer volume of traffic (land-use, congestion) and these – by their very nature – are unlikely to be addressed through changes to the car itself. The technical fix can appear plausible – and “merely” technical – only by abstracting the car from the system of automobility within which it exists. Once that immense assemblage with its manifestations of power is recognized, the complex interdependencies of technical, behavioral, and structural changes becomes more evident and the challenge less difficult to perceive.

The very terms public and private also seem to be undermined by an automobility landscape. Vast amounts of space are devoted to car-only environments.⁵⁵ While these are predominantly public-funded and maintained roadways and even privately-owned spaces such as parking lots and garages that guarantee public access, they challenge familiar notions of a public realm in the sense that they actively exclude or threaten non-drivers and anyone not in a vehicle. Conversely, drivers are in privately-owned and operated cars, yet their licensing and behavior is heavily monitored and regulated.⁵⁶

In sum, changes to the car appear practically inadequate to the challenges that society faces from automobility. Moreover, the very concept of limiting our strategies for change to those that are consistent with private interest and with changes to the technologies of the vehicle itself, is based upon false dichotomies that obscure more than they illuminate. And yet, as noted at the outset, we cannot simply dismiss auto-freedom as false consciousness. Such a move simply feeds the elitist caricature of automobility’s proponents.⁵⁷ Thus what is needed is an immanent critique of the components of auto-freedom outlined in the first section of this chapter.

⁵³ Paterson, *Automobile Politics*, 221.

⁵⁴ see Dauvergne, *The Shadows of Consumption*, passim.

⁵⁵ Urry, “The ‘System’ of Automobility,” 30.

⁵⁶ Mimi Sheller and John Urry, “Mobile Transformations of ‘Public’ and ‘Private’ Life,” *Theory, Culture & Society* 20, no. 3 (June 1, 2003): 115, doi:10.1177/02632764030203007.

⁵⁷ For example: “Public policymakers have a professional predisposition to consider people as so many knights, rooks, and pawns to be moved around on the social chessboard in the service of one’s grand strategy. Not all analysts succumb to this temptation, but many do. Their patron saint is the philosopher Plato, the utopian architect of the ideal Republic...” Lomasky, “Autonomy and Automobility,” 25.

a. Revisiting Identity

I termed the first sense of auto-freedom described above “identity,” and sought to capture several ways in which being a driver has often facilitated a sense of independence and established a measure of adult participation in society. The car itself has also created a palette for individual and cultural expression.

And yet, the state apparatus utilized to train, evaluate, license and monitor new and existing drivers is one element that weighs on the other side of this scale. Because they are operating a potentially deadly piece of machinery, automobility leads to a society that also criminalizes the risk-taking and other potentially foolish or experimental activities that are frequent rites of passage and can also reflect inherent developmental limitations of teens. Consuming alcohol and drugs are only the most obvious such activities; showing off for peers, misjudging one’s level of attention or alertness, responding to a dare, or being seduced by speed, are others. Freedom for such actions is much easier to tolerate in places where cars are not central. Yet automobility raises the stakes so substantially that spaces for such freedom are far more circumscribed and “zero-tolerance” is often the norm.

Structural and peer pressure to own a car also place important constraints upon independence; again this is reflected among many high-school aged students and young adults who seek out paid employment, and substantial debt, with the many constraints this imposes, as a means of securing a car. Ivan Illich long ago captured this dilemma well:

The model American male devotes more than 1,600 hours a year to his car. He sits in it while it goes and while it stands idling. He parks it and searches for it. He earns the money to put down on it and to meet the monthly installments. He works to pay for gasoline, tolls, insurance, taxes, and tickets. He spends four of his sixteen waking hours on the road or gathering his resources for it. And this figure does not take into account the time consumed by other activities dictated by transport: time spent in hospitals, traffic courts, and garages; time spent watching automobile commercials or attending consumer education meetings to improve the quality of the next buy. The model American puts in 1,600 hours to get 7,500 miles: less than five miles per hour. In countries deprived of a transportation industry, people manage to do the same, walking wherever they want to go, and they allocate only 3 to 8 per cent of their society's time budget to traffic instead of 28 per cent. What distinguishes the traffic in rich countries from the traffic in poor countries is not more mileage per hour of life-time for the majority, but more hours of compulsory consumption of high doses of energy, packaged and unequally distributed by the transportation industry.⁵⁸

