

**‘Food Miles’: Britain’s Transition from Rail to
Road-based Food Distribution, 1919-1975**

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Abstract

Britain's railways were essential for the development of the British economy throughout the nineteenth century; however, by 1919 their seemingly unassailable position as goods carriers was about to be eroded by the lorry. The railway strike of September 1919 had presented traders with an opportunity to observe the capabilities of road haulage, but there is no study which focuses on the process of modal shift in goods distribution from the trader's perspective. This thesis therefore marks an important departure from the existing literature by placing goods transport into its working context.

The importance of food as an everyday essential commodity adds a further dimension to the status of goods transport within Britain's supply chain, particularly when the fragility of food products means that minimising the impact of distance, time and spoilage before consumption is vital in ensuring effective and practical logistical solutions. These are considered in a series of four case studies on specific food commodities and retail distribution, which also hypothesise that the modal shift from rail to road reflected the changing character of transport demand between 1919 and 1975. Consequently, this thesis explores the notion that the centre of governance over the supply chain transferred between food producers, manufacturers, government and chain retailer, thereby driving changes in transport technology and practice.

This thesis uses archival material to provide a qualitative study into the food industry's relationship with transport where the case studies incorporate supply chain analyses to permit an exploration of how changes in structure might have influenced the modal shift from rail to road distribution. It subsequently discusses how and when the emergence of mass-consumerism, as well as the intensification of the chain retailer's quest for competitive advantage, effected a permanent change in the balance of food logistics in Britain before 1975.

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Declaration

I declare that this thesis is a presentation of original work and I am the sole author. Aspects of this work have been presented as conference and workshop papers, but not published. This work has not previously been presented for an award at this, or any other University. All sources are acknowledged as references.

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Introduction

This thesis explores the role of the transport user in the development of food transport by rail and road in Britain between 1919 and 1975. Existing accounts of transport history have focused upon political and demand-side issues; furthermore, the process of moving goods from supplier to consumer has taken second preference to passenger mobility. The mobility of things is therefore largely nebulous, only emerging to underpin debates regarding rail and road competition. Similarly, food history is characterised by the culture of consumption, experiences of consumerism, the acquisition of luxury products and the development of in-store processes.¹ Consequently, this thesis offers an alternative perspective that not only describes the process of reducing space and time, but also places it within the context of the control of dynamic distribution chains and its impact upon demand-side transport requirements. Furthermore, it provides a significant advance beyond a simple history of goods transport in modern Britain by incorporating and contributing to histories of consumption, manufacturing and retail.

The rationale behind choosing food as a focus for studying freight is its human connection; the need to feed the population has justified the existence of trade and government agencies to administer and facilitate its supply. With the existing transport research agenda reflecting upon the why and wherefore of passenger experiences and cultural interactions, little has been written about the interrelationship between transport and the changing consumer environment. The perishable nature of some foods also raises practical challenges for transport organisations, thus permitting an exploration of how modes of transport adapted to convey specific commodities.

Part of the problem with researching the relationship between food and transport is that its presence is frequently obscured by the prominence and prestige of the user. Freight transport is a key case in point, as the structure of Britain's railways, as well as the allure of the locomotives and rolling stock, have garnered a plethora of column inches over the actual process of shifting commodities from A to B. Even this directly contrasts with road goods transport, which has yet to attract the academic and public interest it deserves. Yet the latter's role as successor to the railways in an array of freight flows poses the question- why was there a transition? More importantly, where does logistics fit within the narrative of Britain's consumer society during the mid-twentieth century? This thesis therefore considers how regulatory and market forces affected transport development.

¹ S. W. Mintz, 'The Changing Roles of Food in the Study of Consumption' in *Consumption and the World of Goods*, ed. J. Brewer and R. Porter (Oxford: Oxford University Press, 1994), p. 261.

The author has already indicated that an examination of the literature, exemplified by accounts by Colin Divall, Peter Scott and, going further back, Gilbert Walker, reveals a predominant focus upon passenger mobility, management structures and purely legislative influences.² However, it has also provided inspiration for selecting a case-based approach to the thesis which provides insight into the operation of goods transport networks through specific traffic flows and assist the author in addressing the following research questions:

1. How was food traffic moved at a time of profound social and economic change, and did a transfer of control within Britain's food supply chain to the retailer influence the modal shift from rail to road between 1919 and 1975?
2. What impact did a trader's perceptions of service quality and government legislative intervention have upon food distribution throughout the period, and how did this affect the relationship between rail and road transport?

In answering these questions, this thesis will make a unique contribution to British transport historiography by considering the development of road transport within each case to establish the motivation for change from a demand, rather than supply-side perspective. Furthermore, case studies of specific traffic flows have been overlooked as a tool for determining the relationship between traders and transport, and this approach presents an opportunity to tie both technological and transport management strands together. In the case of the United States, Shane Hamilton has suggested that the emergence of independent road haulage was crucial in the development of a mass-consumerist market.³ Consequently, the author agrees with Mark Casson and Mary B. Rose that business innovation is path-dependant; this assessment places emphasis upon '...the impact of firm-specific routines on the choice of technology and as such is invaluable in the explanation of divergent, as opposed to converging business developments', and appears to contradict any suggestion that market integration was a predictable economic process.⁴

² P. Scott, "British Railways and the Challenge from Road Haulage, 1919-1939," *Twentieth Century British History*, 13 (2002), pp. 101-120; C. Divall, "Conceiving Distribution in the United Kingdom: The (London and) North Eastern Railway's Discursive Response to Road Haulage, 1921-1939" in *From Rails to Roads and Back Again? A Century of Transport Competition and Interdependency*, ed. R. Roth and C. Divall (Aldershot: Ashgate, 2015), pp. 91-108.

³ S. Hamilton, *Trucking Country: The Road to America's Wal-Mart Economy* (Princeton: Princeton University Press, 2008), pp. 4-5.

⁴ M. Casson and Mary B. Rose, "Institutions and the Evolution of Modern Business: Introduction" in *Institutions and the Evolution of Modern Business*, ed. M. Casson and Mary B. Rose (London: Frank Cass, 1998), p. 2; also: G. Gereffi, J. Humphrey and T. Sturgeon, "The Governance of Global Value Chains," *Review of International Political Economy*, 12 (2005), p. 80.

The thesis therefore argues that whilst the existence of a national transport network - the railways - was essential to the development of long-distance, national food distribution chains in the nineteenth century, its use was periodically marked by trader input as business developments diverged away from what the railways could provide. This raises the question of the extent to which the railway companies were receptive to the market pressures faced by their users, and whether this had any bearing upon the industry's longer-term relationship with the trading community. Consequently, the thesis aims to investigate the reasons for the modal shift from rail to road that took place after the Second World War from a demand-side perspective, and the extent to which this coincided with the emergence of the retail chain as a governing enterprise within Britain's food supply chain since decontrol of food rationing in the mid-1950s.⁵

Methodology: supply chain analysis, perspective, chronology and structure

The case study approach has been informed by the food and transport literature consulted, and presents an opportunity to explore the relationship between the control exercised by market stakeholders over the supply chain and the process of distribution. The author proposes that distribution is taken for granted in histories of consumption and consumerism; indeed, Victoria de Grazia notes that 'the evolution of modern systems of distribution is astonishingly under-studied'.⁶ Each case study thus begins with a supply chain analysis which provides an analytical tool for charting the structural changes taking place within food distribution to explain how and why modal shift from rail to road haulage took place between 1919 and 1975.

Supply, or value chain analysis provides an analytical framework for considering the linkage between globalisation and the unequal sharing of gains when participating in an economic activity.⁷ It examines how and where value is added to a commodity throughout the chain before consumer purchase. However, the approach requires full access to financial data and close contact with the organisations involved; access constraints posed by the quality and quantity of surviving data means that a historic analysis of British food

⁵ J. Burnett, *Plenty and Want: A Social History of Diet in England from 1815 to the Present Day*, 2nd Edition (London: Scolar Press, 1979), pp. 337-338.

⁶ V. de Grazia, "Changing Consumption regimes in Europe, 1930-70: Comparative perspectives on the distribution problem" in S. Strasser, C. McGovern, M. Judt (eds.), *Getting and Spending: European and American Consumer Societies in the 20th Century* (Cambridge, Cambridge University Press, 1998), p. 59.

⁷ R. Kaplinsky, "Globalisation and Unequalisation: What can be Learned from Value Chain Analysis?," *The Journal of Development Studies*, 37 (2000), p. 118; Gereffi, Humphrey and Sturgeon, "The Governance of Global Value Chains," pp. 78-104.

supply chains will demand a considerable modification in scope. The issue was encountered during the preparation of J. B. Jeffreys' *The Distribution of Consumer Goods*, which details the process in 1938.⁸ No prior means of collecting figures existed, whilst the first Census of Distribution published that year focused upon the direct relationships between each of the key stages in a supply chain; indeed, a full survey of the costs of items such as transport and items such as wastage to determine the motives behind transport choices, to quote Jeffreys, is an impossibility until the entire 'universe was known'.⁹

Whilst Jeffreys proceeded to provide estimates of the cost of distribution for a variety of consumer goods, the lack of a cost breakdown has rendered the isolation of costs directly attributable to transport impossible to discern.¹⁰ Indeed, the difficulty in obtaining data is current in 2016, as traditional accounting methods focus upon product costs rather than customer costs; the cost of transport to a food manufacturer is aggregated with the figures for onward distribution.¹¹ This thesis therefore repurposes the framework to describe the changes taking place within specific cases of food distribution through the concept of supply chain governance. The author defines supply chain governance as the ability of organisations and systems to manage commodity distribution processes.¹² The former may be termed 'executive governance', which details how firms can use their market position to drive change, whilst the latter concerns 'legislative governance', defined as the regulation of the terms of market participation by government and firms.¹³

By charting shifts in supply chain governance within the case studies, the author examines food transport from the user's perspective, thus giving a 'history from below' that compensates for the fragmentary quantitative data on the subject. The aim is to highlight that whilst it is possible to argue that Britain's railways and road hauliers faced financial, organisational and regulatory challenges throughout the period, the trader's demand for reliable, flexible and affordable transport remained constant. As will be seen, the steady growth of road haulage in the late 1950s continued despite the low level, as a percentage of Gross Domestic Product, of British government investment in road infrastructure in comparison to other European nations cited by Scott, with 151,900 additional private lorries operating in 1959 compared to 1956.¹⁴

⁸ J. B. Jefferys, M. Maccoll and G. L. Levett, *The Distribution of Consumer Goods: A Factual Study of Methods and Costs in the United Kingdom in 1938* (Cambridge: Cambridge University Press, 1950), p. vii.

⁹ Jefferys et al., *The Distribution of Consumer Goods*, p. 5.

¹⁰ Jefferys et al., *The Distribution of Consumer Goods*, p. 88.

¹¹ M. Christopher, *Logistics and Supply Chain Management, Fifth Edition* (Harlow: Pearson, 2016), p. 69.

¹² Christopher, *Logistics and Supply Chain Management*, p. 3.

¹³ Kaplinsky, "Globalisation and Unequalisation," p. 124.

¹⁴ P. Scott, "Public Sector Investment and Britain's Post-war Economic Performance: A Case Study of Roads Policy," *Journal of European Economic History*, 34 (2005), pp. 412-413; figure calculated from data in Appendix 2.5.

The thesis also marks a departure from earlier histories of transport as the author considers that the reason for the decline of goods transport by rail is more complex than the ‘what the traffic will bear’ argument about price competition; indeed, the ascendancy of road haulage was in part the result of large enterprises making commercial decisions to vertically integrate transport in the interests of establishing competitive advantage against their rivals, and was not just a result of ‘cherry picking’ on the part of the private road haulier.¹⁵ Indeed, as discussed in chapter 2, the railways possessed tools to compete with road haulage in the guise of ‘exceptional’ and ‘agreed’ charges.

The scope and chronology of the thesis also deserves comment. Although a more in-depth comparison and discussion of transport investment and operations relative to other European nations would be useful in placing Britain’s transition from rail to road transport within an international context, the author believes that the potential scale of the task makes it suitable for a future collaborative research project. Equally, the global links of Britain’s food supply chain have been confined to the port where imported foods are received by the nation’s inland transport networks. Only passing reference will be made to canals, as their role in food conveyance was much-diminished during the twentieth century.¹⁶ Whilst the regulations governing the provision of freight transport has received previous analysis, rail is favoured over road.¹⁷ This has been partially dictated by difficulties in obtaining records pertaining to the transport of goods by road, and a predilection towards the social and economic implications of personal and public transport.¹⁸ The chronology of the thesis has been selected to reflect the expansion of road distribution since the First World War, and permits an account of rail transport that encompasses the ‘grouping’ of Britain’s railways in 1921 and the cessation of their post-Beeching contraction in 1975.

A key pitfall is the variable quality and quantity of evidence for each case study across the period; whilst there is rich archival material for the inter-war and immediate post-war years, statistical evidence is comparatively thin as commercial sensitivities are

¹⁵ Divall, “Conceiving Distribution in the United Kingdom,” pp. 102-103; P. Scott, “British Railways and the Challenge from Road Haulage, 1919-1939,” *Twentieth Century British History*, 13 (2002), p. 110; Christopher, *Logistics and Supply Chain Management*, p. 4, p. 10; M. Porter, *The Competitive Advantage of Nations* (London: Macmillan, 1990), pp. 241-242.

¹⁶ P. Bagwell, *The Transport Revolution, 1770-1985, 2nd Edition* (London: Routledge, 1988), pp. 151-156.

¹⁷ Walker, *Road and Rail*; Brig.-General Sir H. O. Mance, *The Road and Rail Transport Problem* (London: Pitman, 1941); T. R. Gourvish, *British Railways 1948-1973: A Business History* (Cambridge: Cambridge University Press, 1986); M. R. Bonavia, *The Nationalisation of British Transport: The Early History of the British Transport Commission* (New York: St. Martin’s Press, 1987); R. Edwards, “Shaping British Freight Transport in the Interwar Period: Failure of Foresight or Administration, 1919–1934?” in *From Rails to Roads and Back Again? A Century of Transport Competition and Interdependency*, ed. R. Roth and C. Divall (Aldershot: Ashgate, 2015), pp. 77-90.

¹⁸ P. Norton, Preface in *Mobility in History: Reviews and Reflections, T2M Yearbook 2012*, ed. P. Norton, G. Mom, L. Millward and M. Flonneau (Neuchâtel: Éditions Alphil-Presses universitaires suisses, 2011), p. 7.

more likely to affect access to post-1960 material. However, whilst the period 1930-1950 represents an era of development, the late 1950s and 1960s encompassed the transition to, and subsequent normalisation of, post-war concepts such as self-service and the resurgence of road haulage in the debate on the best mode of transport for long-distance food distribution in Britain.¹⁹ A case study approach therefore ensures that each chapter is themed by commodity, whilst the use of a broadly chronological structure within each permits the overlaying of these elements to identify the timing of demand-side changes and how they influenced the transport of specific food products.

The thesis begins with a contextual chapter providing an overview of our understanding of freight transport in Britain that focuses upon the effect of government regulation. Consequently, the notion of transport coordination is encountered; the author defines the first as the voluntary combination of more than one mode of transport in a transport mission regardless of ownership, with each mode employed in the task to which they are most suited.²⁰ Following the contextual chapter are three commodity-based case studies. Their selection stems from the fact that the National Railway Museum (NRM), which has part-sponsored this thesis, has a strong collection of goods vehicles on display relating to milk, livestock and meat, and confectionery distribution. A fourth case study will analyse the role of transport within the food retail sector. This approach has been adopted to provide an effective means of concentrating research within a well-defined framework. Furthermore, the approach lends itself to the synthesis of commodity biographies that trace the progress of goods through the supply chain, thereby ascertaining how different food trades interacted with transport.

Each case study presents an opportunity to appraise the overall performance of rail and road in conveying these traffics between 1919 and 1975. The first case study focuses upon milk; a commodity sold to the consumer in its 'fresh' state, notwithstanding pasteurisation and other treatments, and occupies a prominent place within the national diet as an essential, everyday food staple that was prone to spoilage. The study of milk distribution presents an opportunity for determining how rail and road transport providers responded to the challenge of conveying a perishable product over long distances, whilst analysis into the shifting supply chain governance between producer and wholesaler will reveal how the agenda for rail and road competition was being set throughout the period.

¹⁹ K. Humphrey, *Shelf-life: Supermarkets and the Changing Cultures of Consumption* (Cambridge: Cambridge University Press, 1998), *Shelf-Life*, p. 32.

²⁰ M. J. Roberts, "Transport Coordination and Distribution Efficiency: Pricing Norms and Profit Potential," *Journal of Transport Economics and Policy*, 111 (1969), p. 165.

The second tackles the complex supply networks associated with the distribution of fresh meat, and considers how the interplay between domestic and import markets determined approaches to transport. The case study thus identifies three distinct flows associated with the fresh meat trade; namely the supply of cattle for fattening prior to slaughter and the transport of home-killed and imported meat. The question of governance over the supply chain is raised through an analysis of the actions of a fragmentary domestic livestock industry, government intervention in the market throughout the 1930s and 1940s, and rising retailer influence within the trade from the mid-1950s. These factors provide the context for the state of distribution in the industry, underpinning the developments in rail and road transport technology associated with the conveyance of this commodity.

The third case study considers the food manufacturer's relationship with transport through an examination of confectionery distribution. The reasons for choosing confectionery as a case study are two-fold; it encompasses luxury products with growing mass consumer appeal, and it represents an industry which had established close control over its marketing and branding activities by 1919, the importance of which provides a basis for examining management attitudes towards transport as a means of effecting nationwide distribution. Consequently, the chapter analyses a supply chain that was initially governed by the manufacturer, and explores how this affected rail and road transport before the retail sector grew in influence during the post-war period. Finally, the study focuses upon the transport arrangements of Rowntree of York, which has seen little previous research despite its status as a nationally-recognised brand.

The final case study considers how the transformation of retail from counter to self-service in the mid-twentieth century influenced the sector's transport requirements and its wider supply chain. The retailer's position at the end of a complex supply chain meant that transport was initially used as a means of service-based competition as manufacturer-imposed Resale Price Maintenance (RPM) on branded goods had limited scope for price competition. However, the thesis hypothesises that the post-war shift to self-service caused a shift in the status-quo, and by studying the transport arrangements of retail organisations including the Co-operative movement and Marks & Spencer, the chapter hypothesises that a combination of the retailer's interface with the consumer and wider improvements in distribution technology and infrastructure empowered large regional and national retail chains to determine the nature of transport throughout the supply chain.

Chapter 1 - Historiography, sources and themes

1.1 Food overview

The research agenda set by this thesis has emerged from the fact that the relationship between food and transport is under-represented within the existing historiography of twentieth century Britain. Furthermore, the supply chain as a device for engineering a holistic approach towards food distribution has itself seen little use, despite historical geographers such as Elaine Hartwick and food historians such as Hans Teuteberg extolling the virtues of adopting such an approach in the past two decades.²¹ Hartwick implies that whilst research undertaken by sociologists examines broad material-cultural implications, the existing literature ‘overemphasizes the cultural mechanisms of buying’.²² Consequently, the literature on consumption represented by John Benson and Laura Ugolini reflect upon themes such as status, gender and the satisfaction of ambitions in explaining changes in demand.²³

The sociological approach to distribution history thus risks overlooking basic factors such as technology, geography and economy; concepts which are referenced by Peter Atkins and Ian Bowler.²⁴ This is equally true of business histories about specific food firms, as Charles Wilson’s history of Unilever and Smith, Child and Rowlinson’s examination of Cadbury’s lack a full appreciation of the importance of moving commodities between producer and consumer.²⁵ The omission of a supply-chain approach to the history of food distribution in Britain belies the interrelationship between different stages of the food-chain such as food processing, manufacturing, retail and transport.²⁶ Furthermore, whilst the extremes of food supply such as agriculture and retail have enjoyed much academic attention in accounts by Edith Whetham, John Martin and Kim

²¹ E. Hartwick, “Geographies of consumption: a commodity-chain approach,” *Society and Space*, 16 (1998), p. 423; B. Mandelblatt, ‘Geography of Food’ in *The Oxford Handbook of Food History*, ed. J. M. Pilcher (Oxford: Oxford University Press, 2012), p. 156; H. J. Teuteberg, ed., Introduction to *European Food History* (Leicester: Leicester University Press, 1992), p. 2.

²² Hartwick, “Geographies of consumption,” p. 424.

²³ J. Benson, *The Rise of the Consumer Society in Britain, 1880-1980* (Harlow: Longman, 1994); Introduction in *Cultures of Selling*, ed. J. Benson and L. Ugolini (Aldershot: Ashgate, 2006), p. 4; S. Zukin and J. S. Maguire, “Consumers and Consumption,” *Annual Review of Sociology*, 30 (2004), p. 175.

²⁴ P. Atkins and I. Bowler, *Food in Society: Economy, Culture, Geography* (London: Hodder Arnold, 2007), pp. 261-263; D. J. Oddy and J. Burnett, “British Diet since Industrialisation: A Bibliographical Study” in *European Food History*, ed. H. J. Teuteberg (Leicester: Leicester University Press, 1992), p. 20.

²⁵ C. Smith, J. Child and M. Rowlinson, *Reshaping Work: The Cadburys Experience* (Cambridge: Cambridge University Press, 1990); C. Wilson, *Unilever 1945 – 1965: Challenge and Response in the Post-War Industrial Revolution* (London: Cassell, 1968).

²⁶ Introduction in *European Food History*, ed. H. J. Teuteberg (Leicester: Leicester University Press, 1992), p. 8.

Humphery, they generally provide an overview of the structures of the industries in question, and are therefore considered in isolation from broader contexts.²⁷ However, the study of specific economic activities in the context of supply and demand permits the exploration of long-term changes within participating organisations, and how these influenced the character of food transport in Britain.

Food literature: From agriculture to retailing

Paul Brassley asserts that the historiography of British agriculture before and during the period covered by this thesis suffers from chronological discontinuity, making an assessment of the long-term issues facing the industry difficult.²⁸ This discontinuity can be attributed to the fact that the literature records the organisation and operation of British agriculture during the nineteenth and early twentieth centuries, whilst post-Second World War agriculture is poorly represented.²⁹ Furthermore, agrarian historians largely fail to consider the impact of agriculture ‘beyond the farm gate’, leaving the task of exploring wider market connections to economic historians such as Derek Aldcroft.³⁰

Although an analysis of the producer offers useful socio-economic insights into agricultural aptitude and the health and wealth of nations, the technological and organisational processes developed in response to changing downstream demands remain unexplained. Subsequent stages such as the manufacturing and processing sectors drove and responded to demand through investment in advertising, technology and product innovation; all are characteristic of endogenous growth, whereby economic growth is generated through structural changes within organisations.³¹ Whilst this is useful for explaining the mechanism for the development of markets, the coverage of food manufacturing and processing within the historiography is perfunctory, despite the

²⁷ E. Whetham, *The Agrarian History of England & Wales Vol. VIII, 1914-1939*, ed. J. Thirsk (Cambridge: Cambridge University Press, 1978); J. Martin, *The Development of Modern Agriculture: The Development of British Farming Since 1931* (London: Macmillan, 2000); K. Humphery, *Shelf-life: Supermarkets and the Changing Cultures of Consumption* (Cambridge: Cambridge University Press, 1998).

