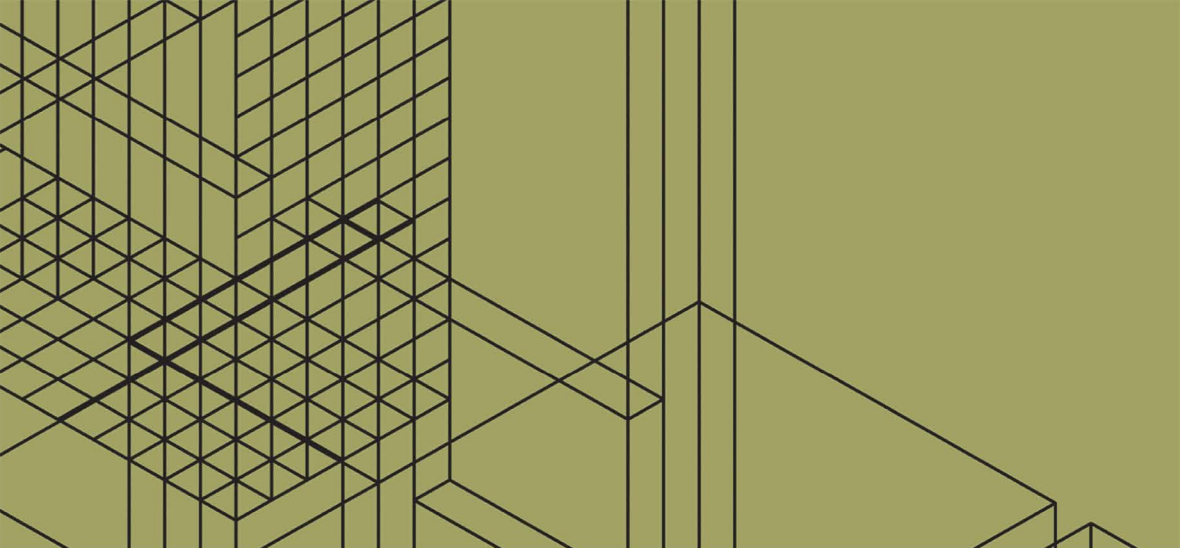




Transport and Mobility

SPACES OF CONGESTION AND TRAFFIC

**POLITICS AND TECHNOLOGIES IN
TWENTIETH-CENTURY LONDON**

David Rooney



Spaces of Congestion and Traffic

This book provides a political history of urban traffic congestion in the twentieth century, and explores how and why experts from a range of professional disciplines have attempted to solve what they have called ‘the traffic problem’.

It draws on case studies of historical traffic projects in London to trace the relationship among technologies, infrastructures, politics, and power on the capital’s congested streets. From the visions of urban planners to the concrete realities of engineers, and from the demands of traffic cops and economists to the new world of electronic surveillance, the book examines the political tensions embedded in the streets of our world cities. It also reveals the hand of capital in our traffic landscape.

This book challenges conventional wisdom on urban traffic congestion, deploying a broad array of historical and material sources to tell a powerful account of how our cities work and why traffic remains such a problem. It is a welcome addition to literature on histories and geographies of urban mobility and will appeal to students and researchers in the fields of urban history, transport studies, historical geography, planning history, and the history of technology.

David Rooney has held curatorial positions at both the Science Museum and the National Maritime Museum. Over a 22-year career he has contributed to several critically acclaimed exhibitions and galleries, including the RIBA-award-winning *Mathematics: The Winton Gallery*, designed by Zaha Hadid Architects, for which he was lead curator. In 2016 he obtained his PhD from Royal Holloway, University of London, where he is now an Honorary Research Associate.

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Spaces of Congestion and Traffic

Politics and Technologies in
Twentieth-Century London

David Rooney

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Preface

The geography department at Royal Holloway, University of London, where I carried out the studies that led to this book, was the most stimulating, creative, supportive, inspirational, thought-provoking, and friendly institution I could have imagined working in. I joined ready for a challenge and that was what I got, but it was an utterly delightful one. It transformed me intellectually, but also with a new emotional connection with the world, a substantially more critical moral framework, and a physical restlessness to explore the subject of my studies – the streets of London. All this from a simple course of study.

For this I must express my most sincere thanks to the staff and students of the department. They all, together, constituted this remarkable oxygenated atmosphere. They are too many to name, but let me pick out three for special mention. Mustafa Dikeç was my doctoral adviser for the first three years or so and I greatly valued our conversations on many topics. On Mustafa's departure from Royal Holloway, Peter Adey took over the advisory role and was generous with his time and knowledge, for which I thank him enormously. But my most fervent thanks and acknowledgement must go to my supervisor, David Gilbert, who was a constant, never-failing guide throughout this expedition, and I appreciated every word, gesture, and moment of his calm and wise counsel. I also wish to record my appreciation to Royal Holloway for the College Research Scholarship that funded my study. Simon Gunn and Michael Hebbert examined my thesis and have been hugely supportive, for which I thank them.