Perhaps Illich’s message is beginning to resonate more widely. In a recent cross-national comparison of eight postindustrial countries, the authors describe a phenomenon they label “peak travel:” overall “travel activity has reached a plateau” and “private vehicle use... has

⁵⁸ “The Ivan Illich Archive -- Energy and Equity,” accessed July 29, 2011, <http://www.preservenet.com/theory/Illich/EnergyEquity/Energy%20and%20Equity.htm>.

declined in recent years in most of the eight...,” with notable declines in the US and especially among young drivers.”⁵⁹ This is consistent with some evidence that driving is becoming less integral to late adolescent and young adult identity than it has long been: even rates of possession of a driver’s license among this group have dropped to its lowest level in half a century in the US.⁶⁰ This is not simply a decline in “car culture,” if that is understood simply as a spontaneous shift in values or lifestyle preferences.⁶¹ In some measure it reflects the availability of car-and ride-sharing programs and apps, and the rise of social media as well as smartphones and mobile electronic devices more generally. It also reflects a generation coming of age during a period of persistent high gasoline prices and economic hard times – especially the declining economic fortunes of their own so-called Millennial generation – and high levels of traffic congestion. Finally, in a number of places, it reflects the renewed attention to infrastructure for walkable, bikeable, and transit-oriented communities.⁶² While analysts struggle to tease apart the influence and implications of these factors and others, what is clear and significant is that this represents an opening and an opportunity – for both a new sort of conversation about cars and freedom and for support and reinforcement of the sorts of structural changes that make reduced auto-dependence more feasible and more appealing.

b. Revisiting Control

Looking beyond identity, while the car can enable a flexible form of mobility over which the driver has substantial control, these recent shifts indicate that it is not alone in offering flexible mobility. Perhaps more evident is that the control it promises in theory is often lacking in practice. The geographic separations of home, work, shopping, family, and entertainment often foster a dependence on the car and a frequent inability to avoid lengthy commutes, resource depletion, and the many other concomitants of living in communities structured around automobility. A simple example: when driving children to school becomes commonplace, a barrier to exiting from neighborhood public schools and seeking out others is radically reduced. The result, in my own community, is that even if one’s child goes to a neighborhood school, many of their classmates and friends are from other communities. Play-dates, birthday parties, and other events and gatherings thus require automobile transportation even when attending

⁵⁹ Adam Millard-Ball and Lee Schipper, “Are We Reaching Peak Travel? Trends in Passenger Transport in Eight Industrialized Countries,” *Transport Reviews* 31, no. 3 (May 2011): 16, doi:10.1080/01441647.2010.518291; Santos et al., *Summary of Travel Trends 2009 National Household Travel Survey*.

⁶⁰ Tony Dutzik and Phineas Baxandall, *A New Direction: Our Changing Relationship with Driving and the Implications for America’s Future* (U.S. PIRG Education Fund; Frontier Group, Spring 2013), <http://www.uspirg.org/sites/pirg/files/reports/A%20New%20Direction%20vUS.pdf>.

⁶¹ Elisabeth Rosenthal, “The End of Car Culture,” *The New York Times*, June 29, 2013, sec. Sunday Review, <http://www.nytimes.com/2013/06/30/sunday-review/the-end-of-car-culture.html>.