²⁸ P. Brassley, “Output and Technical Change in Twentieth Century British Agriculture,” *Agricultural History Review*, 1 (2000): p. 60.

²⁹ For example, R. Perren, *Agriculture in Depression, 1870-1940* (Cambridge: Cambridge University Press, 1995); see also E. Whetham, “The Agriculture Act, 1920 and its Repeal – the ‘Great Betrayal’,” *Agricultural History Review*, 22 (1974), pp. 36-49 and Whetham, *The Agrarian History of England & Wales Vol. VIII*, pp. 139-141; See B. A. Holderness, *British Agriculture since 1945* (Manchester: University of Manchester, 1985) and Martin, *The Development of Modern Agriculture*.

³⁰ D. Aldcroft, *The British Economy Between the Wars* (Oxford: Philip Allan, 1983). See also A. J. Youngson, *Britain’s Economic Growth, 1920-1966, 2nd Edition* (London: George Allen & Unwin, 1968); Introduction in *Exploring the Food Chain: Food Production and Food Processing in Western Europe, 1850-1990*, ed. Y. Segers, J. Bieleman and E. Buyst (Turnhout: Brepols, 2009), p. 13; P. Maunder, “Food Processing,” in *The Structure of British Industry*, ed. P. Johnson (London: Unwin and Hyman, 1988), p. 188.

³¹ P. Aghion and P. Howitt, *Endogenous Growth Theory* (London: The MIT Press, 1998), pp. 1-2.

consensus established amongst food academics including Hans Teuteberg and Gabriella Petrick about the need to examine the intermediate stages of food supply and distribution between producer and consumer.³² In this regard, several factors can be identified which provide an explanation for the current state of the field.

Firstly, Brassley suggests that food is a complex commodity because of the multiple paths it takes between production and consumption, and the intermediate stages of the supply chain, as detailed above, are not always clearly defined within the literature.³³ However, food processing is defined by Atkins and Bowler as ‘the manipulation of agricultural raw materials into food products which retain many of the characteristics of the original materials’, whilst food manufacturing is ‘the transformation of agricultural raw materials into food products that have lost many of [their original] characteristics’.³⁴ Previous practice has been to bundle both together; Bertie Mandelblatt implies that the rising prominence of Britain’s retail sector since 1954 has ensured that the activities of businesses engaged in upstream, or non-consumer-facing activities within the supply chain, are hidden.³⁵ Put differently, the retail sector’s engagement with the needs of the consumer means that it is easy to assume that it is the sole agent within the food chain. The notion of the supply chain again highlights that the retailer is part of a wider system that encompasses technological and distributive innovations undertaken by food processors and wholesalers at different points in time.

However, interest in the food habits of the pre-industrial age means the researcher relies upon the output of business historians to obtain any sense of the development of food manufacturing during the mid-twentieth century.³⁶ An analysis of the ‘intermediate’ food industry in its broadest sense is complicated by the fact that existing research is fragmented across a vast array of academic disciplines and time periods.³⁷ The literature promoting the concept of value, or supply chain analysis by Raphael Kaplinsky, Gary Gereffi, Martin Christopher and others provides a useful means of identifying the value added to a commodity during production and sale as well as the variety of inputs, and has hitherto

³² Teuteberg, Introduction, p. 7; G. M. Petrick, “Industrial Food,” in *The Oxford Handbook of Food History*, ed. J. Pilcher (Oxford: Oxford University Press, 2012), p. 258.

³³ P. Brassley, “Food Production and Food Processing in Europe, 1850-1990: Some Conclusions” in *Exploring the Food Chain: Food Production and Food Processing in Western Europe, 1850-1990*, ed. Y. Segers, J. Bieleman and E. Buyst (Turnhout: Brepols, 2009), p. 286.

³⁴ Atkins and Bowler, *Food in Society*, p. 74.

³⁵ Mandelblatt, ‘Geography of Food’, p. 157; J. Fernie and L. Sparks, “Retail Logistics: Changes and Challenges” in *Logistics and Retail Management: Emerging Issues and New Challenges in the Retail Supply Chain, 4th Edition*, ed. J. Fernie and L. Sparks, (London: Kogan Page, 2014), p. 1.

³⁶ Benson, *The Rise of the Consumer Society*, p. 59; R. Church, “New Perspectives in the History of Products, Firms, Marketing, and Consumers in Britain and the United States Since the Mid-Nineteenth Century,” *The Economic History Review*, 52 (1999), p. 431; Mintz, “The Changing Roles of Food in the Study of Consumption,” p. 261; Teuteberg, Introduction, p. 13.

³⁷ Mandelblatt, ‘Geography of Food’, p. 154.

been used as a tool to describe the inequalities caused by globalisation in developing economies.³⁸ However, in the case of developed economies, supply chain analysis is better-suited to continuous analysis; indeed, the requirement for long-term quantitative data renders it incompatible for the study of historical supply chains in unmodified form.³⁹

Consequently, there is a need to adapt supply chain analysis to suit the available material, specifically to chart the principal stimuli provided by competition and changes in how the chain was managed, which in turn spawned marketing and product innovation that added value for consumers and obtained advantage over rival firms.⁴⁰ However, James Johnston's history of food canning in interwar Britain is indicative of the tendency to lean towards an inevitable pattern of progression, in which the evolution of industrial and technological processes were merely sidelights to the overall development of business administration.⁴¹ In contrast, historians of consumption including Leslie Gofton and Shane Hamilton have considered advances in processing and manufacturing as primarily a reflection of changes in consumer demand, which included the extension of shelf-life and the deskilling of staple food preparation, as the adoption of canning, refrigeration and freezing technology exemplified.⁴² However, none of these examples consider the ramifications for the manufacturer's demand for transport.

The final stage observed within the literature on Britain's food supply chain relates to the means of distributing the products to the consumer. The retail sector has been the focus of much research in the past two decades, as evidenced by accounts by Roger Scola, Gareth Shaw and Kim Humphery, which has demonstrated that the period 1850-1960 encompasses a profound change as a result of developments in the industrial economy,

³⁸ R. Kaplinsky, "Globalisation and Unequalisation: What can be Learned from Value Chain Analysis?," *The Journal of Development Studies*, 37 (2000), p. 117-146; G. Gereffi, J. Humphrey and T. Sturgeon, "The Governance of Global Value Chains," *Review of International Political Economy*, 12 (2005), pp. 77-104; M. Christopher, *Logistics and Supply Chain Management, Fifth Edition* (Harlow: Pearson, 2016); Segers, Bieleman and Buyst, Introduction, p. 15.

³⁹ C. Sürie and M. Wagner, "Supply Chain Analysis," in *Supply Chain Management and Advanced Planning: Concepts, Models, Software and Case Studies, 4th Edition*, ed. H. Stadtler and C. Kilger (Heidelberg: Springer, 2008), p. 38.

⁴⁰ J. Burnett, *Plenty and Want: A Social History of Diet in England from 1815 to the Present Day, 2nd Edition* (London: Scholar Press, 1979), p. 292; James P. Johnston, *A Hundred Years Eating* (Dublin: Gill and Macmillan, 1977), pp. 39-41.

⁴¹ For example: J. P. Johnston, "The Development of the Food Canning Industry in Britain during the Inter-war Period," in *The Making of the Modern British Diet*, ed. D. Oddy and D. Miller (London: Croom Helm, 1976); T. Collins, "The North American Influence on Food Manufacturing the Britain, 1880-1939," in *Exploring the Food Chain: Food Production and Food Processing in Western Europe, 1850-1990*, ed. Y. Segers, J. Bieleman and E. Buyst (Turnhout: Brepols, 2009), pp. 159-162 and Smith, Child, and Rowlinson, *Reshaping Work*, p. 15.

⁴² L. R. Gofton, "Machines for the Suppression of Time: Meaning and Explanations of Food Change," *British Food Journal*, 94 (1992), p. 31; S. Hamilton, "The Economics and Conveniences of Modern Living: Frozen Foods and Mass Marketing, 1945-1965," *The Business History Review*, 77 (2003), p. 45.

social strata and urban expansion.⁴³ Suburbanisation and rising consumer income throughout the late nineteenth and early twentieth centuries precipitated a gradual proliferation of fixed-location co-operatives, independent and multiple retailers, latterly supplemented by mobile shops, which combined to displace specialist producer-retailers and central markets as the principal customer interfaces.⁴⁴

In the latter respect, several factors influenced the character of food retailing which included the variety of products demanded by consumers and the affordability of food in relation to consumer income, with both potentially increasing the complexity of transport operations. Equally, food stocked by retailers reflected changing social norms, with Atkins, Bowler and Peter Scott noting the increasing number of women entering the workplace.⁴⁵ Rising female employment after the Second World War reduced the time available to prepare food for the family, fostering demand for greater convenience, both intrinsically within the food product itself and in reducing the frequency of acquisition.⁴⁶ Furthermore, John Burnett notes that post-war developments in food retail such as self-service required the pre-packaging of products, whilst the consumer's demand for convenience necessitated pre-preparation, all of which had implications for product range, hygiene, availability and transport.⁴⁷

The proliferation and diversification of regional 'multiple' stores during the 1930s were a response to shifts in the macro-economy, and also coincided with an increasing interest in achieving financial and organisational economies in distribution, a process which was accelerated during the Second World War.⁴⁸ However, whilst the inter-war years might be construed as preparation for 'Americanised' mass retailing as suggested by Victoria de Grazia, Shaw and Curth imply that the process was more nuanced as rationing and resale price maintenance (RPM) administered by manufacturers restricted the ability of retail chains to pass cost reductions on to the customer, thus retarding the sector's

⁴³ Atkins and Bowler, *Food in Society*; Humphery, *Shelf-Life*; G. Shaw, L. Curth and A. Alexander, "Selling Self-service and the Supermarket: The Americanisation of Food Retailing in Britain, 1945-60," *Business History*, 46 (2004), p. 573 and R. Scola, *Feeding the Victorian City: The Food Supply of Manchester 1770-1870* (Manchester: Manchester University Press, 1992).

⁴⁴ P. Gurney, "The Battle of the Consumer in Postwar Britain," *The Journal of Modern History*, 77 (2005): pp. 961-963 and J. F. Wilson, A. Webster and R. Vorberg-Rugh, *Building Co-operation: A Business History of the Co-operative Group, 1863-2013* (Oxford: Oxford University Press, 2013), pp. 220-224.

⁴⁵ Atkins and Bowler, *Food in Society*, p. 101, p. 96; P. Scott, "Regional Development and Policy," in *The Cambridge Economic History of Modern Britain Vol. III: Structural Change and Growth, 1939-2000*, ed. R. Floud and P. Johnson (Cambridge: Cambridge University Press, 2004), pp. 334-335.

⁴⁶ Mintz, "The Changing Roles of Food in the Study of Consumption," pp. 268-269; Scott, "Regional Development and Policy," pp. 334-335.

⁴⁷ Burnett, *Plenty and Want*, pp. 343-346.

⁴⁸ See: B. Williams, *The Best Butter in the World: A History of Sainsbury's* (London: Ebury Press, 1994); J. Bevan, *The Rise and Fall of Marks & Spencer ...And How it Rose Again, Revised Edition* (London: Profile Books, 2007).

modernisation before the mid-1950s.⁴⁹ These developments neatly exemplify the interdependence of the food supply chain in satisfying consumer demand, yet also raises the issue of the importance of shifting supply chain governance in driving change within a given commodity market.

In this respect, the rising influence of the retailer as supply chain innovator and agenda-setter in Britain after the decontrol of food rationing in 1954 is noted by Humphery and John Pickering, and both assert that the undermining of RPM was a key factor in shifting governance towards the retail sector.⁵⁰ Roy Church highlights the increasing negotiating power of the retailer, which laid the groundwork for food range expansion through centralised bulk-buying and aggressive marketing strategies to expand market share, culminating with the emergence of the supermarket concept in Britain during the 1950s and 1960s.⁵¹ However, whilst the literature has suggested that the retail sector anticipated and drove consumer demand, little reference has been given to the role of transport in supporting the transition from counter to self-service, whilst the retailer's role in the development of food logistics remains unclear.⁵²

1.2 Transport overview

The historiography relating to freight transport in Britain, though less fragmentary than that concerning food, appears to have reached a peak in academic interest at the millennium. The transport genre is currently dominated by the 'mobility turn' championed by Transport, Traffic and Mobility (T2M), which set a new agenda for broadening the historiography of passenger and public transport to encompass, amongst other things, histories of experiences, the motivations behind consuming transport, and its cultural significance.⁵³ Where there has been research into goods transport, it has displayed a tendency to focus upon the effect of legislative process and rail-road competition from a top-down, supply-side perspective. Consequently, accounts concerning the practice and development of commodity-specific transport operations are notable by their absence.

⁴⁹ V. de Grazia, *Irresistible Empire: America's Advance through Twentieth-Century Europe* (Belknap/Harvard University Press, 2006); Shaw, Curth and Alexander, "Selling Self-service," p. 573. See also J. F. Pickering, *Resale Price Maintenance in Practice* (London: George Allen and Unwin, 1966), pp. 115-116.

⁵⁰ Humphery, *Shelf-Life*, p. 32; Pickering, *Resale Price Maintenance in Practice*, p. 117.

⁵¹ Church, "New Perspectives in the History of Products," p. 408, p. 426.

⁵² Humphery, *Shelf-Life*, p. 25.

⁵³ See P. Norton, Preface in *Mobility in History: Reviews and Reflections, T2M Yearbook 2012*, ed. P. Norton, G. Mom, L. Millward and M. Flonneau (Neuchâtel: Éditions Alphil-Presses universitaires suisses, 2011), p. 7.

The potential for research into transport's role in Britain's food supply has already been described, as it intertwines between the various stages of the supply chain, making it sensitive to wider economic changes. The subject of rail and road competition for freight in Britain between 1919 and 1975 is a prime example of the dynamic nature of transport's response to the needs of users, yet comparatively little research has been directed towards goods transport as a whole, which in the case of Britain's railways accounted for 53 and 67 per cent of gross traffic receipts in 1919 and 1959 respectively.⁵⁴ This is not necessarily a symptom of historiographical neglect; it can be assumed that the aforementioned preference for passenger transport demonstrated within both popular and academic histories by Tanya Jackson, Simon Bradley, Terence Gourvish and others is partly due to the enduring popularity of the subject matter as being directly relevant to the current travelling public.⁵⁵

The focus upon the passenger thus leaves the way open for renewed research into goods transport; this thesis will therefore combine the historiography of food with that of freight transport to develop a picture of the evolution and practice of food distribution in Britain throughout the period. It will not only present an opportunity to demonstrate how food commodities can provide insights into the common issues of distribution in terms of transport cost, speed, technology and flexibility, but also places the transport provider's supply of freight services within a fundamentally important working context. The following brief review of the literature establishes the general state of the field before establishing the reason why a commodity-based case-study approach that analyses the link between transport supply and demand in the movement of goods has been adopted.

Transport literature: Finding an approach

Rail and road transport have been the main foci for study over successive decades, although in the case of Britain, the latter has experienced comparatively little study. Academic research into road transport history includes overviews of the sector such as Theo Barker and Dorian Gerhold's *The Rise and Rise of Road Transport*, and popular histories include Barker's account of haulier John Jempson & Son, which again

⁵⁴ Divall, "Conceiving Distribution in the United Kingdom," p. 91. Data from Ministry of Transport *Railway Returns* and British Transport Commission *Annual Report and Accounts*.

⁵⁵ Divall, "Conceiving Distribution in the United Kingdom," pp. 91-92; Tanya Jackson, *British Rail: The Nation's Railway* (Stroud: The History Press, 2013); S. Bradley, *The Railways: Nation, Network and People* (London: Profile Books, 2015); T. R. Gourvish, *British Railways 1948-1973: A Business History* (Cambridge: Cambridge University Press, 1986).

predominantly focuses upon the development of the transport enterprise.⁵⁶ A more recent account which addresses the modernisation of the British road network is Peter Merriman's *Driving Spaces*, which establishes the relationship between road construction, the regions served and the culture of the motorway.⁵⁷ Furthermore, Peter Scott has explored the effect of the government's post-war macro-economic policy upon new road construction between 1920 and 1960, and highlights a disparity between investment levels in Britain and in Europe.⁵⁸ However, the treatment of this mode of transport remains patchy, a situation that might be partly attributed to the surviving archival material, although a more likely reason is the enduring popularity of railway history, which has traditionally been the preserve of the dedicated enthusiast examining, in sometimes minute detail, the mode's nuances.⁵⁹

Scott's influential article on road and rail competition bridges the gap between both modes of transport, arguing that the regulatory framework in which Britain's railways operated restricted their ability to compete with road haulage.⁶⁰ Studies of Britain's railways include Terence Gourvish's *British Railways, 1948-73*, which reveals the relationship between a nationalised enterprise and government whilst John Quail's analysis of business accounting within British Railways.⁶¹ The common theme is the political and executive management of the railway network, with a particular emphasis upon 'what went wrong' after nationalisation in 1948. Whilst Mark Casson's analysis of Britain's Victorian railway network has considered the broader economic factors in its development, accounts of the twentieth century railway industry focus heavily upon passenger transport, technology, politics and management.⁶² Ralf Roth and Colin Divall's edited volume *From Rail to Road and Back Again?* demonstrates that there have been few advances into the field of freight transport beyond an analysis of the effects of competition and regulation.⁶³

A plethora of popular histories have focused upon the railways. Whilst they may cover a broad range of topics including the conveyance of goods, such as Simon Bradley's

⁵⁶ T. Barker and D. Gerhold, *The Rise and Rise of Road Transport, 1700-1990* (Cambridge: Cambridge University Press, 1995); T. C. Barker, *The Transport Contractors of Rye - John Jempson & Son: A Chapter in the History of British Road Haulage* (London: The Athlone Press, 1982).

⁵⁷ P. Merriman, *Driving Spaces: A Cultural-Historical Geography of England's M1 Motorway* (Oxford: Blackwell Publishing, 2007).

⁵⁸ P. Scott, "Public Sector Investment and Britain's Post-war Economic Performance: A Case Study of Roads Policy," *Journal of European Economic History*, 34 (2005), pp. 391-418.

⁵⁹ For example: R. J. Essery, D. P. Rowland and W. O. Steel, *British Goods Wagons from 1887 to the present day* (New York: Augustus M Kelley Publishers, 1970)

⁶⁰ Scott, "British Railways and the Challenge from Road Haulage, 1919-1939," pp. 101-120

⁶¹ Gourvish, *British Railways 1948-1973*; J. Quail, "Accounting's Motive Power: The Vision and Reality for Management Accounting on the Nationalised Railways to 1959," *Accounting, Business and Financial History*, 16 (2006), pp. 419-446.

⁶² M. Casson, *The World's First Railway System: Enterprise, Competition and Regulation on the Railway Network in Victorian Britain* (Oxford: Oxford University Press, 2009).

⁶³ R. Roth and C. Divall, ed., *From Rail to Road and Back Again?: A Century of Transport Competition and Interdependency* (Farnham: Ashgate, 2015).

The Railways: Nation, Network and People, which considers the socio-economic and technological development of Britain's railways, they incorporate much of the when and how, but tend to skim over the why.⁶⁴ The need to establish a context for transport organisation and operation in Britain thus presents a historiographical problem for this thesis to address. Put simply, there is room within the existing historiography for an account that considers the purpose of transport within the economy, and acknowledges that the business of logistics cannot, and does not, operate in a vacuum. Furthermore, this approach to the goods transport problem has been made elsewhere in Europe, having been inspired by the work of Richard Vahrenkamp in his account of Germany's inland freight networks, *The Logistics Revolution*.⁶⁵

Vahrenkamp considers the complex linkage between transport and the growth of mass consumption between 1880 and 2012 by using the German retail sector to combine the evolution of supply chain management with rising consumer affluence and demand for a variety of consumer goods.⁶⁶ Vahrenkamp argues that mass consumerism was an effective stimulus for change within the transport industry, which made a transition from an internalised 'auxiliary function ...to an independent [external] factor of production' during the mid-twentieth century as business enterprises gradually outsourced their logistical requirements and concentrated on core operations.⁶⁷ The example of Germany illustrates that cost, flexibility and the management of distribution drove supply chain innovation, which in turn relied upon stability in external factors including politics and wider society.⁶⁸ Vahrenkamp's approach also raises the broader issue of shifting supply chain governance over time, which presents a convenient method for explaining the changes in distribution.

1.3 Sources

Initial scoping exercises indicated that the available primary source material is diverse in quality and quantity, and ranges from administrative records and government legislation to statistics. However, the quality of available goods transport records has hindered scrutiny, as unsystematic data collection has meant that individual commodities were only

⁶⁴ Bradley, *The Railways*.

⁶⁵ R. Vahrenkamp, *The Logistics Revolution: The Rise of Logistics in the Mass Consumption Society* (Cologne: Josef Eul Verlag, 2012).

⁶⁶ Vahrenkamp, *The Logistics Revolution*, pp. 29-45.

⁶⁷ Vahrenkamp, *The Logistics Revolution*, p. 255.

⁶⁸ Vahrenkamp, *The Logistics Revolution*, p. 45.

selectively recorded.⁶⁹ The railways are an important case in point, as mineral and livestock traffic are clear, yet sundry items such as food was aggregated as ‘merchandise’ to frustrate detailed analysis.⁷⁰ Road transport has fared worse, as there was no statutory requirement for individual goods haulage firms to retain records of loadings and distances travelled for more than six months until 1939.⁷¹ Road data thus depends upon the survival of records kept by individual businesses, thus hindering comparisons between road or rail at national level.⁷²

This thesis is therefore concerned with providing an empirical analysis of surviving written archival material. Records held at the NRM include railway company magazines, which provide an important source of information about food or any other aspect of rail transport.⁷³ Championed by Michael Heller, company magazines are an essential resource for acquiring a managerial perspective of the economic, political and social issues affecting the company.⁷⁴ Railway company magazines therefore illustrate a top-down management perspective of the services rendered to traders, justifications for the approaches adopted, and how the various railway companies imagined their role within the supply chain.