Early ideas underpinning aspects of this book were presented in November 2010 at the *Blocked Arteries: Circulation and Congestion in History* conference at the Institute of Historical Research (IHR), London, organized by Carlos Lopez Galviz and Dhan Zunino Singh. This conference was a formative experience for me and I appreciated the lively and supportive discussion therein. I enjoyed and benefited greatly from many subsequent conversations with Carlos on other projects. My presentation at the IHR led to a paper published as 'Visualization, Decentralization and Metropolitan Improvement: "Light-and-Air" and London County Council Photographs, 1899–1908', *Urban History* 40, no. 3 (August 2013): 462–82. This enabled me to think through ideas about modernity, representation, and the politics of urban mobility that have been most useful as this project has developed, and I am grateful to the editors and referees for giving

me this early boost. Parts of Chapter 4 were presented in July 2015 at the International Conference of Historical Geographers at the Royal Geographical Society, London, on a panel organized by Richard Dennis, Deryck Holdsworth, and Phillip Mackintosh. I appreciated the opportunity to discuss matters with such a wise group of scholars, and subsequently to publish a version of my paper in the 2018 Routledge volume *Architectures of Hurry: Mobilities, Cities and Modernity*. Chapter 5 was published in a modified form in 2014 in *Twentieth Century British History*. My thanks to the editors and referees for their generous and supportive comments. Parts of Chapter 6 were presented in March 2015 at the *SPUD IV* meeting at Lincoln College, Oxford, organized by Simon Gunn and Otto Saumarez-Smith. I am most grateful to Simon and Otto for their kind invitation and to all those at the meeting for their friendly and energizing conversation. Parts of Chapter 7 were presented in October 2015 at Royal Holloway's *Landscape Surgery* convened by Veronica della Dora. This came at a particularly crucial time in the refinement of my thoughts and I found the discussion hugely valuable.

I have benefited from countless conversations with people not directly connected with my research area, in particular James Nye (with whom I have long been researching and writing on matters involving other aspects of urban infrastructure) and James Naylor, a senior consultant at McKinsey, who has read drafts and made helpful observations, many from left field.

At the Science Museum, my employer for the duration of this project, everybody has been patient and supportive over the years. A few deserve special thanks. Tim Boon, Head of Research and my manager in 2010, accepted with vigour my request to carry out a PhD project. I valued his unfailing support in my putting an application together, and subsequently throughout the project. Heather Mayfield, then the museum's Deputy Director, agreed immediately to my request and offered kind words whenever I needed a boost. Jean Franczyk, who succeeded Heather, took an equally supportive interest. John Liffen, Robert Bud, and Peter Morris, similarly, took part in numerous creative discussions over where my research might take me. Tilly Blyth became my manager partway through the project and backed me all the way since. It is hard to study and write when the day job is demanding, and Tilly helped make it possible by shielding me from things that could wait. Her words of advice and wisdom steeled me many times, for which I thank her. Heading our department was Hadrian Ellory-van Dekker, who was equally supportive and understanding when the pressures of studying while working occasionally bubbled up to the surface. On Hadrian's departure, Tilly took his role and continued to give her support. Finally, Andrew Nahum, now Keeper Emeritus but then Senior Keeper, has been a close friend as well as valued colleague, mentor, sounding-board, and guide since I first worked for him in the 1990s on a big gallery project. Andrew taught me (among other things) how to sniff out a good story, and I think I've found a few here.

Finally, I wish to thank the librarians, archivists, curators, and other specialists for the help they have given me during this project.

x *Preface*

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This work is dedicated with love to my family.

David Rooney
London, March 2018

1 Introducing the traffic problem

Introduction

‘Vehicle speeds in Central London are falling’, wrote Ruth Bashall and Gavin Smith in a 1992 account of London’s transport crisis, ‘and at 10 mph are currently little faster than the horse and cart of the turn of the century’.¹ This is a common refrain and, as will be shown presently, an accurate one. But it does not do much to scratch the surface of the *experience* of traffic in London, which depends on the person doing the experiencing, and varies through time and from place to place. Perhaps that is the point of singular statistics: they imprison the breadth of experience in a black box and hide it from view, so that the only reasonable response can be one of dismay at how bad things have got – at the crisis we find ourselves in. No faster than a horse and cart? So much for progress. Yet, for a crisis situation, it seems to have been with us for a long time. In 1938, London’s *Evening Standard* newspaper carried out a publicity stunt focusing attention on the capital’s traffic jams whereby it drove a van fitted with a large four-sided clock on timed journeys across London, demonstrating where and why congestion occurred.² During the stunt, both the British Road Federation and the House of Lords lamented that the newspaper van did not travel any faster than a horse.³