⁶² Dutzik and Baxandall, *A New Direction: Our Changing Relationship with Driving and the Implications for America’s Future*; Jeffrey Ball, “The Proportion of Young Americans Who Drive Has Plummeted—And No One Knows Why,” *The New Republic*, March 12, 2014, <http://www.newrepublic.com/article/116993/millennials-are-abandoning-cars-bikes-carshare-will-it-stick>.

school itself does not. As John Urry puts it, automobility “coerces people into an intense flexibility.”⁶³

Of course, it is the car-less whose freedom is most evidently diminished in communities whose spatial geography is structured to the scale of traffic. Such geography results in greater dependence by children, the growing population of elderly, and others unable to drive as well as those who do not own or have regular access to a car. While drivers are frequently dependent upon their car in these places, non-drivers are largely dependent upon drivers and non-car owners upon owners. Recognizing these forms of dependence allows us to imagine alternatives as a strategy for increasing independence and control. Reducing both forms of dependence can be a result of fostering viable alternative forms of mobility as well as alternatives to mobility.

This more nuanced understanding of the relationship of freedom-as-control to automobility positions me to return to the persistent gendered differences in ownership and driving practices noted earlier. Recognizing these differences, it becomes clear that the notion that an automobility society enables greater control is one modeled to a greater degree upon the practices of men than of women. Yet what to make of the consistently reported fact that women car owners not only drive considerably fewer miles (roughly 25% fewer in the US) and over a smaller spatial range, but also drive for different purposes than men? That is, in the US and many other countries, women drive less often, and considerably shorter distances, to work. They drive more miles and take more frequent trips, however, for purposes related to social reproduction and care-giving (e.g., grocery shopping, transporting children and elderly, household errands).⁶⁴ On the one hand, consistent with the auto-freedom-as-control view sketched above, these differences in mobility might reflect a constraint – resulting in less adequate job opportunities, for instance. On the other hand, these differences might reflect a choice – one with much promise for envisioning more sustainable patterns of mobility and one which, again, can be supported and expanded through a wide variety of measures.⁶⁵ Where such measures are understood to facilitate and expand freedom – protecting freedom of movement (motility) even as they reduce freedom as movement (mobility) – they also become more broadly resonant and might then become more politically viable.

c. Revisiting Market Preferences

In densely populated urban areas developed prior to the entrenchment of automobility, the car is a liability for day-to-day needs, yet their frequent use makes the city itself less pleasant to live in than it would be otherwise and has often led these areas to be remade to better

⁶³ John Urry, “Automobility, Car Culture and Weightless Travel: A Discussion Paper” (Department of Sociology, Lancaster University, January 1999), 7, <http://www.lancs.ac.uk/fass/sociology/papers/urry-automobility.pdf>. Lewis Mumford identified this problem of “compulsory mobility” much earlier: *The City in History: Its Origins, Its Transformations, and Its Prospects* (New York: Harcourt Brace Jovanovich, 1961), 503.

⁶⁴ Santos et al., *Summary of Travel Trends 2009 National Household Travel Survey*; Hanson, “Gender and Mobility,” 12–16.

⁶⁵ Hanson laments the fact that despite the substantial research on the intersection of gender and mobility, there has been little done to tease apart this question of choice versus constraint: “Gender and Mobility,” 15.

accommodate traffic. Conversely, cars become more functional and necessary in lower density, sprawling forms of development. Automobility is at the core of community design in these places, which devote a massive percentage of land to uses restricted to drivers, cars, and other related functions, while being unavailable and inaccessible to all others. Such sprawl is thus a product of automobility, but also a path-dependent prompt to its continuation.⁶⁶ What results is a transportation “monoculture” that dramatically constricts choice.⁶⁷ The market preference expressed for cars over other forms of mobility can only be understood in this path-dependent context and not as a reflection of some sort of autonomous decision-making.⁶⁸ In a country like the US, where such a transportation monoculture is the norm, what is striking about the recent decline in vehicle miles traveled per capita is how much change there has been despite this. A truer test for the market preference claims for cars would require a much greater proliferation of both alternate forms of mobility and attractive options for the pursuit of livelihood, social reproduction, fulfillment, and pleasure within a far more compact area.