Other publications such as *The Railway Magazine* and *Modern Transport* provide commentary upon the transport successes and failures to improve services and adopt new technologies to attract and retain customers.⁷⁵ Similarly, material held at The National Archives (TNA) include railway company memoranda and marketing ephemera, and provides a strategic perspective of freight transport that highlights where food fitted within the overall business. Similarly, technological developments undertaken by the railways before and after nationalisation in 1948 can provide a crude indicator of where the traffic generated by Britain’s food industries fitted within its priorities. Finally, these documents provide an invaluable resource for ascertaining the effort expended in meeting road competition for existing traffic flows.

The Commercial Motor provides a broad, if sometimes bellicose account of rail and road competition, and its analysis of the effects of government legislation upon the road

⁶⁹ Walker, *Road and Rail*, p. 15.

⁷⁰ For example, British Transport Commission (BTC), *Transport Statistics* (London: BTC, 1948-1954).

⁷¹ Barker and Gerhold, *The Rise and Rise of Road Transport*, p. 1.

⁷² As exemplified in: Scott, “British Railways and the Challenge from Road Haulage,” pp. 138-155.

⁷³ *Great Western Railway Magazine* (London: Great Western Railway, 1920-1947); *LMS Railway Magazine* (London: London, Midland and Scottish Railway, 1923-1939); *London and North Eastern Railway Magazine* Vols. 17-37 (London: London and North Eastern Railway, 1927-1947); *Southern Railway Magazine* (London: Southern Railway, 1923-1947); *British Railways Magazine* (London: British Transport Commission, 1949-1963).

⁷⁴ M. Heller, “Company Magazines: An Overview, 1880-1940,” *Management and Organizational History*, 3 (2008), pp. 179-196.

⁷⁵ Railways Act, 1921, 11 & 12 Geo. 5, c. 55; The Transport Act, 1947, 10 & 11 Geo. 6, c. 49; *The Railway Magazine*, Vols. 49-122 (1920-1975); *Modern Transport*, Vols. 2-100 (1920-1968).

haulage sector provides a counterpoint to the narrative portrayed within railway company magazines.⁷⁶ The publication's comprehensive coverage of the environment in which road haulage operated permits reflection upon the role of the user in driving technological development and organisational innovation in road haulage. Therefore, accounts of road haulage used by specific food traders and suppliers makes *The Commercial Motor* a valuable resource for ascertaining the circumstances surrounding any modal shift to the lorry.

Supplementing the exploration of the transport sector's role in food distribution are publications and archival material produced by the food industries themselves. This thesis uses the archives of firms such as United Dairies, Rowntree and retailers such as Marks & Spencer and the Co-operative to review their use of transport and how it was developed over time according to the needs of each firm. However, this material provides only a small sample of a potentially richer archive, as board reports have sometimes remained out of reach of the author because of ongoing commercial sensitivities. Corporate archives are therefore augmented by pamphlets, company magazines and trade press, which all provide insight into the priorities of the firm when organising rail and road transport.⁷⁷

Archival material pertaining to producers of raw food products is limited because of the fragmentation of the domestic agricultural industry. However, the relationship between farmer and transport is ascertained through material held at the Museum of English Rural Life (MERL), Reading, which includes the National Farmers' Union's (NFU) minutes and reports.⁷⁸ Documents held at TNA on behalf of the Ministry of Agriculture, Food and Fisheries and the now-defunct agricultural marketing boards provide a further source of information for specific commodities.⁷⁹ The Milk Marketing Board's (MMB) transport files can be readily accessed, although are 'not on public record' and hence subject to strict copyright restrictions. Restrictions notwithstanding, they highlight the impact of geography, politics and transport cost, thus indicating both practical and administrative reasons for a producing industry's modal shift to road haulage.

Transport and food-specific material is supplemented by documents produced by the government about the status of Britain's food supply throughout the period. Various Parliamentary inquiries into aspects of food distribution have considered the effect of

⁷⁶ *The Commercial Motor*, Vols. 30-141 (1920-1975).

⁷⁷ For example: *The Grocer and Oil Trade Review*, Vols. CXVII-CLXI (1920-1942); P. W. Royle, *Transport in the Cooperative Movement and the Organisation of a Cooperative Society's Transport Department* (Manchester: Cooperative Union Ltd., 1921).

⁷⁸ Museum of English Rural Life (MERL): SR NFU/AD1, National Farmers' Union Cyclos Vols. I-LXXXVI (1920-1942).

⁷⁹ The JV series of files at The National Archives comprises the records of the Milk Marketing Board, which was established in 1933.

transport upon the cost of living, a factor prevalent in reports analysing the forces influencing the retail price of domestic food products.⁸⁰ These reports demonstrate the government's general interest in Britain's food supply, and describe moves to regulate distribution and achieve cost-efficiency through economies of scale during the inter-war period. Equally, consideration of government policy in relation to foreign trade provides another perspective in terms of the role of transport in competition between the domestic producer and importers.

1.4 Themes

Whilst the period 1919 to 1975 witnessed the widespread transition from rail and horse-based goods distribution to road haulage, an exploration of the reasons behind this change is essential. The themes emerging from the literature provide important anchor points for analysing the changing relationship between food distribution and transport, which include the geography of supply and demand, transport competition, cost in relation to service and the governance of Britain's food supply chain. Similarly, they will reveal how a post-war shift from goods supply to supply chain management produced a seismic shift in the character of distribution through a fundamental restructuring of logistics based upon cost, economy of scale and speed that was in part underpinned by road network development.⁸¹

Geography

The food trade is influenced by the geography of supply and demand, which determines the mode of transport used and governs the complexity of the distribution operation. Although the cases examined within this thesis are varied, they all display an urban focus. The London market is particularly prominent in the milk and meat trades, with firms established in the regions to specifically meet the capital's demand for these products. The location of supply has also proved to be an important determinant for transport, with long-distance, bulk flows of food from port or country milk depot initially favouring rail, whilst the crowded urban environment provided a more complex logistical challenge that favoured a more flexible form of transport. In contrast, Rowntree's distribution operation explores the challenge of dispatching goods nationwide from a specific location, and the

⁸⁰ For example, Ministry of Agriculture, Departmental Committee on Distribution and Prices of Agricultural Produce: Final Report, Cmd. 2008 (1924).

⁸¹ R. Clough, "Retail Change: A consideration of the UK food retail industry, 1950-2010," (PhD thesis, Middlesex University, 2002), p. 119; Humphery, *Shelf-Life*, pp. 72-75.

extent to which rail and road transport suppliers attempted to meet the manufacturer's requirements. The geographical spread of the retail sector throughout Britain meant that route inflexibility and high rates at shorter distances had placed the railways at a disadvantage, ensuring that a close relationship with road-based transport was established at an early stage.⁸² Consequently, the concept of local, service-based competition between retailers is also explored, as home delivery encompassed goods conveyance over shorter distances. Finally, the thesis will consider the extent to which the long-term use of road transport had provided foundations for the widespread adoption of lorry-based distribution after the Second World War.

Competition and regulation

The theme of competition combines transport regulation and operation, which provides a background to *the individual cases under review*. An influential article focusing upon the inter-war competition between rail and road for high-value merchandise traffic is provided by Scott, who asserts that regulatory forces retarded Britain's railway industry when competing with road haulage.⁸³ The consequence was railway 'innovation' through lobbying for the regulation of road transport and the improvement of services through the introduction of containerisation.⁸⁴ The potential race to the bottom posed by the rail and road competition for traffic gave rise to demands for greater transport coordination, already defined as the allocation of traffic to the mode best suited to the characteristics and circumstances of a particular commodity, to provide stability whilst achieving the daily supply and distribution of goods efficiently and cheaply.⁸⁵

The result was the statutory amalgamation of over 100 railway companies in 1923 and the passing of the Road and Rail Transport Act in 1933 to regulate road transport as a prelude to encouraging greater collaboration with rail. Government control during the Second World War facilitated transport rationalisation, as R. J. Hammond's multi-volume account of the administration of Britain's wartime food supply highlights.⁸⁶ The nationalisation of the railways and long-distance road haulage from 1948, succinctly covered by Michael Bonavia in *The Nationalisation of British Transport*, permits an

⁸² For example, see T. Gibson, *Road Haulage by Motor in Britain: The First Forty Years* (Aldershot: Ashgate Publishing, 2001), p. 143.

⁸³ Scott, "British Railways and the Challenge from Road Haulage, 1919-1939," pp. 101-120.

⁸⁴ Divall, "Conceiving Distribution in the United Kingdom," p. 92.

⁸⁵ G. Crompton, "Good Business for the Nation: The Railway Nationalisation Issue, 1921-1947," *The Journal of Transport History*, 3rd series, 20 (1999), p. 141; T. Gibson, *Road Haulage by Motor in Britain: The First Forty Years* (Aldershot: Ashgate, 2001), p. 171.

⁸⁶ R. J. Hammond, *History of the Second World War- Food Vols. I-III* (London: HMSO, 1951-1962).

analysis of the extent to which government policy might have affected the speed at which the modal shift from rail to road took place.⁸⁷

The traders using transport were also subject to regulation, which often reflected the state of competition, supply and demand for the product under review. This is exemplified by the issue of free trade, a key concern for successive British governments between 1919 and 1939 whilst pursuing consumer benefit and markets for domestically manufactured goods, yet falling world food prices and a depressed domestic agricultural industry prompted a series of debates on whether tariffs should be applied to imported produce.⁸⁸ A corollary of the debate was whether transport helped or hindered traders throughout the 1920s; this intensified as subsequent measures to improve the resilience of British agriculture included the establishment of produce marketing boards to protect the domestic industry. The issue of supply chain governance and its effect upon commodity transport is raised again; this thesis therefore hypothesises that the producer's ability to drive change depended upon the ability to negotiate as a unified collective.⁸⁹

The thesis also touches upon food hygiene regulation, which has been the subject of research by Michael French and Jim Phillips, and its effect upon the development of technology for the carriage of food products.⁹⁰ The theme of regulation is also associated with the process of industrial concentration into fewer and larger oligopolies capable of governing the entire supply chain, with the government intervening to control the market in wartime or to remove hindrances to effective competition as a result of trader pressure. Consequently, trader competition and regulation combined with demand for lower cost and better service to produce a hypothesis that shifting governance within Britain's food supply chain was a key influence in the trader's choice of transport and its organisation.

⁸⁷ M. Bonavia, *The Nationalisation of British Transport: The Early History of the British Transport Commission, 1948-1953* (New York: St. Martin's Press, 1987).

⁸⁸ A. F. Cooper, *British Agricultural Policy, 1912-36: A Study in Conservative Politics* (Manchester: Manchester University Press, 1989), pp. 145-146; Perren, *Agriculture in Depression*, pp. 68-69 and Whetham, *The Agrarian History of England & Wales Vol. VIII*, p. 234.

⁸⁹ Martin, *The Development of Modern Agriculture*, pp. 8-35.

⁹⁰ M. French and J. Phillips, *Cheated not Poisoned?: Food Regulation in the United Kingdom, 1875-1938* (Manchester: Manchester University Press, 2009), pp. 185-186.

Cost and service

The themes of transport cost and service from the perspective of the provider have been considered in detail by Scott, Divall and others.⁹¹ The difficulty in obtaining specific data regarding actual costs means that the empirical evidence used within this thesis predominantly features trader correspondence rather than specific price data. However, the debates surrounding transport cost, speed, service and flexibility from a demand-side perspective would permit an assessment of the strength, complexity and success of the relationships forged between trader and transport. Consequently, it is necessary to assume that cost control was a crucial factor for traders maintaining market position against competitors, and the pursuit of ‘value for money’ was reflected in their approaches to transport organisation.

The railway strikes that took place in 1919, 1926 and 1955, as well as the Second World War are therefore important cases for analysis, as they reveal trader perceptions of service provision under exceptional circumstances. It is possible to view subsequent experimentation and adoption of road transport through the lens of reliability and convenience, the latter incorporating operational aspects such as the cost to individual concerns for purchasing the expensive and heavy packaging normally associated with rail transit. The user’s perception of the quality of service received for the charges paid is particularly obvious in the rail distribution of agricultural commodities, becoming regular points of dispute for the National Farmers’ Union and the Milk Marketing Board (MMB).

Similarly, the risk and inconvenience of product spoilage during rail transit gave traders cause for concern, although this problem was also inherent in road distribution. This aspect of service quality paves the way for considering how rail and road transport addressed their shortcomings, particularly when investment available for the construction of specialist vehicles depended upon prevailing market conditions within the food sector. Therefore, an analysis of the services provided by Britain’s railways and road hauliers will determine how both responded to shifts in supply chain governance between 1919 and 1975. However, before placing these cornerstones of distribution within specific cases, the next chapter will contextualise food logistics through a supply-side account of the development of goods transport throughout the period.

⁹¹ See P. Scott, “The Growth of Road Haulage, 1921-1958: An Estimate,” *Journal of Transport History*, 19 (1998) and “British Railways and the Challenge from Road Haulage, 1919-1939,” pp. 101-120; Divall “Conceiving Distribution in the United Kingdom,” pp. 92-93.

Chapter 2 - Goods by rail and road, 1919-1975

2.1 Introduction

The introduction has indicated that the historiography of inland goods transport can be developed further. The ‘mobility turn’ has produced a nuanced historiography for passenger transport and public engagement with transport, yet the mobility of things, rather than people, has been overlooked.⁹² Whilst there are notable exceptions, such as Richard Vahrenkamp’s case study of Germany in *The Logistics Revolution*, the historiography of goods transport in Britain has deviated little from the themes of regulation, technology and competition.⁹³ A similar situation is found in the history of road haulage; the weight of research has favoured rail transport, which benefits from a well-defined body of archival material held at Kew, York and elsewhere.⁹⁴ In contrast, the treatment of road haulage is constrained by the fragmentary nature of the material; as chapter 1 suggests, the lack of official requirement for published documentation before 1933, coupled with the commercial sensitivities of a competitive business has meant that evidence detailing the growth and administration of private hauliers is sparse.⁹⁵

Despite these shortcomings, it is necessary to contextualise the ongoing relationship between goods transport and its users through a narrative account that focuses upon transport supply and provides an overview of the systems and structures available to the food trade throughout the period. This chapter begins by establishing the character of inland goods transport in 1919, and uses Gilbert Walker’s account of rail and road transport to explain how regulation implemented during the nineteenth century influenced the course of competition.⁹⁶ It will also explain that as the First World War and subsequent railway strikes accelerated the growth of road transport, the railway industry initially failed to foresee the extent to which road transport would compete for traffic. The chapter also explores the railway industry’s technological and political responses to road competition and the challenges faced in meeting the expectations of the trading community.

⁹² C. Horner and J. Greaves, “Mobility Spotting: Running Off the Rails in the Transport Historiography of the United Kingdom” in *Mobility in History: Themes in Transport* ed. G. Mom, P. Norton, G. Clarsen and G. Pirie (Neuchâtel: Éditions Alphil-Presses universitaires suisses, 2010), p. 154.

⁹³ R. Vahrenkamp, *The Logistics Revolution: The Rise of Logistics in the Mass Consumption Society* (Cologne: Josef Eul Verlag, 2012).

⁹⁴ Horner and Greaves, “Mobility Spotting,” pp. 151-152.

⁹⁵ Horner and J. Greaves, “Mobility Spotting,” p. 154, p. 156.

⁹⁶ G. Walker, *Road and Rail: An Enquiry into the Economics of Competition and State Control* (London: George Allen and Unwin, 1942).

Table 1**Ten-yearly freight train receipts 1913, 1925-1975**

	1913	1925	1935	1945	1955	1965	1975
Freight receipts at current prices (£ thousands)	64,255	103,676	86,237	165,700	274,244	225,513	244,824
Freight receipts at 1975 prices (£ thousands)	883,834	751,372	731,116	852,532	857,728	520,533	

Sources: British Railways Board, *Report and Accounts* (London: HMSO); D. L. Munby and A. H. Watson, *Inland Transport Statistics: Great Britain, 1900-1970, Volume 1* (Oxford: Oxford University Press, 1978); J. O' Donoghue, L. Goulding and G. Allen, "Consumer Price Inflation Since 1750" in *Economic Trends No. 604* (London: HMSO, 2004), pp. 38-46.

Note: The table presents a crude indication of equivalent values set at 1975 prices for charting the performance of rail freight receipts in real terms. These have been adjusted using Office of National Statistics retail price index (RPI) data. However, it should be noted that inaccuracies stem from the range of goods and services used in its compilation changing over time, whilst transport reflects that purchased by the consumer. Despite this issue, RPI covers a longer continuous period than alternatives including Charles Feinstein's price index for public authorities goods and services in Britain, or CPI.⁹⁷

The chapter will also explore the subsequent development of transport regulation, including railway reorganisation under the Railways Act (1921) and the debates surrounding the Road and Rail Traffic Act (1933).⁹⁸ Both attempted to address the challenges facing rail and road transport; the former in terms of duplication of effort and the latter inefficient, unregulated competition. Throughout the period covered by this thesis, the railways experienced a gradual 46 per cent decline in total goods traffic from 367 million tons in 1913, a key year for statistical comparisons, to 205 million tons in 1970.⁹⁹ Although a crude measure, **Table 1** shows that an adjustment of the revenue received in 1913 to 1975 prices using retail price index data suggests a real-terms decline of 72 per cent in the value of railway receipts over the period. Whilst peaks are observed

⁹⁷ For example, C. H. Feinstein, *National Income, Expenditure and Output of the United Kingdom, 1855-1965* (Cambridge: Cambridge University Press, 1972), pp. 77-79 and Table 61.

⁹⁸ R. Edwards, "Shaping British Freight Transport in the Interwar Period: Failure of Foresight or Administration, 1919-1934?" in *From Rails to Roads and Back Again? A Century of Transport Competition and Interdependency*, ed. R. Roth and C. Divall (Aldershot: Ashgate, 2015), pp. 77-90.

⁹⁹ Sources: British Railways Board, *Report and Accounts* (London: HMSO, 1975) and Ministry of Transport, *Railway Returns* (London: HMSO, 1921).

in 1945 and 1955, the former stemmed from heavy wartime traffic and was eroded by a government levy, whilst the latter occurred as British Railways (BR) was building an operating deficit.¹⁰⁰

The service-based reasons behind this decline will form the basis of the individual case study chapters; instead, this chapter focuses upon the railway industry's attempts to address arrest decline, beginning with the 1938 'Square Deal' campaign to remove restrictive regulations and simplify rates-setting. The role of the Second World War in pausing competition and facilitating post-war planning is also considered, whilst the problems raised by transport nationalisation and rail-road coordination are discussed.¹⁰¹ Finally, the post-nationalisation relationship between the railways and road haulage will be considered through the 1955 'Modernisation Plan'; Britain's motorway construction programme, the *Reshaping of the Railways* reports and the implications of subsequent Transport Acts in 1953, 1962 and 1968.

2.2 Monopoly prevention and industrial action: railway rates regulation and the expansion of road haulage

Before 1914, road transport in Britain was a localised concern that complemented the rivers, canals, coastal shipping and the railways, with poor road conditions and horse-drawn transport restricting its use for distribution over long distances. The railway industry's ability to convey goods in bulk nationwide had secured its position as principal inland transport network by the mid-nineteenth century, creating a virtual monopoly over inland transport and hence conditions for exploitation.¹⁰² In consequence, a series of Acts were passed between 1854 and 1894 to regulate the industry's relationship with traffic consigners. Although Britain's railways were considered 'common carriers' of most goods, this was subject to restrictive terms and conditions of carriage that placed risk upon the consigner. Limiting the potential for abuse in this regard was the aim of the Railway and Canal Traffic Act (1854), which also imposed obligations to accept and provide

¹⁰⁰ R. Bell, *History of the British Railways during the War, 1939-1945* (London: *The Railway Gazette*, 1945), pp. 10-19; T. Gourvish, *British Railways, 1948-73: A Business History* (Cambridge: Cambridge University Press, 1986), p. 181.

¹⁰¹ G. Crompton, "The Railway Companies, 1920-1950" in *The Political Economy of Nationalisation in Britain, 1920-1950*, ed. Millward and Singleton (Cambridge: Cambridge University Press, 1995), p. 141.

¹⁰² For an account of the development of transport in Britain see P. Bagwell and P. Lyth, *Transport in Britain: From Canal Lock to Gridlock* (London: Hambledon and London, 2002); Walker, *Road and Rail*, p. 40; P. Scott, "British Railways and the Challenge from Road Haulage, 1919-1939," *Twentieth Century British History*, 13 (2002), p. 103. For an in-depth account of the development of railway rates regulation in Britain, see S. G. Gibbs, "'Of Pious Memory': Railway Regulatory Tribunals in the UK, 1854-1939," (PhD thesis, University of York, 2013).

facilities for the conveyance of any traffic offered and to publish all rates for public scrutiny.¹⁰³ Furthermore, railway companies could display no ‘undue preference’ towards one trader over another to enforce the fair and impartial treatment of all users.¹⁰⁴

The Railway and Canal Traffic Act (1888) empowered Railway and Canal Commissioners at the Board of Trade to devise maximum goods rates for banding within a published ‘Standard Classification of Rates’.¹⁰⁵ This comprised eight classes, with low rates maxima for easily-bulked commodities including minerals and higher for manufactured goods and part or wagon-load traffic, with each established through consultation with traders and the railway companies. Aside from the maxima, railway companies were also free to charge cheaper ‘exceptional’ rates for traffic forwarded at a trader’s own risk, whilst a further safeguard was provided by successive post-1900 Conservative and Liberal governments barring railway company mergers which created regional monopolies.¹⁰⁶ Although the majority of goods traffic was concentrated amongst larger companies such as the London & North Western and North Eastern Railways (LNWR and NER), Philippe Thalmann’s survey of goods transport notes that government policy relied upon company rivalries to drive improvements which benefited the user.¹⁰⁷

Companies including the Great Western (GWR) and London & South Western Railways could vie for a finite quantity of traffic within their respective areas of operation, resulting in exceptional rates being offered for any traffic experiencing competition from rival companies.¹⁰⁸ These discounts were expected to encourage competition between Britain’s railway companies, thus compensating for the fact that the railways experienced minimal external competition for traffic because of the lack of a viable transport alternative. However, the railway company’s obligation to observe ‘no undue preference’ meant that reduced rates were granted to all traders engaged in similar business within a

¹⁰³ Railway and Canal Traffic Act, 1888, 51 & 52 Vict., c. 25, s. 33; Gibbs, “‘Of Pious Memory’,” pp. 72-73.

¹⁰⁴ Gibbs succinctly considers this as ‘equality of treatment’ between service users. See Gibbs, “‘Of Pious Memory’,” pp. 77-78 and pp. 176-199.