The *Evening Standard*’s timed trips followed a project in summer 1936, in which the Ministry of Transport carried out, for the first time, systematic research into traffic speeds and delays caused by congestion in the capital. The newspaper stunt might well have been inspired by the Ministry research project, in which an Austin Light-Six motor-car, driven by a professional chauffeur, ferried officials with stop-watches and clipboards on a series of journeys across four routes through the capital.⁴ The first route ran 12.6 miles from Chiswick in the west to Bow Road in the east. The second ran the same length from Hornsey in the north to Streatham in the south. The third route ran from Golders Green in the north-west to Lewisham in the south-east. The fourth was a route of 22.75 miles from Chiswick around the North Circular Road to Ilford. Journey times were recorded, as were the locations and duration of delays and stoppages. The driver was ‘steady and competent’, with ‘no inducement to attempt to break records or to

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take risks'. He therefore represented the 'punctiliously cautious and considerate driver who presumably constitutes the bulk of the British motoring community'.⁵

After the officials had spent several weeks plying the routes daily, the results showed an overall average speed across the three cross-London routes of 12.5 mph. But it was the west-to-east route through the City that was the slowest, averaging 5.85 mph with the worst journey averaging just 3.6 mph. These journeys were 'painfully slow' and 'ceaselessly congested', according to the official report.⁶ Next-worst was the route from Euston Road south to Trafalgar Square, with the slowest journey averaging 6.3 mph. The problems occurred most markedly at junctions, and the report listed the most problematic intersections, including Ludgate Circus, Bank, Gardiner's Corner at Aldgate, St Giles' Circus, and the junction of Euston Road and Tottenham Court Road. By contrast, the circular route avoiding Central London was much faster, with average speeds of 23.6 mph, meaning it was often quicker to go the long way around. Commentators, noting the Ministry of Transport's 1936 traffic survey work, asked 'Is a road crisis developing?'⁷

This book examines traffic congestion in twentieth-century London, focusing largely on the period to about 1980, but with some excursions into more recent territory. It surveys the ways congestion has been considered in the history of urban planning, and examines a range of alternative 'solutions' to the problem as well as how they have been negotiated into reality. In doing so, it will decode 'the traffic problem', setting it into wider geographical, political, and technological contexts.

The traffic problem in history

The answer to the question posed in 1936 about a road crisis seems obvious. It is all we talk about when we discuss transport in the capital – the congestion, the fact that we go no faster today than in the age of the horse. It is all we have *ever* talked about, as London's canon of modern-day chroniclers has described. Peter Ackroyd, for instance, tracks complaints about the traffic problem back 500 years, noting that 'The state of traffic in the capital was a source of constant complaint in the sixteenth century, as it has become for each generation.'⁸ Stephen Inwood notes that there was a brief improvement following the seventeenth-century Great Fire, but that 'in the eighteenth century the traffic problem grew worse again' and, the following century, 'London's traffic congestion went from bad to worse.'⁹ Calls for something to be done became more insistent in Regency times, as James Winter has described, noting 'officialdom's growing concern about the traffic problem' in the 1830s, when new traffic legislation expressed the seriousness with which it was taken.¹⁰ Roy Porter told a similar tale of traffic woe in the nineteenth century, a time when 'London's traffic problems were becoming ominous' and 'jams could be grim'.¹¹ As the nineteenth century gave way to the twentieth and the motor-car joined the streetscape, the problem just continued to get worse. Jonathan Schneer observes that, in 1900, 'London traffic jams were notorious, new-fangled horseless carriages and

traditional horse-drawn vehicles often merging in near gridlock conditions.¹² Jerry White agrees, commenting that 'Traffic was one of the enduring problems of the nineteenth century . . . and so it remained throughout the twentieth.'¹³ The traffic problem is a refrain, ever present in the mouths of Londoners and London historians. We keep returning to it when we speak of London.

Amid this constant background of general complaint can be discerned peaks of concern. Two such peaks will be considered time and again in this study. The first spanned the late 1920s and early 1930s. Joe Moran has noted that this was a period of critical importance in the traffic experience, with the foundation of the Pedestrians' Association in the face of growing concerns over road safety, a Road Traffic Act that sought to impose responsibilities on motorists, and the publication of the Highway Code.¹⁴ The Ministry of Transport, with its 1936 traffic survey, was thus responding to a growing concern about traffic. A second peak of concern over London's traffic was the period from the late 1950s to the early 1960s, this time over what Simon Gunn has described as a 'motor revolution' in the expansion of automobility in urban Britain, when motor transport was 'high on the political agenda'.¹⁵

One example demonstrates the seriousness with which 1930s commentators viewed the traffic problem. In 1933, a former railway worker and transport writer, Henry Watson, published the book *Street Traffic Flow*. It was a major study of urban traffic congestion, and in order to treat the traffic system as a whole, Watson consulted a wide range of bodies, including the Ministry of Transport, Home Office, Automobile Association, Society of Motor Manufacturers and Traders, National Safety First Association, Pedestrians' Association, National Horse Association, Metropolitan Police, tram and bus companies, journal editors, and traffic signal manufacturers, as well as traffic specialists in the USA.¹⁶

Watson's study showed the traffic problem in fine grain. He differentiated between traffic types and their speeds and handling characteristics. He considered the way traffic varied from city to city, between residential and industrial districts, by time of day, by season, and by weather. He also observed the irregular, minute-by-minute variation of flow in busy streets, as well as the lateral position adopted by different vehicle classes at a time when camber mattered, surfaces were often slippery with oil and horse manure, and many streets included tramway tracks. He provided exhaustive data on delays owing to obstructions; analysis of flow over different types of junction; accident statistics; and the effects of traffic signals, of pedestrian crossings, and of parked vehicles. He included 21 newly commissioned photographs representing traffic problems in London's streets; 89 graphs, illustrations and diagrams; 35 tables of statistics; and an extensive bibliography. He concluded his account with an assessment of the economics and politics of traffic, considering how time could be given value in order to estimate the costs of congestion, and whether certain users should be subject to restrictions.