d. Automobility and Human Flourishing

Finally, and most broadly, we must struggle to delink freedom from mobility in the sense that more mobility is necessarily understood to facilitate greater human flourishing. While my freedom is clearly limited when my movement is restricted, this does not mean that greater movement is an expression of greater freedom. While I can express my freedom by looking for a job at some distance from my home, feeling trapped in a long commute can instead seem a source of un-freedom. The potential freedom expressed in the first instance is an idealized form that comes without the practical limitations such as the commute, in the same sense that Jake’s idea of the freedom of having a car came without the actuality of monetary and work obligations that would finance it. This is not the only sort of obligation entailed by automobility. The opportunities for movement afforded by the car also “entail obligations... to be present in a variety of family, work and leisure time events and situations,” obligations that are not always welcome.⁶⁹

Not all mobility is desirable. When we are stuck in rush-hour traffic, when we have to take time off of work to transport an elderly parent to the doctor, when we shuttle our children to-and-from school, friends, or sports, this should be clear. The reason it is rarely recognized as such is because dependence on cars often comes to appear inevitable; the practice is embedded in the very structure and organization of our communities. Where political choices lead to a different communal structure, one that facilitates proximity as much or more than movement over vast spaces, then the constraints imposed as well as the opportunities enabled for our freedom by the present system of automobility will become more evident. These choices not only make it more convenient to walk, bike, and use public transportation, they can make it more feasible

⁶⁶ Urry, “The ‘System’ of Automobility,” 32.

⁶⁷ Sperling and Gordon, *Two Billion Cars*, 43.

⁶⁸ For an account of the forces that led to this development in the US, see: Wells, *Car Country*.

⁶⁹ Freudendal-Pedersen, *Mobility in Daily Life*, 80.

and appealing to choose *not* to take a trip at all.⁷⁰ Only in this way can we achieve a level playing field upon which a real politics of mobility might emerge.

The key here is to recognize that this emergence is not something that we should look for in isolation from material conditions. Of the recent studies and articles, mentioned above, which identify a sharp decline in driving among younger adults, many ask whether this change is a result of cultural change and choice or economic necessity or other material constraint. The suggestion is that in the latter case, the change will be ephemeral. One recent article asks: “Are these the early adopters of an anti-automotive sentiment that soon will sweep the nation?” No, this author argues, because most who are carless have relatively low incomes. Hence, like others, he concludes that they are “carless by economic necessity rather than by choice.”⁷¹ This dichotomy is precisely the wrong way to frame the question. It presumes just what this chapter has challenged – the notion that driving and car ownership reflect, in this formulation, a universally ‘*pro-automotive sentiment.*’ Moreover, it presumes that lasting change depends upon post-materialist attitudes and values; ones disconnected from economic or structural conditions. Viewed through a different lens, the recent decline in driving is a shift in practice to be enabled and built upon in ways large and small. The economic context of this shift in practice means that this support will improve the lives – and expand the freedoms – of many who are struggling economically.

This chapter represents an attempt to articulate a critique of what I have termed “auto-freedom.” In doing so, my goal has been to address a “hard” case. Rather than seeking to draw upon other values *as a trump* to the freedoms enabled by automobility, I have sought balance from within this widely acknowledged value. Doing otherwise raises the specter of paternalism, with its incumbent strategic and practical risks. Yet while such a critique is necessary, even in a more fully developed form it is unlikely to be sufficient. That is because there is a plurality of values to consider in relation to automobility – not just freedom. Yet if we can cultivate a more balanced appreciation of the relationship between automobility and freedom, we might then enable a greater openness to this plurality. In that context, deliberation on human flourishing in relation to mobility can become more explicit, rather than hidden behind an assumption that questions about automobility entail restrictions on freedom and – by extension – flourishing itself.

⁷⁰ Anthony Weston, *Mobilizing the Green Imagination: An Exuberant Manifesto* (Gabriola Island, BC: New Society Publishers, 2012), 49–50.

⁷¹ Jeffrey Ball, “The Proportion of Young Americans Who Drive Has Plummeted—And No One Knows Why,” *The New Republic*, March 12, 2014, <http://www.newrepublic.com/article/116993/millennials-are-abandoning-cars-bikes-carshare-will-it-stick>.