¹⁰⁵ The Act in question was the Railway and Canal Traffic Act, 1888, 51 & 52 Vict., c. 25, although the issue of railway rates maxima had been debated since at least 1844. See Gibbs, “‘Of Pious Memory’,” p. 66, p. 73, p. 202. For the appointment of the Commissioners, see pp. 143-154.

¹⁰⁶ J. Simmons, *The Victorian Railway* (London: Thames & Hudson, 1991), p. 265; P. Bagwell, *The Transport Revolution, 1770-1985 2nd Edition* (London: Routledge, 1988), pp. 166-170; P. Thalmann, *The Dynamics of Freight Transport Development: A UK and Swiss Comparison* (Aldershot: Ashgate, 2004), p. 17. The total number of companies is open to dispute due to the number of light, joint and amalgamated railways encompassed by the Act.

¹⁰⁷ Thalmann, *The Dynamics of Freight Transport Development*, p. 41.

¹⁰⁸ Gibbs, “‘Of Pious Memory’,” p. 205.

locality.¹⁰⁹ Indiscriminate use of this concession therefore harboured the risk that traders would expect an offer of discounted rates as a matter of course.¹¹⁰

Despite being introduced in Britain in the 1890s, the development of the lorry was gradual; Barker and Gerhold indicate that trials to break the railway monopoly over goods transport between Liverpool and Manchester between 1898 and 1900 demonstrated that the internal combustion engine was not yet capable of supplying the necessary power to move heavy goods.¹¹¹ Indeed, the need for further development ensured that the horse remained the predominant means of general road haulage as late as 1913.¹¹² Although urban road improvements and decreasing manufacturing costs prompted some use by traders in the distribution of light and perishable goods, the widespread adoption of the motor lorry was delayed by the outbreak of the First World War, which also precipitated a decline in coastal shipping to maintain the position of the railways as principal mode of distribution.¹¹³ However, the prospect of war in 1914 also raised fears that the number of railway companies would compromise efficiency.¹¹⁴

To ensure network cohesion during the wartime emergency, the railways were brought under government control through the establishment of the Railway Executive Committee (REC).¹¹⁵ By steering Britain's railway network through the considerable operational challenges posed by the First World War, including port congestion and wagon shortages, the Committee had proved that a railway network managed by a single executive organisation was efficient. Consequently, the year 1919 proved pivotal for British transport for two reasons. Firstly, the Liberal coalition government maintained its strategic control over Britain's railways before establishing a new, permanent transport ministry, the lack of which had prevented the government from establishing precisely what '...great changes [there] should be in order to procure the best possible system of private

¹⁰⁹ Gibbs succinctly considers this as 'equality of treatment' between service users. See Gibbs, "Of Pious Memory," pp. 77-78 and pp. 176-199; Railway and Canal Traffic Act, 1888, 51 & 52 Vict., c. 25, s. 27.

¹¹⁰ Walker, *Road and Rail*, p. 62.

¹¹¹ T. Barker and D. Gerhold, *The Rise and Rise of Road Transport, 1700-1990* (Cambridge: Cambridge University Press, 1995), p. 63.

¹¹² Barker and Gerhold, *The Rise and Rise of Road Transport*, p. 63; P. Scott and C. Reid, "The White Slavery of the Motor World: Opportunism in the Interwar Road Haulage Industry," *Social History*, 21 (2000), p. 302.

¹¹³ T. Gibson, *Road Haulage by Motor in Britain: The First Forty Years* (Aldershot: Ashgate Publishing, 2001), p. 61. The decline of the coastal shipping industry as a result of the German U-Boat campaign during the First World War meant that the railways enjoyed a substantial general monopoly over long-distance transport in Britain between 1920 and 1939. For an account of the history of coastal shipping in Britain and its decline, see D. Aldcroft, "The Eclipse of Coastal Shipping, 1913-1921" in *Coastal and Short Sea Shipping*, ed. J. Armstrong (Aldershot: Ashgate, 1996).

¹¹⁴ D. Aldcroft, *British Railways in Transition: The Economic Problems of Britain's Railways since 1914* (London: Macmillan, 1968), p. 29. See also J. A. B. Hamilton, *Britain's railways in World War I* (London: George Allen and Unwin, 1968).

¹¹⁵ The Committee comprised management personnel from the largest railway companies, thus ensuring some degree of continuity during the wartime emergency. Brig-General Sir H. O. Mance, *The Road and Rail Transport Problem* (London: Pitman, 1941), p. 3.

transport in this country'.¹¹⁶ The Ministry of Transport was created in May, with its first Minister, Eric Geddes, appointed to embark upon a reorganisation of the railways.¹¹⁷

Although the government had briefly considered nationalising the railways on the grounds that Britain's smaller railway companies had been weakened by competition, which had also compromised ease of use before the war, Geddes asserted that network cohesion in peacetime could be achieved through a substantial reduction in the number of companies.¹¹⁸ Secondly, and of more immediate concern, was the commencement of industrial action by the Associated Society of Locomotive Engineers and Firemen (ASLEF) and the National Union of Railwaymen (NUR) over government-sanctioned pay cuts on 26 September 1919; the ensuing disruption would damage the reputation of the railways at a critical point in the development of road goods transport in Britain.¹¹⁹

The Railway Gazette expressed the scale of the disruption experienced during the strike through the number of rail services run. On the first day, 27 September, only 40 trains ran throughout Britain, whilst none ran on the second day.¹²⁰ Although the total number of trains rose to 3,480 by 3 October as employees began to return to work, the disruption was such that the REC, which continued to run Britain's railways on the government's behalf, requested that businesses 'restrict their deliveries for a few days' whilst the goods backlog was cleared.¹²¹ Consequently, the *Gazette* noted that 'the evil effects of the [strike] will be felt for many weeks to come', and estimated that it would take over four months before normal service was resumed.¹²²

Although evidence of the strike's impact focuses upon the inconvenience to traders and the railway industry's difficulties, the organisation of an emergency road haulage operation prompted *The Railway Gazette* to comment that 'the strikers left the motor lorry out of their calculations'.¹²³ This was because the First World War had accelerated the development of the lorry; operational range was extended to 60 miles.¹²⁴ Purchases by the army during the First World War had stimulated technological development, and the sale of ex-military lorries after the 1918 Armistice facilitated a rapid

¹¹⁶ HC Deb 26 February 1919, vol 112, col 1821.

¹¹⁷ Sir Eric Campbell Geddes (1875–1937) joined the North Eastern Railway (NER) in 1904, and became its Chief Goods Manager in 1907, and Deputy General Manager in 1911. Geddes subsequently became director of military railways at the War Office, and was elected a Conservative Member of Parliament in the 1918 General Election in anticipation of the creation of a new Transport Ministry. K. Greives, *Sir Eric Geddes: Business and Government in War and Peace* (Manchester: Manchester University Press, 1989), pp. 69-107.

¹¹⁸ G. Crompton, "Good Business for the Nation: The Railway Nationalisation Issue, 1921-1947," *Journal of Transport History, Third Series*, 20 (1999), pp. 140-142.

¹¹⁹ Editorial, *Great Western Railway Magazine*, XXXII (1920), p. 4.

¹²⁰ *The Railway Gazette*, XXXI (10 October 1919), p. 437.

¹²¹ *The Railway Gazette*, XXXI (10 October 1919), p. 437 and p. 439.

¹²² *The Railway Gazette*, XXXI (10 October 1919), p. 439.

¹²³ *The Railway Gazette*, XXXI (3 October 1919), p. 407.

¹²⁴ Scott, "British Railways and the Challenge from Road Haulage, 1919-1939," p. 103.

expansion of the road haulage sector as demobilising trained personnel purchased vehicles and offered their services to traders for ‘hire or reward’.¹²⁵ Peter Scott notes that demand for lorries had been fuelled by a post-war economic boom and a desire amongst traders to reduce the impact of inflation upon costs; consequently, over 60,000 vehicles were available for purchase and participation in the substitution of rail with road haulage.¹²⁶

Although the strike achieved its goal of maintaining railway wages at wartime levels, contemporary newspaper reportage suggested that it proved the inability of the railways to provide a consistently reliable service. The *Gazette* itself summarised the mood by suggesting that the nation ‘cannot ...allow itself to be suddenly “held up” by half a million or more of its members’, whilst traders now ‘considered [road transport] as equal competition’ with the railways.¹²⁷ Their reputation was further eroded by the poor condition of railway infrastructure after four years of war; indeed, a wagon shortage coinciding with a glut of peacetime goods traffic prompted the imposition of embargoes as the backlog at goods depots was reduced.¹²⁸ Whilst the small size and limited range of existing lorries made it ‘inconceivable that the road motor can ever deal with the heavier classes of traffic as an effective equivalent of the railway’ in the short term, the emergency demonstrated that the mode possessed flexibility and convenience in requiring less planning to operate an effective door-to-door service.¹²⁹ As Scott indicates, the combination of the strike, the difficulties facing the railways and the onset of a post-war depression in 1921 all provide reasons for the foothold gained by road haulage in short to medium-distance traffic distributed within a 30-mile radius of a haulage depot.¹³⁰

2.3 Railway challenges

The latter points stem from the fact that Britain’s railways experienced a growing financial crisis caused by subsequent wage increases and the continuing post-war maintenance deficit whilst under government control between 1918 and 1922.¹³¹ In an attempt to avert the crisis, an interim Rates Advisory Committee was established to continue the work of

¹²⁵ Gibson, *Road Haulage by Motor in Britain*, p. 119.

¹²⁶ Scott, “British Railways and the Challenge from Road Haulage, 1919-1939,” p. 103; Gibson, *Road Haulage by Motor in Britain*, p. 138.

¹²⁷ *The Railway Gazette*, XXXI (10 October 1919), p. 437 and “Road Transport and Railway Traffic,” p. 440.

¹²⁸ Bagwell, *The Transport Revolution*, p. 227.

¹²⁹ “Road Transport and Railway Traffic,” p. 440. In their concise history on the development of road transport, Theo Barker and Dorian Gerhold suggest that the number of registered goods vehicles increased from 41,000 in 1918 to 100,000 by 1920. See Barker and Gerhold, *The Rise and Rise of Road Transport*, p. 62.

¹³⁰ Gibson, *Road Haulage by Motor in Britain*, p. 119; Scott, “British Railways and the Challenge from Road Haulage, 1919-1939,” p. 103.

¹³¹ Gibson, *Road Haulage by Motor in Britain*, p. 143.

the Railway and Canal Commission on behalf of the Ministry of Transport, which recommended a series of general increases before the reorganisation, or ‘grouping’ of Britain’s railways.¹³² Thomas Gibson cites that general merchandise traffic by rail experienced an average rate rise of 60 per cent in 1920.¹³³ Although implemented at a time of relative economic growth, the intended effect proved elusive for two reasons.

Firstly, wages remained high when a collapse in demand for British-manufactured exports brought economic recession in 1921.¹³⁴ Britain’s railways were thus saddled with an inflated wages bill and higher goods charges whilst traffic was declining, prompting cost-conscious traders to complain of being ‘unable to meet competition [because of] high railway rates’.¹³⁵ Scott indicates that the government-endorsed rate increases ‘led traders to re-evaluate [their transport arrangements] and, in many cases, make a longer term switch to road transport’.¹³⁶ Secondly, the government’s preoccupation with the reorganisation of Britain’s railways suppressed any attempt to address the issue of rail and road competition. Furthermore, the railway industry’s attitude towards road transport was initially ambivalent, as pre-war experience had suggested that road transport was more amenable to a “‘retail” method of trading’ by carrying small quantities of goods, promoting a persistent belief within railway management that both modes of transport had clearly-defined roles within the sphere of inland transport.¹³⁷

¹³² “The Railway Rates Advisory Committee,” *North Eastern Railway Magazine*, X (1920), p. 156.

¹³³ Gibson, *Road Haulage by Motor in Britain*, p. 143; Scott, “British Railways and the Challenge from Road Haulage, 1919-1939,” pp. 103-104; “Rates Advisory Committee,” *North Eastern Railway Magazine*, X (1920), p. 267.

¹³⁴ “In Passing,” *London & North Western Railway Gazette*, 9 (1920), p. 283.

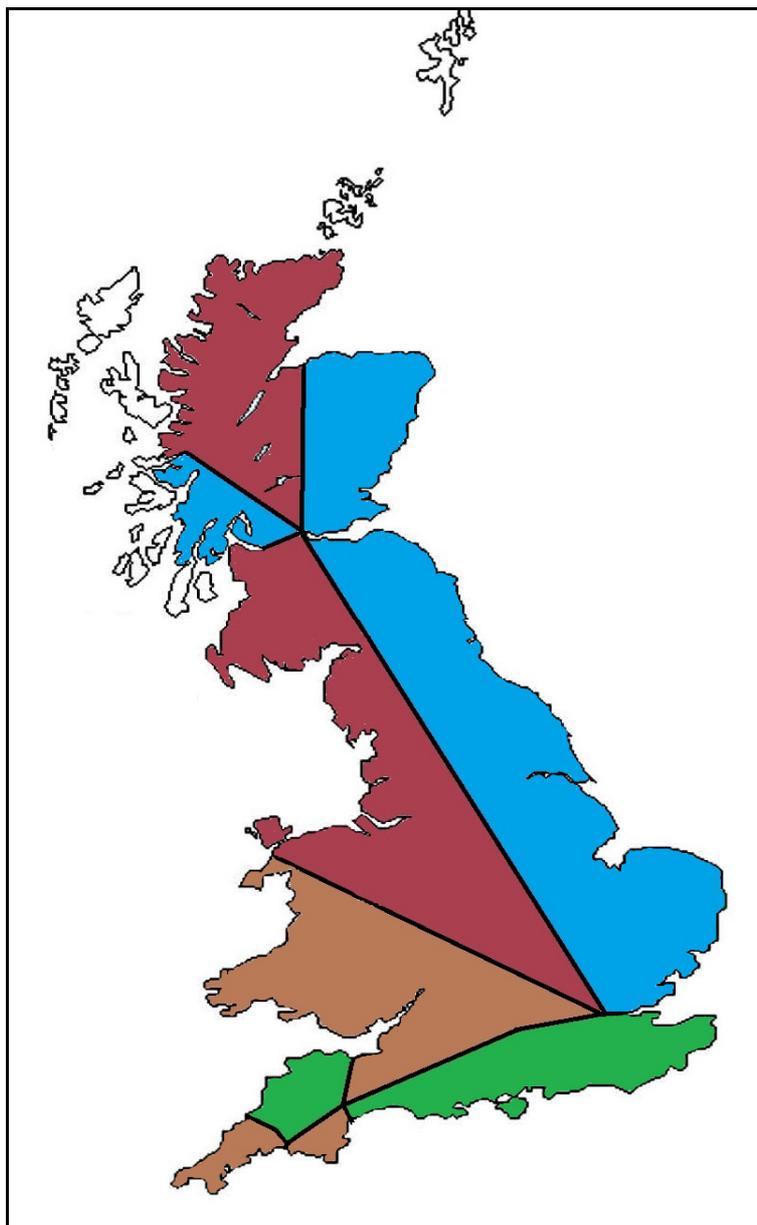
¹³⁵ “How the Increased Railway Rates will Affect Grocers,” *The Grocer and Oil Trade Review*, CXVII (15 January, 1920), p. 3.

¹³⁶ Scott, “British Railways and the Challenge from Road Haulage, 1919-1939,” p. 103.

¹³⁷ Although made in 1928, this statement crystallises the fact that some retailers had adopted road transport. See: “From the General Manager: Railways and Road Transport,” *Great Western Railway Magazine*, XL (1928), p. 49.

Map 1

Britain's 'Big Four' railway companies, 1923



Simplified map illustrating the regional monopolies held by the 'Big Four' railway companies. However, all four companies competed on long-distance routes, with the LMS (maroon) and LNER (blue) vying for the Scotland traffic whilst the GWR (brown) and Southern Railway (green) competed for traffic to the West Country.

A White Paper tabled by the Ministry of Transport in 1920 proposed the reorganisation of Britain's railway industry through voluntary amalgamation schemes; 120 of Britain's private railway companies would be divided between four large groups with regional monopolies to obtain administrative efficiencies, effect economies of scale and compete in long-distance services.¹³⁸ The Railways Bill of 1920 passed into the statute books as the Railways Act (1921), which determined that amalgamation schemes should be completed by January 1 1923.¹³⁹ The reorganisation produced the 'Big Four' railway companies, namely the GWR; London, Midland and Scottish Railway (LMS), London and North Eastern Railway (LNER) and the Southern Railway; their areas of operation are indicated in **Map 1**, above.¹⁴⁰

By restricting competition to the long-distance services, the Act had created local transport monopolies ripe for exploitation by competing forms of transport capable of offering a cheaper service; indeed, Roy Edwards and Scott indicate that few measures were in place to prepare the industry for road competition.¹⁴¹ The scale of the administrative task also placed the railways on the back foot, as two opportunities to address the threat of road competition came to nought. Edwards suggests that the first was the failure to incorporate railway road powers into the 1921 Act.¹⁴² This stemmed from a concern amongst private hauliers that the government had inadvertently enabled the railways to engage in general haulage by loaning lorries for war use. The principle of the railway companies operating general haulage in parallel to its core business was deemed a separate matter to that being addressed by the 1921 Act, and would be the subject of legal analysis and clarification in a separate Parliamentary Bill.¹⁴³

The second opportunity was a Bill tabled jointly by the London and North Western (LNWR) and Midland Railway (MR) companies in 1922, which requested powers to operate door-to-door road haulage as an adjunct to the railway business and to reduce the expense of station handling.¹⁴⁴ Hitherto, the railway industry's road operations were broadly restricted to collection and delivery which fed into the freight operation. The Bill

¹³⁸ See Railways Act, 1921, 11 & 12 Geo. 5, c. 55, First Schedule.

¹³⁹ Failure to achieve voluntary amalgamation was addressed by legislation permitting a Tribunal convened on behalf of the Minister of Transport to force non-compliant railway companies to merge companies into one of the four groups before an appointed day of enactment. Railways Act, 1921, 11 & 12 Geo. 5, c. 55, s. 2.

¹⁴⁰ The Great Western Railway remained substantially the same as pre-grouping, with only small concerns absorbed as part of the amalgamation scheme. As such, the apparent lack of change prompted *Modern Transport's* editor to consider it a 'distinguished enterprise'. "Re-Organisation," *Modern Transport*, VIII (January 6, 1923), p. 2.

¹⁴¹ Edwards, "Shaping British Freight Transport in the Interwar Period," pp. 77-78; Scott, "British Railways and the Challenge from Road Haulage, 1919-1939," pp. 103-104.

¹⁴² Edwards, "Shaping British Freight Transport in the Interwar Period," p. 81.

¹⁴³ Edwards, "Shaping British Freight Transport in the Interwar Period," p. 81.

¹⁴⁴ "Railways and the Roads," *Modern Transport*, VII (January 21, 1922), p. 12.

attempted to overcome the restrictions posed by the railway network's layout by conveying short-distance freight direct by road, thereby saving mileage, wagon-shunting and transshipment whilst providing the trader with an economical service administered by the railway companies.¹⁴⁵ Although the Bill obtained broad Parliamentary support in the face of objections from at least 65 road firms, Edwards cites that the evidence submitted by the Ministry of Transport on a point of detail prompted the railway companies to withdraw.¹⁴⁶

The evidence provided by Sir George Beharrell indicated a concern that the companies had failed to provide sufficient safeguards to ensure that savings accrued from the charging of railway rates for the road operation would be passed to the trader, and not to the railway shareholder.¹⁴⁷ The editor of *Modern Transport*, a weekly publication documenting transport developments, consequently expressed surprise that the railways gave up on the Bill 'when a fair sailing might well have been anticipated'.¹⁴⁸ The railway industry did not resume its campaign to obtain road haulage powers until 1928, prompting Edwards to conclude that the government's decision not to grant them in 1921 was an 'error of omission'.¹⁴⁹ Timely opportunities to expand rail-owned road haulage beyond collection and delivery were therefore lost, raising the hypothesis that the government had failed to grasp the importance of preparing the railways for road competition.

Government intervention in the business of goods transport was also manifest in another aspect of the 1921 Act, namely the overhaul of the railway industry's rate-setting mechanism and its impact upon trader and industry. The Act stipulated that each of the 'Big Four' should achieve an annual 'Standard Revenue' based upon the aggregate net revenue obtained by their constituents in 1913 to cover operating costs.¹⁵⁰ Although the companies were not compelled to reach their aggregate Standard Revenue of £51 million, the Act attempted to restrict the indiscriminate charging of exceptional rates by modifying the rate-setting mechanism to include 21 goods classifications based upon value, with standard charges set according to the principle of 'what the traffic will bear' in each

¹⁴⁵ A *Southern Railway Magazine* article published in 1926 asserted that 'for every mile we had a freight train we perform a mile of freight shunting'. See Sir H. Walker, "Statistics," *Southern Railway Magazine*, IV (1926), p. 36.

¹⁴⁶ Edwards, "Shaping British Freight Transport in the Interwar Period," pp. 84-86; "Railways and the Roads," *Modern Transport*, VII (25 February 1922), p. 12.

¹⁴⁷ Edwards, "Shaping British Freight Transport in the Interwar Period," p. 86; "Transferring the Rail Load to the Road," *Modern Transport*, VII (June 17, 1922), p. 1. Sir John George Beharrell (1873 - 1959) was Assistant Goods Manager under Eric Geddes with the NER. He was appointed to the Ministry of Munitions in 1915 before being appointed director-general of finance and statistics at the Ministry of Transport in 1921. See "Obituary: Sir John Gorge Beharrell," *The Engineer*, 209 (February 27, 1959), p. 342.

¹⁴⁸ "Transferring the Rail Load to the Road," p. 1; Thalmann, *The Dynamics of Freight Transport Development*, p. 8.

¹⁴⁹ Edwards, "Shaping British Freight Transport in the Interwar Period," p. 78.

¹⁵⁰ Railways Act, 1921, 11 & 12 Geo. 5, c. 55, s. 58; Walker, *Road and Rail*, p. 50.

class.¹⁵¹ However, exceptional rates not less than ‘five per cent. or more than forty per cent. below the standard rate chargeable’ were permitted, and could be issued by railway companies without consulting regulatory bodies.¹⁵²

To ensure that due consideration was given to an exceptional rate’s impact upon the prospects of achieving the Standard Revenue, the Minister of Transport was to be informed of rate reductions issued within these percentiles, and any further reduction or rise would be assessed by a Railway Rates Tribunal. The Tribunal was a permanent ‘Court of Record’ employed to scrutinise rate changes with regard to the ‘Standard Revenue’ and against existing anti-monopolistic legislative criteria such as ‘undue preference’, which presented traders with opportunities to object against charges published by the railways in the event that their businesses would be adversely affected.¹⁵³ However, the re-classification of thousands of commodities proved time consuming, and the ‘appointed day’ for implementation was delayed until January 1, 1928.