Watson's book gives us a clear sense of the technical problems of traffic. Yet it also shows that apparently even-handed representations contain political bias.

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Watson favoured tram travel, and the book comes down strongly in its favour against motor buses. He claimed that:

For heavy passenger transport the bus is commonly – and in London always has been – an overrated proposition, appealing to those impressed by the obvious and exceptional, and lacking the perspective and technical knowledge to appreciate their shortcomings as compared with tramways.¹⁷

His book was published in the same year that the London Passenger Transport Bill was enacted, bringing London's transport providers under public control and sounding the death knell of the tram network in favour of an aggressive expansion of trolley- and motor-bus travel. Watson wrote amid bitter arguments between tram and bus promoters that were really an ideological fight between municipal socialism and free-market capitalism.¹⁸ *Street Traffic Flow* is an under-appreciated gem that acted as propaganda in a fierce war for control of London's political economy.

An example of 1960s public concern over traffic came with the Oscar-nominated film *Automania 2000*, made in 1963 by the acclaimed animators John Halas and Joy Batchelor, and described by the British Film Institute's animation curator as one of the greatest animated films of all time.¹⁹ It offered a dystopian vision of a world in the year 2000 submerged by motor cars, fuelled by demand for cheap consumer goods made possible by 'scientists', the villains of the piece. Before long, so many cars had been manufactured that it had become impossible to move, and the population had been forced to adapt to living *in* their cars, piled high in the streets in a condition of 'universal immobility'.

The narrator intoned: 'In the more densely populated areas of our planet, people have been confined to their cars for over five years. The younger children cannot remember the time when it was possible to move around in cars.' The final act of the scientist, before he was killed by one of his own creations, was to invent sentient cars that reproduced themselves. The car had finally taken over humanity.

Automania 2000, like *Street Traffic Flow* thirty years previously, was a political statement rather than a dispassionate assessment of an uncontested traffic problem. Halas and Batchelor were commenting on the hubris of the technocrat, so greatly lauded in the white heat of 1960s Britain. For them, the problem was people, not traffic. That was Watson's problem too – public transport was a proxy for wider political battles over resource allocation in liberal economies. Traffic stands for other things. Roads are political and economic spaces as well as geographical and physical places, and the solutions proposed depend on the problem one sees – and on the world view one holds. Congestion is not a stable concept. Talk of the traffic problem encodes wider concerns.

The intention of this book is thus to decode the traffic problem, deconstructing it and rethinking its nature, both to understand traffic in London better and to

shed light on ways in which physical urban infrastructures such as London's streets have been mobilized in political, social, and economic discourses.

It will do this by considering congestion as a complex network that is sociological and political as well as spatial, human, and technological. This will involve looking at a wide variety of actors and the interactions between them, where actors are not merely people or technologies but socio-technical nodes. An examination of the politics of congestion will demonstrate that traffic has different values – economic, aesthetic, professional, moral – to different people. Three questions emerge from this.

Firstly, what have been the dominant characterizations of the traffic problem, and what alternative characterizations have been obscured by the dominant framings? In the popular discourse, the traffic problem is congestion, with average traffic speed in London held up as the emblematic statistic of a pathological condition. This has been translated in the professional discourse as a failure of urban planning, with a failure of governance intimately related to it. In the scholarly discourse, the dominant characterization of this failure of planning has until recently been based on ideas that plans are singular, holistic, stable, and have clear authorship, although new scholarship is revising this view. Thus, taking this all into account, the standard story is that the traffic problem would be solved if congestion was reduced and traffic moved faster; this would be enabled by better governance, allowing planners to get on with their work; and if only Wren and Abercrombie's plans for London had been enacted, the whole problem would have been sorted long ago. We're paying the price today, we are often told.

Of course, this is a gross oversimplification of the way traffic has been characterized, but it points up the clear value in problematizing dominant accounts and looking to their margins. This book looks at plans as unstable artefacts with multiple authors and influences. It widens the scope of people who might be termed 'planners'. It casts doubt on the ability of traffic statistics to represent reality. By considering alternative characterizations of the traffic problem, such as market failure and system failure, it looks beyond professional planning and hard road building to consider softer (though no less physical) interventions such as road pricing and traffic lights. And by reframing traffic as a system of movement it is possible to shift from 'congestion' to 'friction' as a means to characterize busy streets.