References

- Al-Dosari, Hala. "Saudi Women Drivers Take the Wheel on June 17 - Opinion - Al Jazeera English," June 16, 2011. <http://english.aljazeera.net/indepth/opinion/2011/06/201161694746333674.html>.
- Ball, Jeffrey. "The Proportion of Young Americans Who Drive Has Plummeted—And No One Knows Why." *The New Republic*, March 12, 2014. <http://www.newrepublic.com/article/116993/millennials-are-abandoning-cars-bikes-carshare-will-it-stick>.
- Bloomberg News. "China Vehicle Population Hits 240 Million as Smog Engulfs Cities." *Bloomberg*. Accessed July 26, 2013. <http://www.bloomberg.com/news/2013-02-01/china-vehicle-population-hits-240-million-as-smog-engulfs-cities.html>.
- Bohm, Steffen, Campbell Jones, Chris Land, and Mat Paterson. "Introduction: Impossibilities of Automobility." In *Against Automobility*, 1–16. Malden, MA: Blackwell, 2006.
- Dauvergne, Peter. *The Shadows of Consumption: Consequences for the Global Environment*. The MIT Press, 2008.
- DeLorenzo, Matt. "Unhorsing the American Cowboy - The Road Ahead: The Automobile as Societal Evil?" *Road and Track*, August 7, 2009. <http://www.roadandtrack.com/column/unhorsing-the-american-cowboy>.
- Dunn, James A. "The Politics of Automobility." *The Brookings Review* 17, no. 1 (1999): 40–43.
- Dutzik, Tony, and Phineas Baxandall. *A New Direction: Our Changing Relationship with Driving and the Implications for America's Future*. U.S. PIRG Education Fund; Frontier Group, Spring 2013. <http://www.uspirg.org/sites/pirg/files/reports/A%20New%20Direction%20vUS.pdf>.
- Ford, Henry, and Samuel Crowther. *My Life and Work*. Doubleday, Page & Company, 1922.
- Frank, L. D, M. A Andresen, and T. L Schmid. "Obesity Relationships with Community Design, Physical Activity, and Time Spent in Cars." *American Journal of Preventive Medicine* 27, no. 2 (2004): 87–96.
- Freudental-Pedersen, Malene. *Mobility in Daily Life: Between Freedom and Unfreedom*. Ashgate, 2009.
- Frumkin, Howard, Lawrence Frank, and Richard J. Jackson. *Urban Sprawl and Public Health: Designing, Planning, and Building for Healthy Communities*. Island Press, 2004.
- Goodwin, Katherine J. "Reconstructing Automobility: The Making and Breaking of Modern Transportation." *Global Environmental Politics* 10, no. 4 (November 2010): 60–78.
- Gorz, André. *Ecology as Politics*. Boston: South End Press, 1980.
- Hanson, Susan. "Gender and Mobility: New Approaches for Informing Sustainability." *Gender, Place & Culture* 17, no. 1 (February 2010): 5–23. doi:10.1080/09663690903498225.
- Johnson, Elmer W. "Taming the Car and Its User: Should We Do Both?" *Bulletin of the American Academy of Arts and Sciences* 46, no. 2 (November 1, 1992): 13–29.