The revised classification was bureaucratic, rather than inflexible, as any negotiation on exceptional rates followed a due process that prevented the railways from quoting rates expeditiously in the face of road competition.¹⁵⁴ This was because the continuation of the ‘undue preference’ criteria meant that each class of good would experience blanket rate increases or decreases, whilst the publication of all rates presented competitors with a means to undercut the railways. Whilst reorganisation under the 1921 Act presented an opportunity for the railways to accrue savings from economies of scale, the combination of higher charges, expenditure and the continuation of a cumbersome rates structure designed to prevent a rail transport monopoly contrasted starkly with the comparative freedom of road hauliers to set their own rates.¹⁵⁵ This placed pressure upon the railway companies to quote exceptional rates to retain traffic; indeed, by 1930, these would account for 76.52 per cent of the rates charged, thereby undermining the already precarious financial position of the railway industry by creating conditions in which the ‘Big Four’ companies would consistently fail to reach the Standard Revenue.¹⁵⁶

¹⁵¹ Scott, “British Railways and the Challenge from Road Haulage, 1919-1939,” p. 104. Gilbert Walker indicates that £51 million was calculated from ‘the actual net revenue earned by the constituent and subsidiary companies in 1913 plus 5% on capital invested since then, plus 5% on capital which had not become fully remunerative by 1913, plus one-third of the economies resulting from amalgamation’. Walker, *Road and Rail*, p. 20.

¹⁵² Railways Act, 1921, 11 & 12 Geo. 5, c. 55, s. 37.

¹⁵³ “The Railways Bill,” *North Eastern Railway Magazine*, XI (1921), p. 103; Gibbs, “‘Of Pious Memory’,” pp. 256-257; Walker, *Road and Rail*, p. 64.

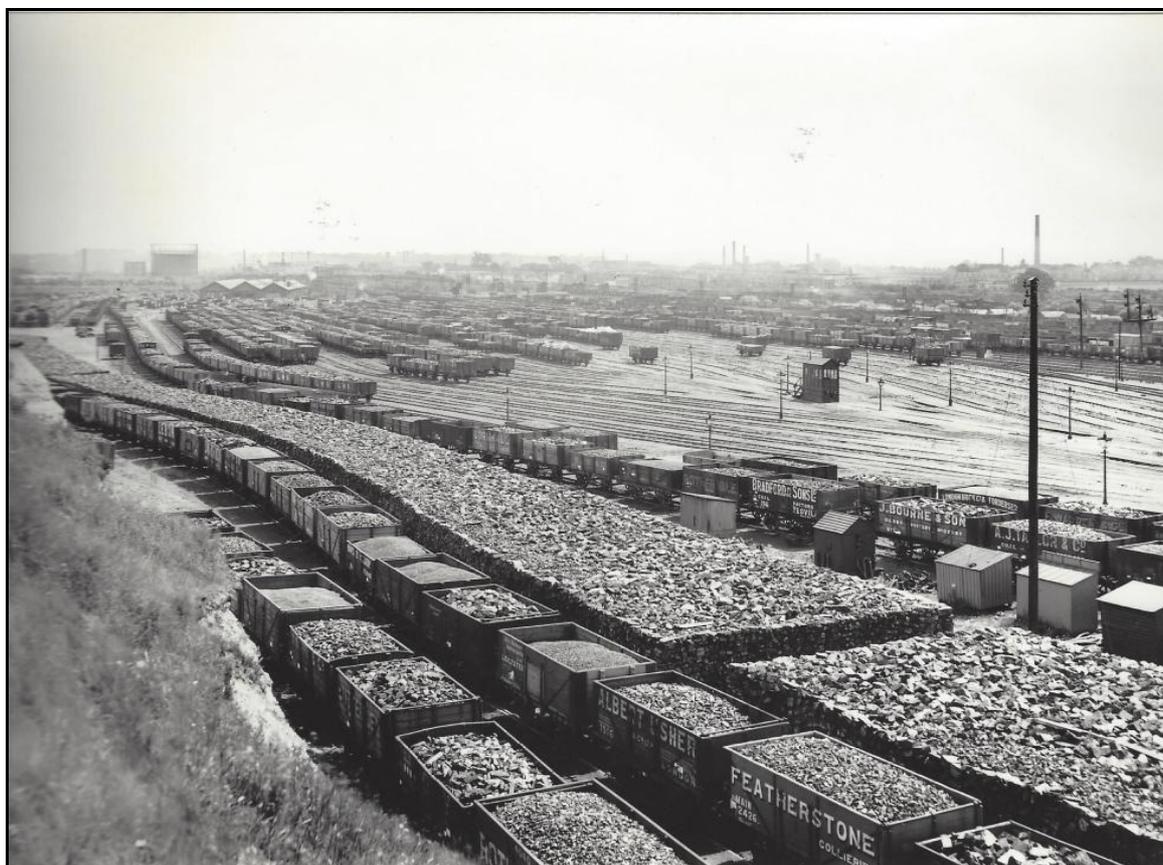
¹⁵⁴ Walker, *Road and Rail*, pp. 51-54.

¹⁵⁵ Scott, “British Railways and the Challenge from Road Haulage, 1919-1939,” pp. 106-107.

¹⁵⁶ G. Hughes, “An Economic History of the London & North Eastern Railway,” (PhD thesis, University of London, 1990), pp. 121-122.

2.4 Perceptions of declining railway service quality: compensation, the 1926 General Strike and road propaganda

Image 1



Private-owner coal wagons being sorted at Toton yard, 6 July 1927. Note the different grades of coal in each wagon, highlighting the predominantly wagonload nature of freight hauled on Britain's railways. Source: National Railway Museum DY11430.

Firms forwarding bulk mineral and merchandise traffic on a regular basis could save money by negotiating for a private siding.¹⁵⁷ In contrast, ancillary services such as terminal usage, warehousing and provision for smaller consignments, these were provided at extra cost to the trader.¹⁵⁸ This was because smaller consignments constituted an operational and financial burden for the railways. Single wagons were marshalled into freight trains at locations such as Toton yard illustrated in **Image 1**; an inefficient and time-consuming process that accumulated unremunerative mileage whilst increasing the risk of damage or delay.¹⁵⁹ Local shunting also nullified the railway industry's advantage of speedy long-distance bulk haulage whilst railway managers demanded expeditious handling, thereby

¹⁵⁷ Walker, *Road and Rail*, p. 61.

¹⁵⁸ Gibbs, "'Of Pious Memory,'" p. 115.

¹⁵⁹ Sir H. Walker, "Statistics," *Southern Railway Magazine*, IV (1926), p. 36.

increasing the potential risk of claims for damage, delay or pilferage.¹⁶⁰ An exploration of the compensation paid to traders thus provides an indicator of the circumstances in which claims rose as well as a basis for understanding how the user's concerns about service quality were exploited by road hauliers.

The GWR in 1920 and the Southern Railway in 1926 noted rising claims for lost and damaged goods, with **Graph 1** below demonstrating that claims were highest in the immediate post-war period when wagon shortages and maintenance arrears reduced upon railway efficiency. Claims made between 1920 and 1921 also coincided with rates increases sanctioned by the Ministry of Transport, raising the hypothesis that higher rates prompted increased vigilance over railway transgressions by cost-conscious organisations such as Cadbury's.¹⁶¹ A small rise in claims expenditure in 1937 and sustained in 1938 appears consistent with this point, as it coincided with a 5 per cent general rates increase that prompted users to make savings by eliminating some of their long-distance traffic due on the pretext of 'poor service'.¹⁶² Although claims expenditure fell sharply after 1921, later assisted by the introduction of fully enclosed demountable containers, Sir Herbert Walker, the Southern Railway's General Manager continued to condemn the 'needless' expenditure, which rose by £1,000 on the Southern between 1925 and 1926.¹⁶³

Rising expenditure on compensation was more than simply a product of increased trader vigilance; it was also linked to the relationship between railway company and employee. Firstly, LNWR and NER magazine articles published in 1920 suggest that the commencement of the statutory eight hour day meant that staff with little freight handling experience were employed, prompting a spike in claims.¹⁶⁴ Secondly, a concurrent article published by the GWR on the subject of goods handling attributed the problem to a wave of employee 'indifference' towards their jobs, with '...rough handling [detracting] from the

¹⁶⁰ C. Divall "Conceiving Distribution in the United Kingdom: The (London and) North Eastern Railway's Discursive Response to Road Haulage, 1921–1939" in *From Rails to Roads and Back Again? A Century of Transport Competition and Interdependency*, ed. R. Roth and C. Divall (Aldershot: Ashgate, 2015), pp. 97–98.

¹⁶¹ J. Bradley, *Cadbury's Purple Reign: The Story behind Chocolate's Best-Loved Brand* (Chichester: John Wiley, 2008), pp. 79–80.

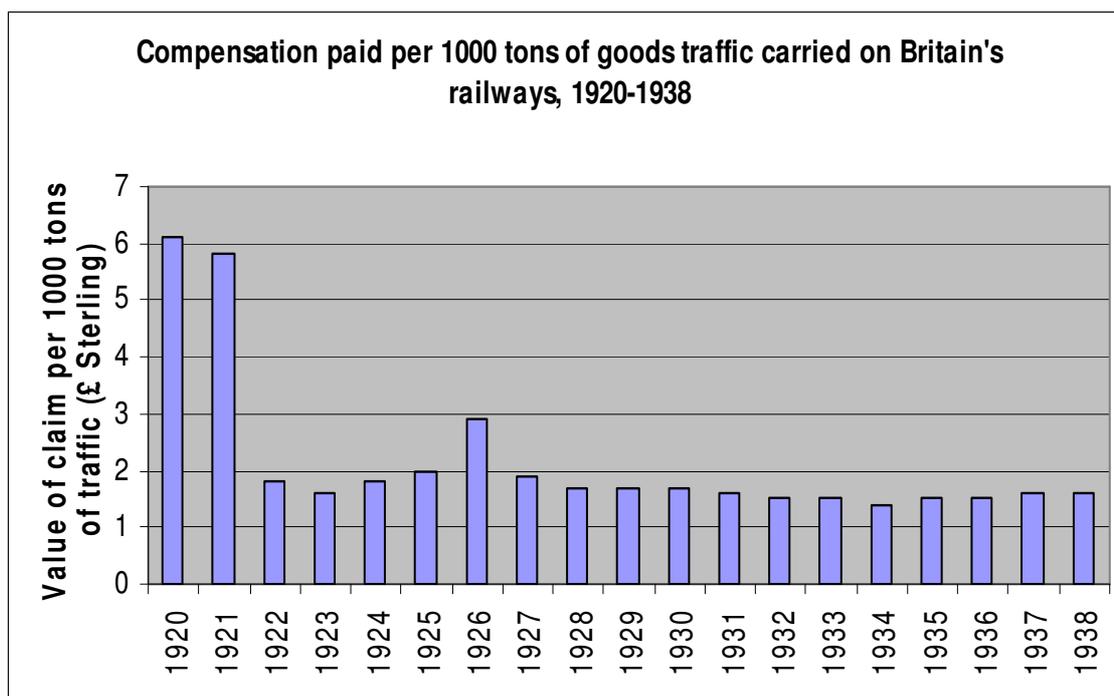
¹⁶² TNA: JV 7/562, 15 April 1937 Memorandum (Long-distance Transport); 28 April 1937 Board Report No. 88, p. 1.

¹⁶³ Sir H. Walker, "Statistics," *Southern Railway Magazine*, IV (1926), p. 67. Sir Herbert Ashcombe Walker was one of the foremost railway managers of his generation. Appointed General Manager of the London and South Western Railway in 1911, he was made Chairman of the Railway Executive Committee (REC) during the First World War. He became General Manager of the Southern Railway in 1923. See C. Watson, "Walker, Sir Herbert Ashcombe (1868–1949)," rev. *Oxford Dictionary of National Biography*, Oxford University Press, 2004, accessed 12 September 2016 <http://www.oxforddnb.com/view/article/38097>.

¹⁶⁴ "In Passing," *London & North Western Railway Gazette*, 9 (1920), p. 283; R. L. Wedgwood, "The Present Prospects of British Railways," *North Eastern Railway Magazine*, XII (1922), p. 256 and "Eight-Hour Day on the Railways," *Modern Transport*, VII (January 21, 1922), p. 9.

reputation of everyone concerned'.¹⁶⁵ By 1924, the GWR argued that the increased cost of living and attempts to increase productivity had strained managerial relations with low-grade employees, fuelling apathy towards the company.¹⁶⁶ Growing tension between railway staff and management may have been a factor in railwaymen joining the General Strike of 1926, an act which further demonstrated that reliance upon a single mode of goods transport for distribution increased trader risk.¹⁶⁷

Graph 1



Source: See Appendix 2, Table 1 (p. 297).

The effect of the General Strike is discerned in **Graph 1**, as it shows a higher payment per 1,000 tons of goods carried for 1926, which may be attributed to the disruption caused by the stoppage as it accompanied a 31 per cent drop in goods tonnage forwarded by rail from 340 million tons in 1925 to 233 million tons in 1926.¹⁶⁸ The financial consequences of the strike for Britain's railways are clearly seen in **Table 2**. Using weekly merchandise and livestock revenue data published by *The Railway Gazette*, the table shows that whilst receipts in week 17 of 1926 were an improvement over the corresponding period in 1925, the strike drastically cut receipts by 91 per cent in week 18 and a further 61 per cent in week 19 respectively. Indeed, it also indicates a gradual recovery; the four weeks

¹⁶⁵ "The Care of Goods in Transit," *Great Western Railway Magazine*, XXXII (1920), p. 247.

¹⁶⁶ "The Care of Goods in Transit," *Great Western Railway Magazine*, XXXII (1920), p. 247.

¹⁶⁷ "Transport Lessons from the Strike," *The Commercial Motor*, XLIII (May 18, 1926), p. 714.

¹⁶⁸ Ministry of Transport, *Railway Returns* (London: HMSO, 1926).

following the strike produced considerably lower returns than the same period in 1925. This can be explained by the potential revenue lost and the time and resources the railways needed to process the existing goods backlog, although the potential dampening effect caused by trader reticence, whilst difficult to quantify, cannot be discounted.

Table 2

Railway merchandise and livestock returns during the General Strike: a comparison of 1925 and 1926 (£ thousands)

	Week 17	Week 18	Week 19	Week 20	Week 21	Week 22	Week 23
1925	2,063	1,313	1,338	1,956	1,913	1,404	1,853
1926	2,171	199	77	1,230	1,084	1,242	1,223

Source: *The Railway Gazette*.

Whilst it is possible to speculate that strike action combined with the mishandling of goods eroded the trading community’s trust in the railways, these problems occurred whilst the railway industry was criticising the user for creating the conditions for damage and delay. In 1920, the GWR suggested that senders of goods are ‘...not generally as free from responsibility as they used to be’, highlighting that the standard terms and conditions of rail carriage advised users about correct labelling and packaging to minimise the inconvenience of damage, theft and delay.¹⁶⁹ The implication was that traders were failing to assist the railways in their endeavour to deliver goods expeditiously, and that claims stemmed from ignorance or the wilful exploitation of railway weaknesses for financial gain. However, accusations of trader impropriety risked alienating customers and supports a hypothesis that Britain’s railways were out of step with the needs of a trading community desirous of economical, flexible and convenient transport.

The road haulage lobby could therefore assert that the lorry would ‘emancipate’ industry from a railway industry in which the quality of service and reliability did not justify the charges levied by the ‘Big Four’.¹⁷⁰ As a campaigning advocate of the haulage sector, *The Commercial Motor* pressed its readership to draw the attention of potential customers towards the resilience of road haulage and the trade unionism that had encumbered the railways in 1919 and 1926.¹⁷¹ The sector comprised a substantial number of independent operators capable of operating at short notice, whilst their flexibility in short to medium-distance logistics at ‘cost plus profit’ rates made a switch to road haulage

¹⁶⁹ “The Care of Goods in Transit,” *Great Western Railway Magazine*, XXXII (1920), p. 203.

¹⁷⁰ “The Commercial Motor as Emancipator,” *The Commercial Motor*, LII (November 25, 1930), p. 221.

¹⁷¹ “Transport Lessons from the Strike,” p. 714.

an attractive proposition for Britain's trading community during the economic crises between 1921 and 1939.¹⁷²

The trader's reality was that seemingly insignificant items such as packaging represented a substantial additional outlay for small businesses and agricultural concerns seeking to control costs. Economic expediency determined whether businesses purchased new packaging or reduced costs by re-using old or sub-standard alternatives to perpetuate a cycle of claim and counter-claim.¹⁷³ With the railways a third-party in the supply chain, full accountability for the condition of a commodity in transit was ambiguous when the onus was upon the consigner to prove the negligence of the railway companies involved; in contrast, road haulage was the product of a clear bilateral agreement between two parties.¹⁷⁴ As traders lost control of their consignments after dispatch by rail, road haulage permitted minimal transshipment and tighter control during lorry-loading, which reduced the risk of damage as well as the bulk and cost of packaging.¹⁷⁵

2.5 Road haulage: competition without regulation

Looking beyond the simplicity of road haulage, an analysis of the sector during the 1920s also indicates that it sometimes bore little advantage over rail haulage because of several issues that affected service quality. The road haulier's challenges were three-fold, namely market saturation, lack of regulation and the indifferent quality of Britain's existing road infrastructure. Firstly, Scott and Reid have noted that market saturation stemmed from the ease with which individuals could enter the road haulage business, which had proved attractive for demobilising soldiers trained in vehicle operation with little prospect of other employment in a post-war recession.¹⁷⁶ This resulted in a rapid rise in owner-drivers, with Scott noting an increase from 62,000 to 128,000 lorries between 1919 and 1920.¹⁷⁷

¹⁷² "Transport Lessons from the Strike," p. 714. In relation to haulage costs, Gilbert Walker suggested that they included '...the expenses of running the vehicle required to carry the load, together with an addition ...to provide for overhead charges and other items not connected with the actual operation of the lorry'. See Walker, *Road and Rail*, p. 91.

¹⁷³ Walker, *Road and Rail*, pp. 112-113.

¹⁷⁴ Despite attempting to effect savings via centralised administration, 'Grouping' had failed to reduce railway bureaucracy and risked increasingly impersonal service, as each of the 'Big Four' companies adopted different management structures due to internal politicking amongst the amalgamated concerns. Soon after 'Grouping', the LNER management acknowledged the risk of over-centralisation. "Railway Companies and the Traders," *North Eastern Railway Magazine*, 13 (1923), p. 13.

¹⁷⁵ Rates quoted for goods conveyed at railway company risk were more expensive than those quoted for conveyance at the consigner's risk, although the packaging issue might have made the latter a false economy. Walker, *Road and Rail*, pp. 59-59.

¹⁷⁶ Scott and Reid, "The White Slavery of the Motor World," p. 301.

¹⁷⁷ Scott, "British Railways and the Challenge from Road Haulage, 1919-1939," p. 103; Barker and Gerhold, *The Rise and Rise of Road Transport*, p. 62; Gibson, *Road Haulage by Motor in Britain*, p. 119.

Although established firms competed by offering premium service inducements such as ‘next-day delivery’, the situation was exacerbated by a lack of effective regulation beyond vehicle taxation, as the government appeared content to pursue a *laissez-faire* approach to road haulage legislation.¹⁷⁸ Road hauliers were not obliged to publish rates, which Gibson suggests encouraged a culture of rate-cutting to guarantee the job which ultimately created a transport buyer’s market.¹⁷⁹ The principal outcome was competition which drove rate-cutting to uneconomic levels, resulting in owner-drivers going out of business because of their inability to earn a living.¹⁸⁰ This also posed a problem for more established firms, as carefully-researched rates were being undercut by ‘irresponsible’ newcomers displaying a complete lack of regard for business economics.¹⁸¹

Competition also emerged from the need to obtain a ‘back-load’, which boosted income through the conveyance of goods on the return journey at low rates.¹⁸² Although financially advantageous when the railways charged to return empty rolling stock to the point of demand, back-loading posed a challenge for road hauliers. Established firms possessed the advantages of goodwill and multiple depots for acquiring loads and minimising operating costs; in contrast, the owner-driver relied upon third-party clearing houses to obtain back-loads for a surcharge.¹⁸³ The system was therefore open to opportunism; Scott and Reid describe how the position of the clearing house as ‘price takers’ could be manipulated to extract a profit from transactions with sub-contractors by withholding information about the rate paid by the consigner.¹⁸⁴ Traders such as Sainsbury’s choose to remove the ‘middle-man’ altogether by integrating road haulage into their organisations, thus reducing the traffic available to the independent haulier.¹⁸⁵

The situation was exacerbated by a lack of regulation that defined the specific roles of road haulage, as own-account operators could freely engage in back-loading to supplement driver wages or improve the return on vehicle investment.¹⁸⁶ The problem stemmed from the fact that the regular work already undertaken for the owning firm

¹⁷⁸ Scott, “British Railways and the Challenge from Road Haulage, 1919-1939,” p. 115.

¹⁷⁹ Gibson, *Road Haulage by Motor in Britain*, p. 143.

¹⁸⁰ Rate-cutting in goods haulage mirrored a similar development in the bus industry and was reported regularly within the trade press. Scott, “British Railways and the Challenge from Road Haulage, 1919-1939,” p. 104; Walker, *Road and Rail*, p. 22.

¹⁸¹ “How Rate-Cutting Encourages Malpractices Amongst Hauliers,” *The Commercial Motor*, LI (March 4, 1930), p. 68; P. Bagwell, *The Transport Revolution*, pp. 253-255.

¹⁸² Gibson, *Road Haulage by Motor in Britain*, p. 146; Walker, *Road and Rail*, p. 97.

¹⁸³ Scott and Reid, “The White Slavery of the Motor World,” pp. 303-304; Scott, “British Railways and the Challenge from Road Haulage, 1919-1939,” p. 105; Walker, *Road and Rail*, p. 100. Clearing Houses could abuse their position by forcing down rates by not divulging the actual rate offered for the job and consequently quoting a higher charge, thereby pocketing the difference. Smaller traders could drive a hard-bargain for their transport needs, particularly wherever competition in that trade was intense.

¹⁸⁴ Scott and Reid, “The White Slavery of the Motor World,” pp. 305-306.

¹⁸⁵ Barker and Gerhold, *The Rise and Rise of Road Transport*, p. 63.