The second question to emerge is what the relationships between London's traffic infrastructure and capital are. The relationships between London *property* and capital are manifold and have been well considered. Less common is to consider the capital's street infrastructure – the built environment *between* the highly capitalized buildings – as part of the same account. This research question is therefore an attempt to place traffic into a wider account of capitalism and the state, specifically the political economies of markets. Streets, like buildings, are saturated with market decisions. If Ken Livingstone's 2003 Congestion Charge scheme is a poster-child for modern solutions to congestion, and road pricing a refrain heard as often as the need for new roads, what can its history tell us about the Keynesian consensus, neoliberalism, Thatcherism, social democracy, and the

6 *Introducing the traffic problem*

New Labour turn? Where does traffic sit with gentrification? What were the relationships between property developers and council planners in the shaping of London's traffic scene? This is not a straightforward linear story nor a wholly recent one, and one conclusion is that the traffic problem has in part been constructed and mobilized in the service of accumulating capital and effecting political change, albeit in an ambivalent way. Another conclusion, however, is that capital is just a necessary, not a sufficient, explanation for the experience of mobilities in London.

The third question asks what is distinctively 'London' about London's traffic problem, and what the relationship is between London and other places. This question seeks to understand the traffic problem on a variety of geographical scales from global to local, as well as understanding how local relates to global and vice versa. In one sense, this is a question of geography, or rather how London's topography and form might dictate its traffic problem. It does not, for instance, have a gridded street plan. How does this matter? In another sense it is a technological question, or one of how technologies travel. But it is most significantly a socio-political question. In answering it, the book will examine, for instance, how sociological ideas such as racial segregation in the USA, Asia, and Africa relate to the concept of pedestrian segregation in the City of London's pedestrian walkway network or the guardrails along the edges of east London pavements. This type of narrative is a logical outcome from an approach informed by ideas of networks. The evidence will suggest that some aspects of the London story, while wholly connected to a global network, are unique to the capital, while in other ways the case of London can be used as a model for thinking about complex urban problems in other cities.

The traffic problem in statistics

Numerous official bodies have recorded traffic statistics of one form or another, and at one time or another. These have included the Board of Trade, the London and Home Counties Traffic Advisory Committee, Royal Commissions, Select Committees, the London County Council (LCC), and the Greater London Council (GLC). Today, both the Department for Transport (DfT) and Transport for London (TfL) publish detailed traffic statistics, but even DfT observes that 'Traffic congestion is an inherently difficult concept to define as it has both *physical* and *relative* dimensions . . . congestion can mean very different things to different people.'²⁰ It is hard, therefore, to decide what to survey when seeking to measure traffic and congestion: journey time or average speed, quantity of traffic or number of accidents. The statistics presented reflected the picture that authors wished to paint. Henry Watson, for instance, who wrote *Street Traffic Flow* in 1933, provided the figures shown in Table 1.1. However, he chose not to present the vehicle classes in order of magnitude or percentage change. Instead, it served his case to show that buses increased more than trams. As was shown earlier, Watson spoke for the tram lobby at a time of febrile argument over municipal socialism in Britain's cities.

Table 1.1 Census of London traffic in busy areas, 1912–1926.

<i>Census of London traffic: thousands of vehicles passing 39 selected points</i>					
	1912	1920	1923	1926	% increase since 1912
Motors	253	364	456	587	132
Buses	129	129	166	194	50
Trams	26.9	27.3	30.4	31.8	18
Horse vehicles	307	182	133	105	–66
Cycles	65.8	91.6	131	188	185
Barrows etc.	44.7	24.5	25.3	22.0	–51
Total	825	818	943	1129	37

Source: Henry Watson, *Street Traffic Flow* (London: Chapman and Hall, 1933), 4.

Watson drew his data in part from annual statistics published by the LCC and GLC, which were gathered from the LCC's formation in 1889 to the end of the GLC in the 1980s (with a gap from 1938 to 1945). These mostly favoured traffic counts (as Watson showed), which are hard to translate into experiences, but give a sense of the geography of the problem. In 1938, a comparative survey was published (shown in Table 1.2) showing the location of some of London's busiest traffic locations and the rise in traffic density since 1904.²¹ It is clear that traffic levels had risen greatly since the start of the century, in many cases almost tripling and in some instances rising even faster, such as at Shepherd's Bush Green, where traffic in 1938 was almost five times that of 1904.

Census data help reveal the *locations* of London's traffic problems but do little to reveal the *effects* of congestion. For this, average speed has become the common characterization of the user experience, as has been noted. A recent travel report from TfL included average traffic speeds for 2013, which are shown in Table 1.3.²² These may be compared with figures from 1906, when the LCC published a table listing average speeds of different vehicles in London's central area, shown in Table 1.4.²³ Private motor-cars were still not common on London's streets in 1906, but we can take the figures for motor-cabs as reasonably representative of motor-cars in general (although cabs spent time crawling for fares, which will have brought the average down slightly). These figures are useful in that they were captured at a time when motorized vehicles were still in the minority, and give some evidential weight to claims that average traffic speeds in the capital have not increased since the horse-drawn era.