- Johnsson-Latham, Gerd. "A Study on Gender Equality as a Prerequisite for Sustainable Development." *Report to the Environment Advisory Council*, 2007. http://www.uft.uni-bremen.de/oekologie/hartmutkoehler_fuer_studierende/MEC/09-MEC-reading/gender%202007%20EAC%20rapport_engelska.pdf.
- Kaufmann, V., M. M Bergman, and D. Joye. "Motility: Mobility as Capital." *International Journal of Urban and Regional Research* 28, no. 4 (2004): 745–56.
- Lomasky, Loren E. "Autonomy and Automobility." *Independent Review* 2, no. 1 (1997): 5–28.
- Marx, Leo. "Technology: The Emergence of a Hazardous Concept." *Social Research* 64, no. 3 (Fall 1997): 965–89.
- Meaton, Julia, and David Morrice. "The Ethics and Politics of Private Automobile Use." *Environmental Ethics* 18, no. 1 (1996): 39–54.
- Millard-Ball, Adam, and Lee Schipper. "Are We Reaching Peak Travel? Trends in Passenger Transport in Eight Industrialized Countries." *Transport Reviews* 31, no. 3 (May 2011): 357–78. doi:10.1080/01441647.2010.518291.
- Moynihan, Michael C. "Driven Crazy." *Reason*, November 2009. <http://reason.com/archives/2009/11/03/driven-crazy>.
- Mumford, Lewis. *The City in History: Its Origins, Its Transformations, and Its Prospects*. New York: Harcourt Brace Jovanovich, 1961.
- Palmquist, Matt. "Old Without Wheels." *Miller-McCune*, August 2008. <http://www.miller-mccune.com/culture-society/old-without-wheels-4419/>.
- Paterson, Mathew. *Automobile Politics: Ecology and Cultural Political Economy*. Cambridge: Cambridge University Press, 2007.
- Rajan, Sudhir Chella. "Automobility, Liberalism, and the Ethics of Driving." *Environmental Ethics* 29 (2007): 77–90.
- . *The Enigma of Automobility: Democratic Politics and Pollution Control*. Pittsburgh: University of Pittsburgh Press, 1996.
- Rosenthal, Elisabeth. "The End of Car Culture." *The New York Times*, June 29, 2013, sec. Sunday Review. <http://www.nytimes.com/2013/06/30/sunday-review/the-end-of-car-culture.html>.
- Santos, Adella, Nancy McGuckin, Kikari Yukiko Nakamoto, Danielle Gray, and Susan Liss. *Summary of Travel Trends 2009 National Household Travel Survey*. U.S. Department of Transportation, June 2011. <http://www.osti.gov/scitech/biblio/885762>.
- Schrank, David, Tim Lomax, and Shawn Turner. *Urban Mobility Report 2010*. Texas Transportation Institute: Texas A&M University System, December 2010. http://tti.tamu.edu/documents/mobility_report_2010.pdf.
- Seiler, Cotten. *Republic of Drivers: A Cultural History of Automobility in America*. Chicago: University of Chicago Press, 2008.

Sheller, Mimi, and John Urry. "Mobile Transformations of 'Public' and 'Private' Life." *Theory, Culture & Society* 20, no. 3 (June 1, 2003): 107–25. doi:10.1177/02632764030203007.

Sperling, Daniel, and Deborah Gordon. *Two Billion Cars: Driving Toward Sustainability*. New York: Oxford University Press, 2010.

"The Ivan Illich Archive -- Energy and Equity." Accessed July 29, 2011.

<http://www.preservenet.com/theory/illich/energyequity/energy%20and%20equity.htm>.

"TrueCar.Com Analyzes Vehicle Registration and Gender Differences." Accessed March 20, 2014. <http://blog.truecar.com/2010/06/11/truecar-com-examines-gender-differences-in-vehicle-registrations/>.

Urry, John. "Automobility, Car Culture and Weightless Travel: A Discussion Paper." Department of Sociology, Lancaster University, January 1999.

<http://www.lancs.ac.uk/fass/sociology/papers/urry-automobility.pdf>.

———. "The 'System' of Automobility." *Theory, Culture & Society* 21, no. 4–5 (October 1, 2004): 25–39. doi:10.1177/0263276404046059.

Vanderheiden, Steve. "Assessing the Case against the SUV." *Environmental Politics* 15, no. 1 (February 2006): 23–40. doi:10.1080/09644010500418688.

Wells, Christopher W. *Car Country: An Environmental History*. Seattle: University of Washington Press, 2012.

Weston, Anthony. *Mobilizing the Green Imagination: An Exuberant Manifesto*. Gabriola Island, BC: New Society Publishers, 2012.

Wilson, James Q. "Cars and Their Enemies." *Commentary*, July 1997.