¹⁸⁶ Gibson, *Road Haulage by Motor in Britain*, p. 143, p. 146.

permitted the quotation of lower rates for the back-haul, thus placing further pressure upon the small independent haulier to cut rates. Therefore, the road haulage sector was acquiring a reputation for its lack of sound business practice and ‘superfluous’ competition which fostered an expectation amongst traders that haulage rates could be driven downwards with impunity.¹⁸⁷

The third reason for road haulage’s inability to establish complete superiority over the railways during the 1920s was the condition of the road infrastructure. Although a comprehensive national railway network had developed since the 1830s, the road network was not in a condition to facilitate a wholesale transfer of freight traffic from rail. Although the Roads Act (1920) ring-fenced vehicle taxes to produce a Road Fund for network maintenance, a significant contribution had to be made through local authority rates, resulting in patchy development.¹⁸⁸ Consequently, decades of underinvestment and a failure to centralise decision-making had resulted in a poorly-maintained and inefficient trunk road network. Opportunities to improve the situation were not pursued, as evidenced by the failure of an early London-Birmingham motorway scheme in Parliament in 1924.¹⁸⁹

2.6 The railways respond to road competition

Although the condition of the trunk roads and the stillborn motorway scheme maintained the railway industry’s status as principal provider of long-distance transport, the part-funding of road maintenance through the local rates system became a subject of bitter dispute.¹⁹⁰ Since 1923, the ‘Big Four’ railway companies collectively argued that as substantial rate payers to local councils, they were subsidising road maintenance and hence their primary competition.¹⁹¹ Furthermore, the companies suggested that the heavy vehicles used by haulage firms were responsible for a significant proportion of road surface

¹⁸⁷ “Superfluous Competiton,” *The Commercial Motor*, LI (November 25, 1930), pp. 502-503. The warning against recklessness in rates had been made as early as 1920. “The Roads and the Railways,” *The Commercial Motor*, XXXII (November 9, 1920), p. 454.

¹⁸⁸ See Roads Act, 1920, 10 & 11 Geo. 5, c. 72, s. 3. After a series of raids by the Treasury, the Road Fund was wound-up in 1936. See: Walker, *Road and Rail*, p. 24.

¹⁸⁹ The proposed North-Western motorway scheme was submitted to Parliament in 1923 as a joint public-private sector initiative that required substantial government grant contributions, with tolls charged to motorists. The government considered that the latter was not in the public interest as it would represent a revival of the turnpike. As the government believed there was ‘no public requirement’ for such a road, the Bill was finally withdrawn in 1924. See P. Merriman, *Driving Spaces* (Oxford: Blackwell Publishing, 2007), pp. 24-27; “The Construction of Motorways,” *Great Western Railway Magazine*, XXXVI (1924), p. 252; “Correspondence: British Roads & Motoring,” *Modern Transport*, VIII (January 13, 1923), p. 3.

¹⁹⁰ The *Great Western Railway Magazine* took a close interest in the motorway scheme, possibly out of concern for potential competition in long-distance passenger and goods traffic. See “Road Motor Competition,” *Great Western Railway Magazine*, XXXVI (1924), p. 125 and “The Construction of Motorways,” p. 252.

¹⁹¹ “In Passing,” *London & North Western Railway Gazette*, 10 (1921), p. 266.

deterioration, and asserted that vehicle taxation failed to account for their share of the damage. The 'Big Four' companies also asserted that their networks were developed and maintained through their own resources, prompting claims of unequal treatment as the failure to secure road powers in 1922 had removed any benefit from their contribution to local rates.¹⁹²

Similarly, the cost and service propaganda disseminated by the road lobby elicited a response from the railway industry in the guise of two pamphlets published by the Railway Clearing House (RCH) in 1923 and 1927, which attempted to demonstrate the negligible impact of railway rates upon food costs.¹⁹³ The railways also responded through technological means; whilst *The Commercial Motor* lauded the haulier's offer of door-to-door services organised according to the user's needs, the railway industry's responded with the demountable container, introduced by the LMS in 1926 and illustrated in **Image 2** below.¹⁹⁴ The concept provided a solution to the problems of handling, pilferage and small loads and removed the requirement for expensive packaging to create a flexible service when combined with railway-operated collection and delivery.¹⁹⁵

The container proved successful, as the LMS reported that usage rose from 25,000 tons in 1927 to 129,000 tons in 1930.¹⁹⁶ However, the means for their introduction had existed before the First World War, raising the hypothesis that their appearance in 1926 was a knee-jerk reaction to the threat from road competition, and a response to the labour issues raised by the General Strike.¹⁹⁷ Furthermore, the gradual emergence of new container variants throughout the late 1920s and early 1930s suggest that the concept was not fully realised when introduced; Gourvish highlights that the capital sunk into existing railway vehicle types meant that the substitution of the fixed railway van with containers was delayed for several decades.¹⁹⁸

¹⁹² Sir H. Walker, "Statistics," *Southern Railway Magazine*, IV (1926), p. 100.

¹⁹³ See Railway Clearing House, *Railway Rates: How Little They Affect the Cost of Food* (London: Railway Clearing House, 1927).

¹⁹⁴ "Railway v Road Transport," *The Commercial Motor*, XXXI (August 10, 1920), p. 714; K. Harcourt, "Railway Containers in the United Kingdom and Europe During the 1920s and 1930s" in *From Rails to Roads and Back Again? A Century of Transport Competition and Interdependency*, ed. R. Roth and C. Divall (Aldershot: Ashgate, 2015), pp. 109-110.

¹⁹⁵ Harcourt, "Railway Containers in the United Kingdom and Europe," p. 110; Editorial, *LMS Railway Magazine*, XI (1928), p. 397. The LNER was observing progress on the LMS, publishing an article highlighting the cost and packing benefits of the container in March 1928. See: "The Use of Containers for the Transportation of Merchandise," *London & North Eastern Railway Magazine*, 18 (1928), p. 98.

¹⁹⁶ Editorial, *LMS Railway Magazine*, VIII (1931), p. 217.

¹⁹⁷ Keith Harcourt refers to the Lancashire and Yorkshire Railway's 'Flat-Bottoms' for the conveyance of cotton products during the late nineteenth century as pioneering examples of the rail-mounted container concept. Harcourt, "Railway Containers in the United Kingdom and Europe," p. 70.

¹⁹⁸ T. Gourvish, "The Sea Container Revolution and Road-Rail Competition: A Preliminary Assessment of Freightliner" in *From Rails to Roads and Back Again? A Century of Transport Competition and Interdependency*, ed. R. Roth and C. Divall (Aldershot: Ashgate, 2015), p. 135.

Image 2



An LMS container being transhipped in 1936. The photograph illustrates the degree of coordination between rail and road achieved by the railway companies following the container's introduction in 1926; the mechanical horse on the left is evidence of the LMS' ability to offer a complete door-to-door service to traders. One drawback to the scheme was the requirement for a mobile crane at every yard. Source: National Railway Museum 1997-7409_LMS_7933.

Although the demountable container encapsulated the railway industry's effort to improve its relationship with traders, the lack of road haulage regulation and the local rates issue emboldened the 'Big Four' to make individual applications for road powers in 1928 in the interests of equality of treatment. *The Commercial Motor* warned that the basic railway cartage operation had produced a loss of £3 million, and suggested that the 'Big Four' would cross-subsidise the new operation from revenue to undercut existing hauliers and eliminate competition.¹⁹⁹ Despite the concern, the four Railway (Road Transport) Acts were passed, permitting the development of rural road services. The GWR unveiled its

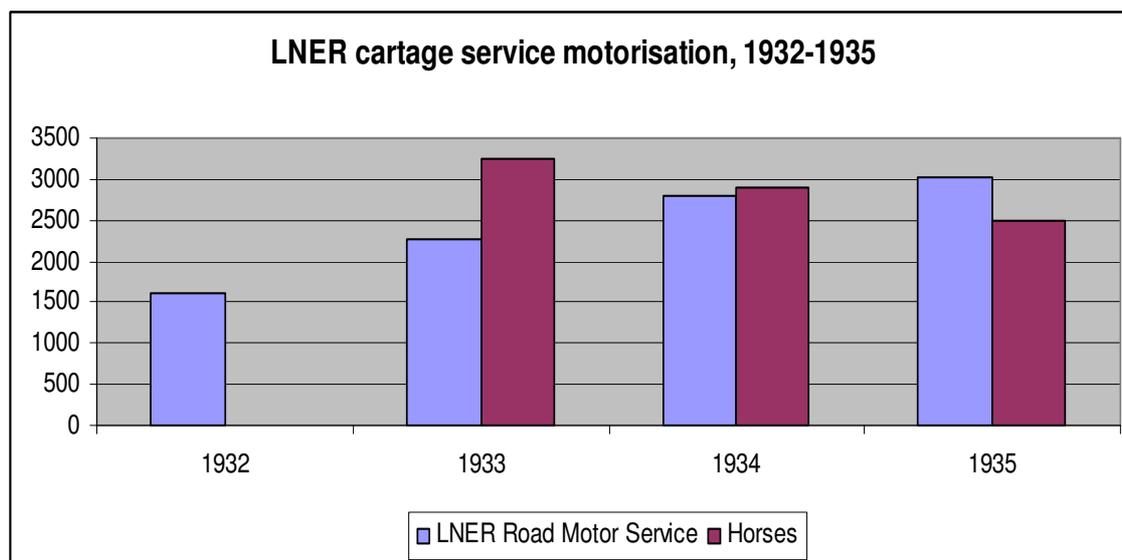
¹⁹⁹ These concerns were raised in two *Commercial Motor* articles entitled "Railway-Sought General Road Powers" and "Railway Bills Before Parliament," *The Commercial Motor*, XLVII (February 21, 1928), p. 85.

Country Lorry Services operation in 1928 followed by the LMS, LNER and the Southern respectively for the distribution of perishable goods and agricultural commodities such as milk, feed, fruit and sugar beet, thereby extending the railway presence into areas with previously sparse coverage.²⁰⁰

2.7 Establishing goods transport regulation

An important benefit of railway-owned rural and urban road feeder services was a diversification in traffic when the economic recession between 1929 and 1932 severely curtailed coal and mineral receipts.²⁰¹ The LNER, which suffered heavy revenue losses because of a decline in steel production in the North East, implemented a rural service in Eastern England and Southern Scotland to reduce the overheads associated with short-distance rail haulage. The provision of a door-to-door road service was combined with a reduction in terminal charges to increase trader demand; the goods tonnage conveyed by road in the Southern Area consequently rose by 67 per cent from 1,607,312 tons in 1932 and 2,687,507 tons in 1935.²⁰² **Graph 2** provides a snapshot of the expansion of the LNER lorry fleet from 1,569 to 3,033 vehicles, which took place alongside a reduction of 761 cartage horses between 1933 and 1935.

Graph 2



Sources: See Appendix 2, Table 2 (p. 298).

²⁰⁰ GWR lorry services were introduced at Didcot, Monmouth, Corwen, Welshpool and Weston-super-Mare. "Road Transport Department: Cartage," *Great Western Railway Magazine*, XL (1928), p. 397.

²⁰¹ Bagwell, *The Transport Revolution*, p. 245.

²⁰² TNA: RAIL 390/917, 26 April 1933 Memorandum to the Suburban and Road Traffic Committees, p. 1 and TNA: RAIL 390/1055, 22 April 1936 Memorandum to the Suburban and Road Traffic Committees, p. 1.

The warning published by *The Commercial Motor* in 1928 that rail-operated road haulage would fail to stem the overall decline in net revenue, which reached its nadir in 1932 and failed to break £40 million in subsequent years, is demonstrated in **Table 3**.²⁰³ As oversupply within the road haulage sector threatened the viability of both modes of transport, the railway companies made several approaches to the Minister of Transport between January and March 1932. A Railway Companies Association (RCA) campaign memorandum entitled ‘Fair Play for the Railways’ pressed the case for the quantitative regulation of road haulage through licensing on the basis that £16 million in merchandise receipts had been lost because of road competition between 1924 and 1930.²⁰⁴ Traders’ organisations such as the Mansion House Association on Transport (MHA) attacked the publication on the grounds that the RCA overstated the deficiency in receipts, which were alleged to produce a deficit of only £4.3 million.²⁰⁵

Table 3

Total net revenue for Britain’s railway companies, 1929-1938

	Total net revenue (£ thousands)
1929	49,322
1930	42,007
1931	37,562
1932	27,194
1933	29,589
1934	32,255
1935	33,695
1936	36,527
1937	38,624
1938	29,758

Source: D. L. Munby and A. H. Watson, *Inland Transport Statistics: Great Britain, 1900-1970, Volume 1* (Oxford: Oxford University Press, 1978).

The MHA also accused the railways of tardiness in recognising that there was demand for improvements in reliability, and attributed the exodus to road haulage to ‘...shortcomings in this direction [as] repeated labour disputes hastened the development of traders’ own

²⁰³ “Railway Bills Before Parliament,” *The Commercial Motor*, XLVII (February 21, 1928), p. 85.

²⁰⁴ TNA: RAIL 1099/3, January 1932 Railway Companies Association (RCA) Fair Play for the Railways, p. 5, p. 13, p. 14.

²⁰⁵ TNA: MT 6/3352, 14 March 1932 Mansion House Association on Transport (MHA) Observations on the Memorandum to the Minister of Transport upon the position of the main line railway companies in relation to Road Transport Competition, dated January 26, 1932, and railway companies’ publicity in connection therewith, p. 1.

road delivery fleets’, a process which forms the basis of subsequent chapters.²⁰⁶ The MHA argued ‘...that it is neither progressive, nor reasonable to favour a less efficient mode of transport by imposing penalties upon other and more suitable forms of transport’.²⁰⁷ The object of the debate was to increase government awareness of the problems facing inland goods transport, and prompted the Ministry of Transport to appoint a panel of transport experts chaired by Sir Arthur Salter to establish terms for ‘a fair basis of competition and division of function between rail and road transport of goods’ in 1932.²⁰⁸

The objective was to devise a method of regulating road haulage that safeguarded the future of goods transport and protected the interests of trade and industry.²⁰⁹ Although *The Commercial Motor* accused Salter of producing ‘drastic proposals’ that restricted a trader’s choice, the resultant report concluded that road haulage was a free-for-all where a prospective haulier had ‘...an unlimited right to enter the industry ...and is often tempted to force his way in by offering rates which are completely unremunerative’.²¹⁰ The Salter Report thus recommended the introduction of quantity licensing linked to the extent of transport facilities available within geographical regions, with goods transport coordinated between long and short-distance traffic; the former being allocated to rail and the latter to road haulage.²¹¹

The railway companies were by no means idle whilst Salter was compiling his report, as they began to probe the legal boundaries of rate-setting to improve their competitive position. Gilbert Walker describes how the ‘Big Four’ experimented with existing regulations in 1931 when Robinson’s, a Bristol oil-cake firm, offered the proportion of its traffic conveyed by road to the GWR on the proviso that a flat rate per ton to any station within a specified area was charged.²¹² Walker notes that the scheme showed potential in arresting decline by guaranteeing traffic for a year, whilst Robinson’s would

²⁰⁶ TNA: MT 6/3352, 14 March 1932 MHA Observations, p. 1.

²⁰⁷ TNA: MT 6/3352, 14 March 1932 MHA Observations, p. 9.

²⁰⁸ TNA: RAIL 1124/239, Ministry of Transport (MT) Report on the Conference on Rail and Road Transport 29 Jul 1932, p. 8; Bagwell, *The Transport Revolution*, pp. 253-255. Sir James Arthur Salter (1881 - 1975) entered the Civil Service in 1904. After employment at the Admiralty and membership of the secretariat of the League of Nations, he enjoyed a varied career as a journalist and author. D. Rickett, “Salter, Sir James Arthur (1881-1975),” *The Oxford Dictionary of National Biography*, Oxford University Press, 2004; online edn, October 2009, accessed 12 September 2016, <http://www.oxforddnb.com/view/article/31651>.

²⁰⁹ Mance, *The Road and Rail Transport Problem*, p. 7.

²¹⁰ C. F. L. King, “A Reaction to the Salter Report,” *The Commercial Motor*, LVI (January 27, 1933), p. 827; TNA: RAIL 1124/239, MT Report on the Conference 29 Jul 1932, p. 32.

²¹¹ TNA: RAIL 1124/239, MT Report on the Conference 29 Jul 1932, p. 8, p. 34; Crompton, “Good Business for the Nation,” p. 141. An important consideration in the development of transport coordination was that the encroachment of road haulage upon railway business sometimes resulted in vehicle overloading, which increased the risk of road surface damage. The Report also recommended that the Minister should be advised by a Central Advisory Committee.

²¹² The flat rate equated to the cost-per-ton the trader would have paid had they transferred their business to road transport, with shorter-distance flows commanding a higher rate that balanced-out the losses made on longer-distance conveyance. Walker, *Road and Rail*, pp. 77-78.

enjoy the convenience of negotiating with a single transport provider.²¹³ However, when the GWR referred the ‘agreed charge’ to the Railway Rates Tribunal for ratification in 1932, consent was withheld on grounds of ‘undue preference’ and scant evidence that the scheme would assist the company in achieving its Standard Revenue.²¹⁴

From the railway industry’s perspective, the ruling was emblematic of the inflexibility of existing regulations. However, the Road and Rail Traffic Act (1933), which used the Salter Report as its basis, overturned the decision with the addition of a clause legalising the quotation of agreed charges subject to approval from the Tribunal, with the question of ‘undue preference’ addressed by granting traders the right of objection.²¹⁵ The agreed charge was therefore an example of railway innovation in rate-setting; when combined with the ability to continue charging exceptional rates, the ‘Big Four’ were in possession of important rate-setting tools for acquiring and retaining traffic in the short term.²¹⁶ However, the Act’s sanctioning of quantitative licensing in the interests of regulating road transport prompted complaints of unequal treatment from the road haulage sector.²¹⁷

Three licence types were devised for road haulage, and were categorised as ‘A’ for vehicles engaged in general haulage for ‘hire and reward’; ‘B’ for mixed private and general haulage, and ‘C’ for vehicles employed by traders solely as ancillary transport for their business; the latter being prohibited from carrying return loads for hire and reward. Although trade and industry retained flexibility in their transport options, the introduction of quantitative licensing was accompanied by the right of objection, thus allowing the ‘Big Four’ railways to influence the amount of competition they faced.²¹⁸ However, the system was weakened by a lack of quantitative licensing for ‘C’ licensees; *The Commercial Motor* considered this a fundamental issue for the independent haulage sector as the freedom for firms to expand own-account transport risked exacerbating the oversupply problem.²¹⁹

The government’s reticence to fully regulate own-account transport presents a counterpoint to the perception that the railways were the recipients of preferential treatment as the transition of goods from rail to road continued unchecked, whilst growth in the number of ‘C’ licensees threatened to squeeze the traffic available to the independent

²¹³ Walker, *Road and Rail*, p. 77.

²¹⁴ Walker, *Road and Rail*, p. 78.

²¹⁵ Road and Rail Traffic Act, 1933, 23 & 24 Geo. 5, c. 53, s. 37 and Walker, *Road and Rail*, p. 80.

²¹⁶ Gibson, *Road Haulage by Motor in Britain*, p. 239; Bagwell, *The Transport Revolution*, p. 246, p. 257.

²¹⁷ See Road and Rail Traffic Act, 1933, 23 & 24 Geo. 5, c. 53. Licensing Authorities were originally established under the Motor Car Act, 1903, 3 Edw. 7, 1903, c. 36.

²¹⁸ Walker, *Road and Rail*, p. 153.

²¹⁹ Scott and Reid, “The White Slavery of the Motor World,” p. 302; “Points on Licensing,” *The Commercial Motor*, LIX (March 30, 1934), p. 221.

haulier.²²⁰ The situation was also complicated by the ‘Big Four’, which were permitted to jointly acquire shares in Hay’s Wharf Limited, a firm which possessed a national network of warehouses and road haulage depots, in December 1933.²²¹ The terms of the 1933 Act thus provided a catalyst for a broader debate on the fairness of rail and road transport regulation for the remainder of the 1930s. In doing so, the combination of railway rate regulation and quantitative haulage licensing suggested that neither mode gained from government policy.

2.8 Searching for a ‘Square Deal’ in goods transport, 1934-1939

In tandem with the acquisition of shares in national haulage firms, the railways attempted to improve their competitive position through other means, including a speeding-up of freight timetables to meet the trader’s desire for expeditious transport. The scale of improvement is revealed in *LMS Magazine*, which boasted 300 train accelerations between London, Glasgow, Liverpool, Manchester, Sheffield and Leeds, whilst 93 per cent of goods arrived at the receiving station within 24 hours of dispatch.²²² Increased speed mitigated terminal delays, and pamphlets such as the LNER example in **Image 3** below provided canvassers with the means to sell the ‘Big Four’ railways to the trading community.²²³ The railway advantage in long-distance goods transport was also guaranteed by the continuation of the 20mph speed limit for lorries, the observance of which restricted a haulier’s economical radius of operation.²²⁴

²²⁰ TNA: MT 6/3352, 14 March 1932 MHA Observations, p. 5; “Points on Licensing,” p. 221.

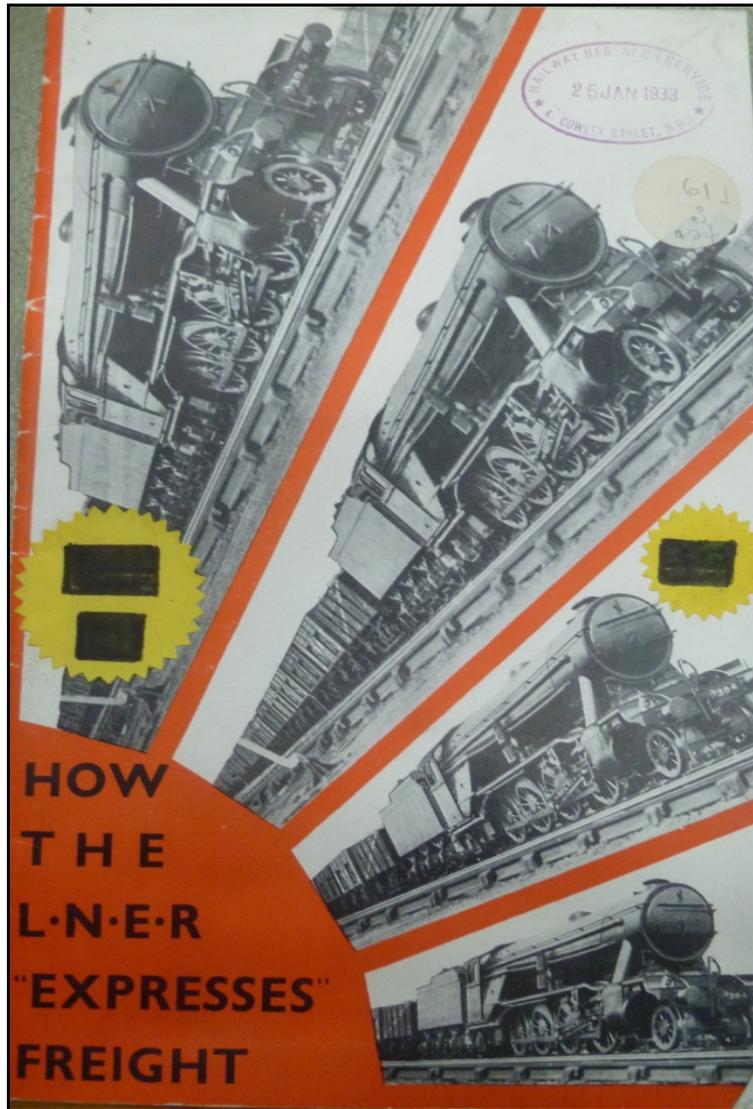
²²¹ The share purchase included stakes in its Pickfords and Carter Paterson subsidiaries. Editorial, *LMS Railway Magazine*, X (1933), p. 399.