That was the situation at the start and end of the period being considered. Statistics exist for much of the interim too. We recall from the beginning of the chapter that the average speed recorded in 1936 in the central area was 12.5 mph, and the rest of the situation between 1906 and 2013 can be glimpsed by examining firstly a series of average speed statistics collected by the Road Research Laboratory, the Ministry of Transport, and the GLC over the period from 1952 to 1968, which did not

Table 1.2 Traffic census data at specific locations, 1904–1937.

Total number of vehicles enumerated during each census (8 a.m. to 8 p.m.) at a number of important points on a day in July, 1904–1937.

The points are arranged in order of magnitude in the latest year.

The weather conditions at the date of each census (except 1904 and 1915) were as under –

1912 Raining all day.	1919 Showery.	1923 Generally fine.
1927 Generally fine.	1931 Dull, rain 5 to 8 p.m.	1933 Showery, bright intervals.
1935 Generally fine.	1937 Generally fine.	

<i>Point of enumeration</i>	1904	1912	1915	1919	1923	1927	1931	1933	1935	1937
Hyde-park-corner	29,286	41,106	35,342	36,773	56,039	a 63,005	a 69,011	a 81,857	a 82,728	a 80,536
Trafalgar-square	27,768	34,897	34,561	31,071	42,042	a 57,652	a 62,542	a 64,735	a 66,039	a 65,406
Marble-arch	29,320	31,927	25,794	25,612	35,594	a 45,989	a 38,129	a 52,197	a 60,090	a 57,698
Piccadilly-circus	27,050	39,322	32,911	32,080	41,270	a 43,210	a 47,823	a 51,160	a 48,171	a 49,888
Blackfriars-bridge-approach (Chatham-place)	24,385	30,191	—	24,391	29,611	37,053	40,491	41,740	49,395	48,514
Piccadilly at St. James's-st.	20,474	27,125	21,717	22,705	31,894	33,070	39,394	42,839	44,035	47,414
Edgware-road at Praed-street and Marylebone-road	—	c 16,185	—	c 16,859	cd 21,250	c 25,173	36,260	45,028	45,190	44,112
Shepherds Bush-green	9,202	9,849	—	12,940	18,314	30,167	33,950	37,279	40,612	43,705
Ludgate-circus	22,956	27,949	—	18,659	24,361	31,594	34,075	35,473	39,881	42,434
High Holborn at Southampton-row	e 14,590	24,286	21,472	18,984	26,611	32,189	37,742	34,956	37,240	39,411
Knightsbridge at Sloane-street	21,471	28,620	f 19,384	22,215	31,031	33,172	34,711	34,411	39,191	39,396

Mansion-house	27,523	30,934	—	22,775	31,120	36,184	35,216	35,784	38,985	38,640
Hammersmith-broadway	11,587	12,974	—	13,785	22,792	31,379	<i>b</i> 29,130	34,852	37,683	38,377
Oxford-circus	24,228	27,310	21,303	23,683	31,289	32,068	36,513	37,459	38,949	36,781
Elephant and Castle	16,176	20,782	18,856	17,716	26,329	31,683	32,499	32,648	34,859	36,420
Vauxhall-cross	—	19,035	16,537	15,881	23,091	28,556	30,933	32,213	38,245	35,391
St. Giles-circus	21,336	24,479	21,700	18,290	26,285	29,005	28,742	32,713	34,226	34,591
King's-cross	—	13,493	—	12,901	23,965	27,140	*28,434	28980,	31,228	34,547
Monument	—	24,344	—	19,206	25,550	30,722	33,846	32,126	31,645	32,966
Blackfriars-rd. at Stamford-st.	17,214	18,980	16,581	14,953	19,554	23,738	25,255	26,107	30,575	32,444
Strand at Wellington-street	19,743	24,743	—	19,698	<i>d</i> 24,578	33,918	36,662	37,223	36,211	<i>h</i> 31,864
Kensington High-street at Church-street	10,900	15,989	11,758	14,562	20,973	25,111	26,722	29,567	30,588	31,536
Holborn-circus	20,906	24,412	—	16,771	21,655	25,760	25,764	26,036	29,922	31,212
Euston-road at Tottenham-court-road	—	6,308	—	14,138	21,847	24,204	<i>b</i> 20,767	27,163	29,297	29,794
'Angel', Islington	—	13,606	—	11,750	20,201	24,473	25,168	26,291	27,651	29,743
City-road at Old-street	—	16,002	14,181	13,167	19,697	22,620	23,957	23,059	26,740	29,117
Queen Victoria-st. at Cannon-street	20,108	24,131	—	19,205	22,786	28,777	29,438	30,099	30,796	28,556
Old-street at Kingsland-road	—	12,255	—	6,897	15,313	18,928	20,692	22,261	26,384	28,297
Gray's Inn-rd. at Theobald's-rd.	—	17,822	17,419	13,987	20,818	21,348	23,165	24,253	26,470	27,485
Cheapside at Newgate-street	19,651	20,213	—	14,153	17,802	23,191	25,581	25,400	27,985	27,320
Northing-hill-gate	12,297	13,049	—	9,982	17,158	23,612	26,158	27,942	27,318	27,195
London-bridge, South-side	—	15,850	17,961	13,001	18,662	23,493	24,140	22,453	24,061	26,025
Bishopsgate at Liverpool-street	—	18,295	—	14,591	16,705	21,937	22,051	21,793	24,002	26,024

(Continued)

Table 1.2 (Continued)

<i>Point of enumeration</i>	<i>1904</i>	<i>1912</i>	<i>1915</i>	<i>1919</i>	<i>1923</i>	<i>1927</i>	<i>1931</i>	<i>1933</i>	<i>1935</i>	<i>1937</i>
Cheapside at King-street	14,190	17,313	—	11,311	15,470	19,843	19,330	21,643	23,027	24,246
Whitechapel High-street, Gardiner's-corner	17,932	19,498	17,775	17,275	18,448	23,169	27,086	28,130	28,800	<i>b</i> 22,480
Aldgate at Minorities	14,205	13,425	<i>g</i> 13,209	13,009	15,421	18,185	20,563	20,510	22,739	21,873
Cornhill at Bishopsgate	11,738	12,648	—	11,256	14,425	18,378	19,902	19,579	21,686	21,484
Moorgate at London-wall	—	16,784	—	8,650	13,998	16,991	17,779	18,194	20,549	20,747

(a) Roundabout or one-way system of traffic control in operation.

(b) The census was affected by road repairs.

(c) Prior to 1928 the census was confined to the junction of Edgware-road with Praed-street.

(d) The 1923 census at Edgware-road junction with Praed-street and Strand at Wellington-street were [*sic*] affected by an upheaval of the roadway following heavy rain.

(e) The 1904 census was taken at High Holborn junction with Red Lion-street.

(f) The 1915 census was taken at the junction with Albert Gate and not at the junction with Sloane-street.

(g) The 1915 census was taken at the junction of Aldgate High-street with Mansell-street.

(h) General traffic was not permitted to go northwards over the temporary Waterloo-bridge.

* Error is in source.

Source: London County Council, *London Statistics 1936-38* (London: London County Council, 1938), 317.

Table 1.3 Average traffic speeds on working weekdays, 2013.

	<i>Morning-peak speed (mph)</i>	<i>Inter-peak speed (mph)</i>	<i>Evening-peak speed (mph)</i>
Central area	9.38	8.45	8.57
Inner London	12.4	13.2	11.2
Outer London	19.5	21.8	18.1

Source: Transport for London, *Travel in London: Report 7* (London: Transport for London, 2014), 145 (converted from kph to mph).

Table 1.4 Speed of vehicles in the central area of London, c. 1906.

<i>Class of vehicle</i>	<i>Speed during 'crush-hours' (8–10 a.m. and 5–7 p.m.) (mph)</i>	<i>Speed during slack hours (mph)</i>
Traction engines	2	2
Heavy vans	2½	3
Light vans	4 to 6	6 to 8
Omnibuses – horse	3½ to 6	5¼ to 8
Omnibuses – motor	6½ to 8¼	8¼ to 11½
Cabs – horse	3½ to 6	6 to 8½
Cabs – motor	8	12
Tramways – horse	2 to 5	5½ to 8
Tramways – electric	5½ to 7	8½ to 11½

Source: London County Council, *London Statistics 1905–6* (London: London County Council, 1906), 334.

Table 1.5 Average traffic speed in central London, 1952–1968.

	1952	1954	1956	1958	1960	1962	1964	1966	1968
Off-peak speed (mph)	11.1	10.8	10.3	10.0	9.7	10.3	10.6	10.7	11.2
Evening-peak speed (mph)	10.9	9.9	9.1	8.3	8.6	9.5	8.7	9.5	11.1

Source: Greater London Council, *Annual Abstract of Greater London Statistics 1968* (London: Greater London Council, 1968), 61.

differentiate for different vehicle types but, instead, like the 1936 experiment, showed the average speed of a survey car. They are shown in Table 1.5.²⁴

Secondly, in 1978, the GLC was able to paint a slightly rosier picture by adjusting the scope of the averaging. Here, the average speed in the central area remained about the same as that of the 1960s, but speeds on the GLC 'primary roads' trunk network and those on roads in outer areas were higher. By including them in the averaging, the council could claim that average speeds across all roads topped 20 mph (see Table 1.6).²⁵

Finally, in 1998, the Department for the Environment, Transport, and the Regions (DETR) published a historical data series filling in the period from 1968 to 1998, but only for the central and inner areas, as shown in Table 1.7.²⁶

12 Introducing the traffic problem

Table 1.6 Average traffic speeds in Greater London, various dates from 1975 to 1978.