²²² “The Speeding-up of Freight Services on the LMS and the Effect on Terminal Operations at Goods Stations,” *LMS Railway Magazine*, XI (1934), p. 117, p. 119. The GWR revealed in 1935 that the speeding-up freight was achieved through the removal of stops. “Acceleration of Freight Trains,” *Great Western Railway Magazine*, XLVI (1935), p. 211.

²²³ Railway canvassing was evolving during the inter-war years. Prior to ‘Grouping’, salesmanship was targeted at competing with other railway companies for available traffic. After 1921, the rise of road competition necessitated a change in approach that required the selling of the benefits of rail transport. Such was the importance accorded to transport sales that the LMS established a school of salesmanship at Derby in 1938. A concise account of railway salesmanship may be found in B. Essery, “Railway Salesmanship,” *Backtrack*, Special Issue 1 (2001), pp. 50-51.

²²⁴ Barker and Gerhold, *The Rise and Rise of Road Transport*, p. 62. The speed limit for heavy goods vehicles was introduced in 1903, and was to restrict the sector until the limit was raised to 30 miles per hour in the 1950s. However, some businesses were willing to pay the extra labour and fuel costs for the door-to-door advantage offered by road.

Image 3

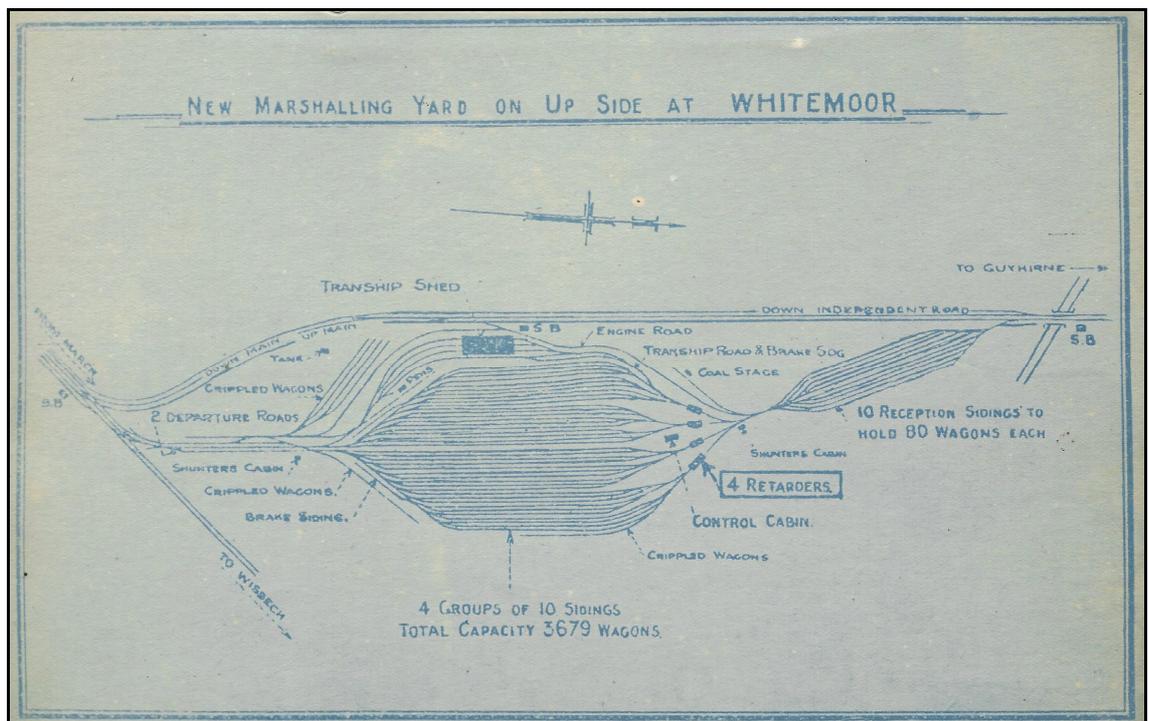


‘How the LNER “Expresses” Freight’ was published in October 1932, the year the Salter Conference published its report on road and rail transport. The pamphlet is typical of the type published by each of the ‘Big Four’ railway companies in that it stresses the importance of the railway company to the trading community. It asserts that ‘Efficient freight transport is vital to the community. Express Freight Services are vital to efficient freight transport’, and contains details of ten high-speed routes covered by the LNER.

Despite advances in speed and salesmanship on the railways, the goods marshalling yard, where goods trains were assembled for onward dispatch, remained a key bottleneck. The assembly of goods trains relied heavily upon manual labour to check, shunt and couple individual wagons, whilst attempts to improve efficiency in such matters required substantial investment, as exemplified by the LNER’s introduction of automatic gravity, or

'hump' shunting at its Wath and Whitemoor yards in 1935.²²⁵ This entailed the installation of electrically-operated equipment that controlled the descent of the wagon into a siding with a view to reducing manpower. However, when compared with a small road haulier's ability to provide door-to-door transport, the marshalling yard represented a high-cost answer to the intrinsic inflexibility of railway infrastructure as manual labour was still required to couple the wagons, as the plan of the LNER's Whitemoor yard in **Image 4** clearly illustrates.

Image 4



Cyanotype plan of LNER Whitemoor Yard, 1930. Trains arrived in the reception sidings on the right, wagons uncoupled and shunted over a hump. The wagons enter the sorting sidings by gravity, with speed regulated by the retarders. New trains are formed in the sorting sidings, where wagons are re-coupled prior to being shunted to the departure roads. Although several of these processes were automated, the process retained dependent upon manual labour. Source: National Railway Museum: Stratford Works Archive SX531.

²²⁵ The first gravity-shunting yard was established by the LNER at Whitemoor, near March, Cambridgeshire, and was modelled on Hamm yard, Germany. "Mechanised Marshalling Yards," *Modern Transport*, XLI (August 19, 1939), p. 2.

The difference between the railway industry's need to self-fund its infrastructure and the road industry's unregulated cost plus approach to rate-setting became the subject of a 1937 Transport Advisory Council report.²²⁶ The report recommended that all independent road hauliers should operate under a regulated, standardised rates regime comparable to the railway industry's existing rates classification system.²²⁷ However, whilst there was some support from hauliers hit by indiscriminate rate cutting, the proposal threatened to restrict trader flexibility whenever rates were increased; **Table 3** (p. 66) raises the hypothesis that a five per cent general increase in railway rates had prompted a transfer to road haulage as the railways experienced a £8,219 decline in net receipts between 1937 and 1938.²²⁸ The loss thus provided the context for a second campaign to raise public and political awareness of the difficulties facing the 'Big Four'.

The 'Square Deal' campaign commenced in November 1938 and marked a change in approach to the previous 'Fair Play for the Railways' campaign; instead of lobbying for an increase in the regulation of road haulage, the railways campaigned for the deregulation of the railway rate mechanism. Commenting upon the campaign, Brigadier-General Sir Osborne Mance of the International Chamber of Commerce records that it attempted to highlight the importance of the railways to Britain's economic wellbeing in peace and war, thereby justifying an overhaul of existing regulation to obtain a similar level of flexibility to that enjoyed by the road haulier when setting rates.²²⁹ The campaign thus labelled restrictions such as the statutory 'undue preference, 'common carrier' and rate-publishing obligations as barriers to effective transport co-ordination, defined as 'the correct economic distribution of traffic between road and rail'.²³⁰

The railways proposed the dissolution of the 1928 rates classification on grounds that its inflexibility and bureaucracy had prevented 'snap quotations' based upon a trader's immediate requirements and encouraged road encroachment upon railway business. Instead, the railway companies suggested that they should be free to adjust charges

²²⁶ The Transport Advisory Council was created by the Road and Rail Transport Act (1933) to advise the Minister on transport coordination and rates. Road and Rail Traffic Act, 1933, 23 & 24 Geo. 5, c. 53, s. 46.

²²⁷ Peter Scott, "British Railways and the Challenge from Road Transport, 1919-39," p. 112, p. 119; Mance, *The Road and Rail Transport Problem*, p. 10.

²²⁸ Scott, "British Railways and the Challenge from Road Transport, 1919-39," p. 109; "Railway Rates and Charges: Effect of Increases," *Modern Transport*, XXXIX (May 21, 1938), p. 10.

²²⁹ Mance, *The Road and Rail Transport Problem*, p. 112; Bagwell, *The Transport Revolution*, p. 246. Brigadier General Sir Henry Osborne Mance (1875 - 1966) was a Royal Engineer who was Deputy Assistant Director of Railways and Armoured Trains at Kimberley, Northern Cape during the Boer War. He was appointed Director of Canals at the Ministry of War Transport in 1941. "MANCE, Brigadier-General Sir H. Osborne," *Who Was Who*, A & C Black, an imprint of Bloomsbury Publishing plc, 1920–2016; online edn, Oxford University Press, 2014, accessed 12 September 2016, http://www.ukwhoswho.com/view/article/oupww/whowaswho/U49046/MANCE_Brigadier-General_Sir_H._Osborne?index=1&results=QuicksearchResults&query=0.

²³⁰ "An Appeal from the Railways," *Modern Transport*, XL (November 26, 1938), p. 1; Mance, *The Road and Rail Transport Problem*, p. 16.

according to prevailing economic conditions. New rates would be quoted on a basis of ‘reasonableness’ and not with reference to a fixed Standard Revenue; any disputes would be settled by a reconfigured Railway Rates Tribunal.²³¹ Whilst the Conservative Minister of Transport, Euan Wallace agreed that there was a ‘*prima-facie*’ case for some reform in the light of railway losses, the ‘Big Four’s proposals demonstrate an ignorance of their longer-term implications.²³²

Though cumbersome, the existing legislative structure provided checks and balances which encouraged careful consideration of rate alterations, raising the hypothesis that the risk associated with their removal was that more freight would be carried for less income. This is evidenced by the fact that larger trading firms had successfully watered-down the ‘Square Deal’ proposals by demanding a month’s notice for rate increases, thus providing an opportunity to switch to own-account or contract road haulage.²³³ The scheme’s successful implementation thus depended upon the establishment of goodwill between all parties; furthermore, Mance’s contemporary critique of the campaign suggests that any agreement depended upon the formation of a transport oligopoly in the road haulage sector to achieve closer alignment with rail transport.²³⁴

However, the campaign revealed some common ground; the traffic carried by ‘C’ transport was an area of mutual interest between ‘A’ licensees and the ‘Big Four’ railway companies. This produced a conditional agreement for voluntary cooperation in setting merchandise rates for ratification within an Act of Parliament that pegged road and rail tariffs together to prevent undercutting.²³⁵ Whilst ‘...delighted to see that road and rail interests are getting together and are [voluntarily] progressing with the groundwork of co-ordination’, Wallace delayed drafting the Bill and suggested that ‘...the spirit [of cooperation] is of more importance than the letter’.²³⁶ This lack of commitment stemmed

²³¹ “Railways Appeal for Freedom,” *Modern Transport*, XL (November 26, 1938), 9; Rounding Off the ‘Square Deal’,” *Modern Transport*, XL (May 27, 1939), p. 2.

²³² “Railways and Road Competition,” *Great Western Railway Magazine*, 51 (1939), p. 25. David Euan Wallace (1892 - 1941) was an army officer and Conservative Member of Parliament for Hornsey from 1924. Appointed Minister of Transport by Neville Chamberlain in 1939. R. Woolven, “Wallace, (David) Euan (1892-1941),” *The Oxford Dictionary of National Biography*, Oxford University Press, May 2012, accessed 12 September 2016, <http://www.oxforddnb.com/view/article/38097>.

²³³ “Rounding Off the ‘Square Deal’,” p. 2; Mance, *The Road and Rail Transport Problem*, pp. 11-12. One might speculate that the resultant reduction in traffic would have forced the ‘Big Four’ railway companies to review their rates and penalise smaller concerns and driving them to general hauliers, worsening their financial position.

²³⁴ Mance, *The Road and Rail Transport Problem*, pp. 121-130.

²³⁵ A concession offered by the railways in return for cooperation from the road haulage sector was that it would not oppose ‘A’ and ‘B’ licence applications for a period of two years after the passing of the Act. “The Railway Demand: Conditional Support from Road Interests,” *Modern Transport*, XL (December 3, 1938), p. 13.

²³⁶ HC Deb 05 July 1939, vol 349, col 1345.

from the government's preoccupation with national defence, and the 'Square Deal' was quietly shelved after the declaration of war against Germany in September 1939.²³⁷

2.9 Planning for war, 1938-1939

Government preparations for possible conflict with Germany began in 1936, although specific plans for transport were predicated upon the belief that rail and road had the capacity to make substantial contributions to the war effort.²³⁸ In the case of the railways, preparations began in earnest after the Munich Crisis in September 1938, when the government appointed a new Railway Executive Committee (REC) as an advisory body charged with developing strategies to '...[maintain] supplies and services essential to the life of the community'.²³⁹ Chaired by Sir Ralph Wedgwood of the LNER, the Committee comprised senior managers from the 'Big Four' railways to address a series of organisational and operational challenges such as traffic prioritisation; the prevention of congestion at key railway junctions and docks, and the evacuation of children.²⁴⁰

From the government's perspective, the focus was to achieve an orderly transition to wartime operation, and a Ministry of War Transport Railway Control Officer was tasked with establishing control. By August 1939, an Order of Defence Regulations had been prepared which empowered the Minister of War Transport to assume control of transport assets in the national interest.²⁴¹ Various railway assets including docks, road transport operations and warehousing would enter the jurisdiction of the Ministry of War Transport through the REC, which became the principal means of railway management once the Order was enacted. However, after establishing a chain of command, the government

²³⁷ An article in *Modern Transport* suggested that the campaign was 'hollow', and that it was essentially a 'kite-flying' exercise that developed with the public mood, and was by no means a firm policy commitment. A more recent article by Edward Gibbins suggests that the lack of progress in 1939 was because the Minister of Transport had no intention of conceding to the railways, as it would have necessitated the future government subsidy of industries tied to the railways to overcome potentially extortionate rates. See: "After the 'Square Deal'," *Modern Transport*, XL (June 7, 1939), p. 7 and E. Gibbins, "The 'Square Deal' Campaign," *Backtrack*, 27 (2013), p. 684.

²³⁸ C. I. Savage, *History of the Second World War- Inland Transport* (London: HMSO, 1957), pp. 43-44.

²³⁹ Bell, *History of the British Railways during the War*, p. 5.

²⁴⁰ Sir Ralph Lewis Wedgwood (1874 - 1956) joined the NER in 1896, and succeeded Eric Geddes as Chief Goods Officer in 1912. Appointed General Manager of the NER in 1922 and the LNER following 'Grouping' in 1923. G. Hughes, "Wedgwood, Sir Ralph Lewis, first baronet (1874-1956)," *The Oxford Dictionary of National Biography*, Oxford University Press, 2004; online edn, January 2008, accessed 12 September 2016, <http://www.oxforddnb.com/view/article/36813>.

²⁴¹ The Railway Executive Committee was originally formed in 1912 in response to a threat of war between France and Germany in 1911. A committee of railway managers was assembled by the then War Minister, J. B. Haldane, to assess their respective companies' abilities to supply the nation from the western ports in the event of British involvement in such a conflict. See J. A. B. Hamilton, *Britain's Railways in World War I* (London: George Allen and Unwin, 1967), pp. 21-25.

assumed that excess line capacity resulting from traffic volatility during the latter 1930s was sufficient for the railways to absorb wartime traffic increases.²⁴²

In contrast to the railways, the sheer number of independent hauliers and the lack of a unifying representative body made pre-war preparations for road haulage difficult.²⁴³ This was made clear in a government booklet issued to all goods licensees in 1939, as the foreword indicated the need for a strategy that would ‘...work smoothly from the very beginning of a war, but at the same time will be elastic enough to meet changing conditions’.²⁴⁴ The principal purpose of the booklet was to communicate the necessity to save fuel in the event of war, when priority would be given to military and civil defence organisations. However, the existence of 500,000 vehicles and 200,000 commercial operators posed the problem of ‘thousands of individuals ...going his own way’.²⁴⁵

The plan proposed by the Minister was based upon the advice of the Road Transport (Defence) Advisory Committee, which consisted of ‘leading men in the road transport industry’.²⁴⁶ The plan entailed the formation of voluntary groups of 25 to 100 licence holders to assist the government in securing the best use of road transport and the best use of fuel.²⁴⁷ This was to be achieved by directing the majority of goods traffic to the railways, which used an indigenous fuel that was less vulnerable to shortage and disruption. Consequently, Britain’s road haulage sector was organised into 9,500 haulier groups administered by a regional Road Transport Defence Organisation, which in turn was based upon the existing structure of the road Licensing Authority.²⁴⁸

Other important aspects of the scheme included the pooling of lorries engaged in similar work into groups, whilst vehicles also remained in the area in which they were registered for the duration of the conflict to ease the administration of fuel rationing and prevent wasteful cross-haulage.²⁴⁹ However, the organisation lacked statutory compulsion and relied upon industry goodwill; indeed, the government’s expectation that the railways would provide the bulk of wartime haulage capacity suggests that it had ‘insufficient appreciation of the crucial part that road transport must inevitably play in wartime’.²⁵⁰ Government control over the railways was established when the Minister passed an

²⁴² Savage, *Inland Transport*, pp. 44-48; Aldcroft, *British Railways in Transition*, pp. 89-90.

²⁴³ Savage, *Inland Transport*, pp. 75-76.

²⁴⁴ Ministry of Transport, *Organisation of Road Transport for a Defence Emergency: Goods Vehicles* (London: HMSO, 1939), p. 5.

²⁴⁵ Ministry of Transport, *Organisation of Road Transport*, p. 5.

²⁴⁶ Ministry of Transport, *Organisation of Road Transport*, p. 5.

²⁴⁷ Ministry of Transport, *Organisation of Road Transport*, p. 5.

²⁴⁸ Savage, *Inland Transport*, p. 77.

²⁴⁹ Savage, *Inland Transport*, pp. 77-78.

²⁵⁰ M. Seth-Smith, *The Long Haul: A Social History of the British Commercial Vehicle Industry* (London: Hutchinson Benham, 1975), p. 125.

Emergency (Railway Control) Order on 1 September 1939 to facilitate the evacuation of children. Although initially expected to continue with ‘business as usual’ where possible, the ‘Big Four’ gradually issued notices that services were liable to disruption, with goods accepted on the proviso that the railway companies would not accept responsibility for loss or delay.²⁵¹

2.10 Goods transport in wartime and planning for peace, 1940-1945

The railway companies had gained the status of contractors to the government, which exercised greater control over finances when the Treasury implemented a revenue-pooling scheme as an anti-inflation measure in February 1940. This guaranteed the railways a flat annual payment of nearly £40 million for services rendered, with any excess divided between each company and the government up to a total of £56 million.²⁵² Government traffic was granted a 33 per cent reduction on peacetime rates, and the railways requested, and obtained, permission for a 17 per cent general increase in non-government merchandise traffic rates.²⁵³ With inflationary pressures continuing to threaten Britain’s price-controlled economy in 1941, a revised ‘Railway Control Agreement’ was issued to fix the annual payment at £43 million, with the balance going to the Exchequer.²⁵⁴

Despite protecting the wider economy, a profound increase in traffic between 1941 and 1944 produced a potential £350 million in revenue; instead, the Treasury received £178 million in ‘excess profits’, leaving the railways with £172 million to fund running repairs, meet rising operating costs and plan for peacetime.²⁵⁵ The impact of this arrangement, namely a lack of compensation for wear and tear, was to be long-term; the short-term problem concerned the operation of Britain’s railways in wartime when attrition in materials, manpower and equipment precipitated the accumulation of maintenance arrears. Therefore, the outbreak of war had imposed a moratorium upon road and rail competition, yet also marked the beginning of an erosion of service reliability.

Wartime adjustment was initially characterised by the deceleration of railway passenger and goods services to reduce locomotive wear and coal consumption. Robert

²⁵¹ “Government Control of the Railways,” *Southern Railway Magazine*, XVIII (1940), p. 72.

²⁵² The payment was also granted to the London Passenger Transport Board. Bell, *History of the British Railways during the War*, pp.10-13. See also Aldcroft, *British Railways in Transition*, pp. 90-91.

²⁵³ Aldcroft, *British Railways in Transition*, p. 91.

²⁵⁴ This agreement also represented an adjustment relating to the railway industry’s failure to obtain more the full £56 million in revenue in 1940. Aldcroft, *British Railways in Transition*, p. 92.

²⁵⁵ Bell, *History of the British Railways during the War*, p. 239.

Bell's post-war analysis of Britain's railways at war cites the disbandment of 'next-day' goods services, including the LNER's 'Green Arrow' express freight service, as a symptom of the attrition facing the industry, with goods trains lengthened to achieve more with fewer resources.²⁵⁶ Although general merchandise continued to be carried, it was secondary in priority to war materials and food, and therefore prone to heavy delays. The REC also conceded that congestion was partially self-inflicted due to inadequate wagon clearance procedures; the later than anticipated commencement of aerial bombardment in September 1940 thus provided a brief breathing space for addressing these matters.²⁵⁷

Image 5



War damage at Derby station after an air raid on 15 January, 1941, and indicative of the disruption experienced at various locations across Britain's railway network during the conflict. Source: National Railway Museum DS091161-82597.

Thereafter, stations, marshalling yards and railway junctions became prime targets, and the destruction depicted in **Image 5** or the dislocation of rolling stock impacted upon the railway industry's capacity to serve strategic assets such as the ports. Consequently, shore warehousing overflowed and caused a rise in shipping demurrage, a key point of concern

²⁵⁶ Bell, *History of the British Railways during the War*, p. 9.