	<i>Morning-peak (mph)</i>	<i>Off-peak (mph)</i>	<i>Evening-peak (mph)</i>
Primary roads	24.9	37.1	30.4
Central area	12.3	12.6	11.9
Inner area	13.3	16.0	12.9
Central + inner	13.0	13.0	12.5
Outer SE	16.9	24.1	18.7
Outer SW	19.8	22.2	19.4
Outer NW	18.5	23.9	18.2
Outer N	17.5	22.9	19.8
Outer NE	17.9	23.7	18.4
All outer areas	18.3	23.3	18.8
All areas	16.4	19.3	16.2
All roads	17.4	21.1	17.6

Source: Greater London Council, *Annual Abstract of Greater London Statistics 1979 and 1980* (London: Greater London Council, 1980), 88.

Table 1.7 Average traffic speeds (mph) in inner London, 1968–1998.

	1968	1971	1974	1977	1980	1983	1986	1990	1994	1997
Central area morning-peak speed	12.7	12.9	14.2	12.3	12.1	11.8	11.5	10.3	10.9	10.0
Central area inter-peak speed	12.1	12.6	12.9	12.6	11.6	11.9	11.0	10.6	10.9	10.0
Central area evening-peak speed	11.8	12.7	13.2	11.9	12.2	11.5	11.0	10.3	10.8	10.2
Inner area morning-peak speed	15.1	14.5	15.9	13.9	14.2	13.5	11.8	13.3	13.4	12.0
Inner area inter-peak speed	18.3	18.6	18.6	17.3	17.2	16.3	14.6	15.8	15.0	14.8
Inner area evening-peak speed	15.2	14.5	15.5	13.5	14.1	13.1	11.6	13.2	12.8	11.4
Central + inner area morning-peak speed	14.4	14.1	15.4	13.5	13.6	13.0	11.7	12.3	12.6	11.4
Central + inner area inter-peak speed	15.7	16.2	16.4	15.5	15.0	14.8	13.3	13.8	13.6	13.0
Central + inner area evening-peak speed	14.0	13.9	14.7	13.0	13.5	12.7	11.4	12.2	12.2	11.1

Source: Department of the Environment, Transport, and the Regions, 'Traffic Speeds in Inner London: 1998', *DETR Statistics Bulletin* '98.

One of the problems with these statistics is that the area being surveyed, and the methodology of the survey, changed throughout the period, but at least they help us grasp the order of magnitude of the situation. Thus, assuming the 'central area' was defined more or less the same over the century, that the hours representing the peaks and inter-peak period are also comparable, and taking

the values for 1906 from the top average speed of motor-cabs, we can derive a historical pattern represented in Figure 1.1.

Looking at all these tables and figures, it seems that London traffic today really does go no faster than it did in the horse-drawn era. But what has this analysis of the statistics really told us?

The problem with the traffic problem

In 1954, journalist Darrell Huff published *How to Lie with Statistics*, a popular work recently described by a statistician (presumably with a straight face) as ‘the most widely read statistics book in the history of the world’.²⁷ In it, Huff trained his readers to watch out for devices such as ‘the well-chosen average’ and ‘the gee-whiz graph’, just two of several techniques employed by people seeking to manipulate statistics to present a particular message (and that might look familiar from the foregoing account of traffic statistics). Huff was not a statistician, and some on the inside of the profession were uncomfortable with the points he made, but most accepted his premise. As one said recently, ‘People do lie with statistics every day, and it is to Huff’s credit that he takes the media (and others) to task for having stretched, torn or mutilated the truth.’²⁸

It is now quite clear that repeatedly changing the sample and the methodology will render any meaningful statistical analysis impossible. While there is no suggestion the GLC, DETR, Road Research Laboratory, or Henry Watson intended to deceive, the fact that they were operating in politically inflected environments, and that they all wanted to convey particular messages with their

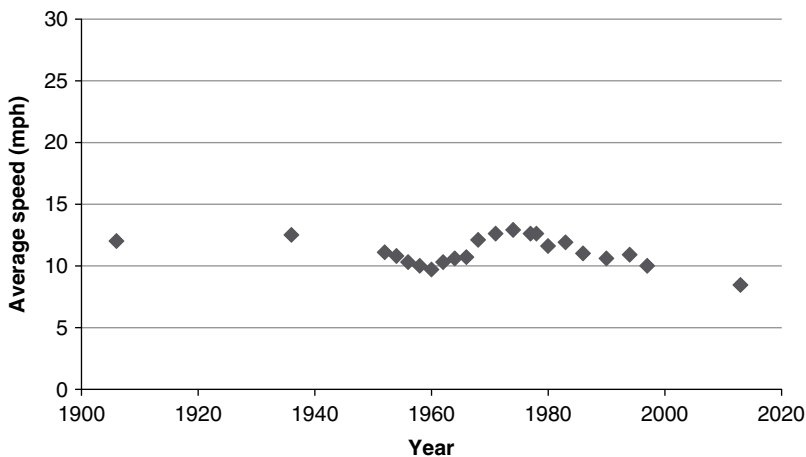


Figure 1.1 Average traffic speed during weekday daytimes for motor traffic in central London, 1906–2013, constructed using sources described in text. Compiled by the author.