²⁵⁷ "December 1939," *London & North Eastern Railway Magazine*, 30 (1940), p. 3; Bell, *History of the British Railways during the War*, p. 82.

in the official and subsequent histories of wartime distribution.²⁵⁸ R. J. Hammond and Lizzie Collingham suggest that the port situation was complicated by the government's pre-war supply strategy, which determined that essential commodities normally entering the country via the east coast, such as grain, would be diverted to west coast ports at Liverpool, Glasgow and elsewhere to counteract the anticipated U-Boat threat.²⁵⁹ In the case of Liverpool, the railways were expected to ferry grain traffic to the mills of eastern England across the Pennines over lines with restricted capacity, such as the Diggle and Woodhead routes from Manchester to Leeds and Sheffield respectively.²⁶⁰

By October 1940, an all-railway working party had been established to analyse port congestion and propose solutions. Summarising the report, Christopher Savage's official history of wartime transport suggests that the haphazard organisation of the government's own rail traffic had a negative impact upon the operational capacity of the railways, as three separate Ministries used network as a matter of priority.²⁶¹ Inter-departmental competition for finite transport resources meant that wagons were hoarded by the Ministry of Supply and the War Department at the expense of the Ministry of Food's distribution operations. The working party thus emphasised the need for more systematic planning according to anticipated traffic requirements through closer cooperation between railways, ports, traders and government departments.²⁶²

Such planning required the pooling of the wagon fleet, thus ensuring that specialist vehicles were allocated to locations with greatest need; new construction was constrained by the manufacture of war material at railway works.²⁶³ To assist, wagon demurrage charges were altered to increase availability and speed up unloading. In 1937, the demurrage charge for an ordinary wagon was 17p per day on the Southern railway after a free initial 24-hour period for unloading; from December 1940, the charge was doubled to 34p per day by the Minister of War Transport.²⁶⁴ This supplemented a 'nominated loading' system, which entailed the holding-back of part-loads for dispatch on specified

²⁵⁸ The 'port problem' in the case of food is considered in the official war history of the Ministry of Food. See R. J. Hammond, *History of the Second World War- Food Vol. III: Studies in Administration and Control* (London: HMSO, 1962), p. 520. See also Seth-Smith, *The Long Haul*, p. 125.

²⁵⁹ R. J. Hammond, *History of the Second World War- Food Vol. I* (London: HMSO, 1951), p. 24; L. Collingham, *The Taste of War: World War Two and the Battle for Food* (London: Penguin, 2013), pp. 104-105; Seth-Smith, *The Long Haul*, p. 124.

²⁶⁰ Hammond, *Food Vol. I*, p. 69; Savage, *Inland Transport*, p. 47.

²⁶¹ Bell, *History of the British Railways during the War*, p. 25; Savage, *Inland Transport* (London: HMSO, 1957), p. 63, p. 115, p. 378; Hammond, *Food Vol. I*, p. 59; Savage, *Inland Transport*, pp. 230-231.

²⁶² Bell, *History of the British Railways during the War*, p. 83.

²⁶³ Aldcroft, *British Railways in Transition*, p. 97.

²⁶⁴ The quoted charges have been decimalised to new pence. Sources: Southern Railway, *Scales of charges and general instructions in respect to demurrage and siding rent on wagons containing merchandise and coal, coke & patent fuel, also demurrage on railway companies' containers* (London: Southern Railway, 1937), p. 1; HC Deb 6 December 1939, vol 355, col 631.

days, thus ensuring more economical wagon use, a reduction in journey times and the ability to forward plan.²⁶⁵

The conflict had also presented the Ministry of War Transport with an opportunity to consider the future needs of inland transport in Britain, with two important points of discussion being the maintenance of efficient transport and road network development. In the first instance, a report prepared by Sir Cyril Hurcomb at the Ministry of War Transport in July 1943 recorded that railway finances were key to post-war stability.²⁶⁶ In this respect, Hurcomb referred to what Gourvish describes as a ‘radical’ report compiled by Dr W. H. Coates and Sir Alfred Robinson on behalf of the then-Minister of Transport, Lord John Reith in 1940, which proposed the creation of a single, monopolist transport organisation.²⁶⁷ Although shelved by Reith’s successor, J. T. C. Moore-Brabazon, the report, entitled ‘The Transport Problem in Great Britain’, also speculated upon the outcome of the ‘Square Deal’ campaign had it not been interrupted by the war.²⁶⁸

The authors dismissed the scheme on the grounds that it ignored the ‘...underlying differences of the differing rates structures of the two sides of the [transport] Industry’; although the proposals appeared to ‘...free the railways from their legislative shackles, they will not effectively do so in practice’.²⁶⁹ Hurcomb considered that a ‘Square Deal Bill’ would be a palliative at best, as the railways would require ‘more radical treatment at an early date’.²⁷⁰ Other schemes considered included the creation of a ‘national clearing house’ that would allocate traffic to the most appropriate mode of transport.²⁷¹

²⁶⁵ “December 1939,” *London & North Eastern Railway Magazine*, p. 3.

²⁶⁶ See TNA: MT 64/1, July 1943 Coordination of Inland Transport pp. 1-2. Cyril William Hurcomb was a career Civil Servant. Transferred to the Admiralty in 1914 and the Ministry of Shipping in 1916, he eventually joined the fledgling Ministry of Transport in 1919. Tasked with the ‘Grouping’ of the railways, Hurcomb was appointed Permanent Secretary in 1927, a position he retained until 1937. He rejoined the Ministry during the Second World War, and was appointed the first Chairman of the British Transport Commission following nationalisation in 1947. He was elevated to the peerage as Baron Hurcomb in 1950. M. Nicholson, “Hurcomb, Cyril William, Baron Hurcomb (1883–1975),” rev. *Oxford Dictionary of National Biography*, Oxford University Press, 2004, accessed 12 Sept 2016, <http://www.oxforddnb.com/view/article/31268>.

²⁶⁷ Gourvish, *British Railways, 1948-73*, pp. 17-18. Dr. Coates was a director of ICI, and Robinson a Deputy Secretary at the Ministry of War Transport. John Charles Walsham Reith was the first Director General of the BBC. After leaving the Corporation in 1938, he became Chairman of Imperial Airways. He was Appointed Minister of Transport in 1940 after a brief spell as Minister for Information. I. McIntyre, “Reith, John Charles Walsham, first Baron Reith (1889–1971),” *The Oxford Dictionary of National Biography*, online edn, January 2011, accessed 12 September 2016, <http://www.oxforddnb.com/view/article/31596>.

²⁶⁸ Gourvish, *British Railways, 1948-1973*, p. 17; TNA: MT 64/11, 15 October 1940 Preliminary Report Submitted to the Minister pp. 4-5. John Theodore Cuthbert Moore-Brabazon (1884 - 1964) was an aviator and Conservative Member of Parliament for Chatham until 1929. He was subsequently elevated to a life peer as Baron Brabazon of Tara, and was appointed Minister of Transport in 1940. K. Rose, “Brabazon, John Theodore Cuthbert Moore-, first Baron Brabazon of Tara (1884–1964),” rev. *Oxford Dictionary of National Biography*, Oxford University Press, 2004; online edn, January 2011, accessed 12 September 2016, <http://www.oxforddnb.com/view/article/32018>.

²⁶⁹ TNA: MT 64/1, July 1943 Coordination of Inland Transport p. 1.

²⁷⁰ TNA: MT 64/1, July 1943 Coordination of Inland Transport p. 1.

²⁷¹ TNA: MT 64/1, July 1943 Coordination of Inland Transport pp. 1-2.

Furthermore, a plan submitted by Sir Osborne Mance advocated the ‘separation of responsibility for the respective permanent ways of road and rail from the responsibility for the operation of transport’ in a manner which presaged the relationship between Railtrack, Network Rail and Britain’s Train Operating Companies after privatisation in 1994.²⁷²

Hurcomb emphasised that there was an urgent requirement for ‘...a definite view of the manner in which we mean to prevent the condition of Inland Transport slipping back into one of competitive chaos immediately the war is over’.²⁷³ Dr Coates’ shelved proposal for a transport monopoly which united canal, rail and long-distance road haulage under a central management structure gained renewed interest, as it solved the ‘problem of co-ordination in a complete and drastic fashion’.²⁷⁴ Whilst Hurcomb suggested that such a monopoly would provide ‘financial and administrative difficulties’ that would give rise to ‘much controversy’, the importance of inland transport provided ample justification for directing thoughts towards creating a ‘national transport authority’, presaging the policy of nationalisation that was eventually adopted.²⁷⁵

The second aspect of post-war inland transport considered by the Ministry of War Transport was the development of Britain’s road network, a debate summarised in Peter Merriman’s *Driving Spaces*.²⁷⁶ Merriman refers to a memorandum prepared by Frederick Cook, Chief Engineer of the Ministry of War Transport in mid-1942, which set the agenda for the government’s peacetime road policy, which had previously been ‘determined by the principles laid down by a former Minister (Mr. Hore-Belisha)’ in 1936, which was merely to incrementally ‘...improve the system we now have’.²⁷⁷ Although a fact-finding tour of Germany in 1937 had softened the Ministry’s stance towards the construction of a new national road network, Merriman records that inter-war policy was stifled by slowing economic growth and rising defence expenditure, which prevented the construction of a Carnforth-Warrington motorway and planning for a toll-free version of the 1923 London-Birmingham scheme.²⁷⁸

Cook acknowledged that the circumstances prevailing in 1936 could not apply to the post-war period, and recommended that a decision should be made as to whether ‘...it is in the national interest that the construction of a system of motorways shall form part of the

²⁷² Mance, *The Road and Rail Transport Problem*, p. 141.

²⁷³ TNA: MT 64/1, July 1943 Coordination of Inland Transport p. 2.

²⁷⁴ TNA: MT 64/1, July 1943 Coordination of Inland Transport p. 1.

²⁷⁵ TNA: MT 64/1, July 1943 Coordination of Inland Transport p. 1.

²⁷⁶ Merriman, *Driving Spaces*, pp. 43-46.

²⁷⁷ Merriman, *Driving Spaces*, p. 45; TNA: MT 64/4, Post War Planning and Motorways p. 1 and HC Deb 11 November 1936, vol 317, col 866.

²⁷⁸ P. Merriman, “Motorways and the Modernisation of Britain’s Road Network, 1937-70” in *From Rails to Roads and Back Again? A Century of Transport Competition and Interdependency*, ed. C. Divall and R. Roth (Aldershot: Ashgate, 2015), pp. 319-320.

post-war programme'.²⁷⁹ The memorandum's comparative analysis of the Italian and German motorway programmes suggest that despite high initial cost, their construction provided a means of reducing traffic congestion and increasing road capacity in a Britain that was '...under-vehicled in relation to population and over-vehicled in relation to road mileage', indicating that a new road network would complement existing trunk routes.²⁸⁰

Cook thus suggested that improved roads would encourage long-distance door-to-door transport, whilst motorways built to serve densely-populated areas were also envisaged to give rural businesses direct access to lucrative urban markets, thus permitting direct competition with the railways in merchandise traffic.²⁸¹ The issue was also being pressed by a vocal road lobby, which extolled the benefits a new, potentially faster road network would have for the economy. Whilst a sympathetic Labour government was elected in 1945, economic headwinds continued to delay motorway construction. Furthermore, the Labour government's election campaign had focused upon the implementation of sweeping reforms to place industry '...[into] the service of the nation' and a commitment to nationalise inland transport.²⁸²

2.11 From nationalisation to reorganisation: goods transport 1945-1955

The Labour government's pursuit of nationalisation in 1945 was the culmination of political debate and frustration at the lack of economic planning directed towards protecting the ailing 'commanding heights' of British industry.²⁸³ In the case of transport, this entailed imposing control over private interest.²⁸⁴ The implication was that the arms-length approach to regulation prevailing before 1939 had failed to secure an effective settlement of the competition between rail and road through private enterprise, which had instead created a prolonged 'struggle with sectional interests'.²⁸⁵ The Labour government

²⁷⁹ TNA: MT 64/4, Post War Planning and Motorways p. 1.

²⁸⁰ TNA: MT 64/4, Post War Planning and Motorways p. 2, p. 12.

²⁸¹ Merriman, "Motorways and the Modernisation of Britain's Road Network," p. 320; TNA: MT 64/4, Post War Planning and Motorways pp. 12-13.

²⁸² The Labour Party, *Let Us Face the Future: A Declaration of Labour Policy for the Consideration of the Nation* (London: The Labour Party, 1945), p. 5.

²⁸³ R. Millward, "Industrial Organisation and Economic Factors in Nationalisation" in *The Political Economy of Nationalisation in Britain, 1920-1950*, ed. R. Millward and J. Singleton (Cambridge: Cambridge University Press, 1995), p. 5.

²⁸⁴ Crompton, "The Railway Companies, 1920-1950," pp. 140-141.

²⁸⁵ The Labour Party, *Let Us Face the Future*, p. 7; J. Singleton, "Labour, the Conservatives and Nationalisation" in *The Political Economy of Nationalisation in Britain, 1920-1950*, ed. R. Millward and J. Singleton (Cambridge: Cambridge University Press, 1995), p. 23.

thus advocated intervention through the Ministry of Transport, which maintained its control over the ‘Big Four’ railways throughout the nationalisation process.

From the railway industry’s perspective, the threat of imminent public ownership meant distraction and uncertainty, which prevented the implementation of post-war investment plans, as the government’s continuing control over railway finances immediately prior to nationalisation extended to the development fund created from wartime operating profits.²⁸⁶ The consequence was an inability to address wartime maintenance arrears; the period 1945-1947 was instead characterised by disinvestment and service deterioration which outwardly confirmed the Chancellor of the Exchequer, Hugh Dalton’s exclamation that the ‘Big Four’ companies were ‘a very poor bag of physical assets’.²⁸⁷ The deterioration in service quality was evidenced by a severe locomotive shortage that adversely impacted upon the freight business during the winter of 1947.

The adverse impact emerged from the railway industry’s decision to tackle the situation by imposing freight embargoes, a strategy that risked hastening the contraction of traffic since 1945.²⁸⁸ However, the Southern Railway’s Chairman, Colonel Eric Gore-Browne condemned the Labour government’s lack of assistance in 1947.²⁸⁹ Gore-Browne argued to shareholders that nationalisation was driven by ideology rather than a real concern for the state of transport, and was the latest ‘ham-fisted’ scheme to emerge from a chronic lack of continuity in transport policy since the creation of the Ministry of Transport in 1919.²⁹⁰ In short, railway managers argued that the combination of government control of investment and the uncertainty of nationalisation had rendered them impotent in delivering the renewal and re-equipment demanded by the trading community.

²⁸⁶ Gourvish, *British Railways, 1948-1973*, p. 6; M. Bonavia, *The Organisation of British Railways* (London: Ian Allan, 1971), pp. 34-35; The government retained control of £40 million contained in a trust fund to assist track maintenance, exacerbated the worsening operational and financial position of the ‘Big Four’ railways. “Victory and After,” *London & North Eastern Railway Magazine*, 35 (1945), p. 102.

²⁸⁷ Crompton, “The Railway Companies, 1920-1950,” p. 140; HC Deb 17 December 1946, vol 431, col 1809. Edward Hugh Neale Dalton was an academic in economics and Labour Party politician who was elevated to Baron Dalton. Appointed Chancellor of the Exchequer by Clement Attlee in 1945, Dalton’s statement overlooked the fact that the ‘Big Four’ were large concerns and had to allocate financial resources accordingly. In this regard, the attack might be interpreted as making political capital out of maintenance arrears and labour shortages. B. Pimlott, “Dalton, (Edward) Hugh Neale, Baron Dalton (1887–1962),” *Oxford Dictionary of National Biography*, Oxford University Press, 2004; online edn, January 2011, accessed 12 Sept 2016, <http://www.oxforddnb.com/view/article/32697>.

²⁸⁸ Munby and Watson, *Inland Transport Statistics*; “Traffic Restrictions,” *London & North Eastern Railway Magazine*, 47 (1947), p. 4.

²⁸⁹ “Southern Railway Annual Meeting: The Chairman’s Speech,” *Southern Railway Magazine*, XXV (1947), pp. 69-70. Colonel Eric Gore-Browne 1885-1964) was a soldier and banker at Glyn, Mills & Co., and was appointed as Chairman of the Southern Railway’s Board in 1944. “GORE-BROWNE, Col Sir Eric,” *Who Was Who*, A & C Black, an imprint of Bloomsbury Publishing plc, 1920–2016; online edn, Oxford University Press, 2014, accessed 12 September 2016 <http://www.ukwhoswho.com/view/article/oupww/whowaswho/U50296>.

²⁹⁰ “Southern Railway Annual Meeting: The Chairman’s Speech,” *Southern Railway Magazine*, XXV (1947), pp. 69-70.

Gore-Browne's critique also chimed with sentiments expressed within the independent long-distance road haulage sector. This was because the Labour government was also intent on nationalising long-distance road haulage in a bid to limit competition for traffic which could be conveyed by rail. The plan attracted fierce criticism from the haulage lobby's newly-formed Road Haulage Association and was a basis for cooperation with the 'Big Four' railways; however, the 'ill-conceived, ill-drafted [and] tyrannical' Transport Act gained Parliamentary approval on 15 August 1947.²⁹¹ The Act determined that inland waterways and the 'Big Four' railways would be vested into a British Transport Commission (BTC) on January 1, 1948, which would provide strategic management for British transport and was answerable to the Minister of Transport. The day-to-day management of inland transport was to be delegated to several Executive bodies including the Railway Executive (RE), which managed the newly-formed British Railways (BR), and the Road Haulage Executive (RHE).

Michael Bonavia's history of the BTC argues that the relationship between the BTC and Executives was determined by the individual circumstances of their creation.²⁹² The RE possessed managerial continuity as its personnel was selected from existing employees to ease the transition from a private to nationalised entity, whilst it oversaw regions that roughly corresponded with the 'Big Four'. However, Bonavia and Gourvish suggest that the retention of management personnel with close association with the 'Big Four' was risky, as 'personalities and nostalgia' threatened to create a rift between operational and strategic management.²⁹³ Furthermore, hopes of a post-nationalisation investment programme to address the ongoing maintenance arrears were dashed when declining economic fortunes forced the government to impose a moratorium on capital spending.²⁹⁴ With the BTC queuing in an order of national priorities that included health and education, tension with the RE increased.

In contrast, the development of the RHE was initially complex as it required the legal ratification of purchase agreements made between the BTC and thousands of individual haulage firms. However, their settlement secured substantial lorry fleets and a transfer of experienced personnel, whilst the haulage industry's fragmentation ultimately

²⁹¹ "Curtain on Act I," *Commercial Motor*, LXXXVI (August 15, 1947), pp. 49-50.

²⁹² M. R. Bonavia, *The Nationalisation of British Transport: The Early History of the British Transport Commission* (New York: St. Martin's Press, 1987), pp. 38-59.

²⁹³ Gourvish, *British Railways, 1948-1973*, p. 67; Bonavia, *The Nationalisation of British Transport*, pp. 64-66.

²⁹⁴ Bonavia, *The Nationalisation of British Transport*, p. 64; D. N. Clough, *The Modernisation Plan: British Railways' Blueprint for the Future* (Hersham: Ian Allan, 2014), p. 11, p. 14.

worked in the RHE's favour because of the smaller-scale of company loyalties.²⁹⁵ Therefore, the main organisational challenge facing the RHE was acquisition, and whilst the Transport Act had anticipated this by setting a deadline of October 1948, it would take until 1951 before British Road Services (BRS), the trading name of the RHE, was operational, having absorbed 3,766 long-distance haulage firms and 41,265 lorries.²⁹⁶

The creation of BRS ensured that freight traffic could be allocated between the nationalised concerns efficiently, with small loads conveyed by road, and bulkier loads by rail. A 25-mile operating restriction was imposed upon remaining independent hauliers to give BRS a monopoly over remaining long-distance road transport operations.²⁹⁷ This posed two problems, the first being a reduction in choice available to traders, as highlighted in later chapters, whilst the implementation of fixed tariffs was followed by rates increases to improve the relationship between costs and income.²⁹⁸ This was because 'a number of rates were uneconomic and required upward revision', whilst the proceeds from general rates increases ranging from two to ten per cent would finance an overhaul programme, the scale of which resulted in a -£1 million deficit in net receipts in 1950.²⁹⁹ Whilst this was a visible attempt to improve the quality of service provided by BRS, the concentration of transport provision within a single organisation increased the risk of disruption during trade union disputes, as exemplified by a failed attempt to amalgamate all of the BTC's road collection and delivery services within a single organisation.³⁰⁰

The BTC attempted to transfer control of the RE's road collection and delivery services to the RHE, which generated administrative difficulties and trade union pressure over redundancies caused by the amalgamation, causing a stoppage at St. Pancras goods depot.³⁰¹ The tension between the BTC and the Executives was compounded by a period of drift within the Labour party before a new Conservative government committed to the denationalisation of long-distance road haulage was elected in October 1951.³⁰² The plan was formalised under the Transport Act (1953), although a lack of safeguards meant that

²⁹⁵ Rail-owned haulage firms such as Pickfords formed the basis of the RHE's holdings between 1948 and 1949. Bonavia, *The Nationalisation of British Transport*, pp. 75-76.

²⁹⁶ Bonavia, *The Nationalisation of British Transport*, p. 78.

²⁹⁷ The Transport Act, 1947, 10 & 11 Geo. 6, c. 49, s. 39(2). However, independent hauliers could apply for a permit, which was granted by the authorities on a case-by-case basis.

²⁹⁸ Bonavia, *The Nationalisation of British Transport*, p. 81.

²⁹⁹ British Transport Commission, *Annual Report and Accounts* (London: HMSO, 1950).

³⁰⁰ TNA: AN 54/35, 19 March 1952 Henderson to Cousins, p. 1. John Singleton suggests that 'rent-seeking' from trade unions to guarantee the wages of employees within an ailing industry was not a factor in the decision to nationalise road transport, although the creation of BRS exposed the long-distance haulage industry to greater union influence. See Singleton, "Labour, the Conservatives and Nationalisation," p. 27; TNA: AN 13/1216, Memorandum of Meeting Held at 222 Marylebone Road on 24 August 1951: Road-Rail Integration, p.2.

³⁰¹ TNA: AN 13/1216, Memorandum: Road-Rail Integration, p. 2; TNA: AN 13/1216, 8 October 1951 National Union of Railwaymen to Hurcomb.

³⁰² Bonavia, *The Nationalisation of British Transport*, p. 152.

BR faced competition from the rump of BRS, private hauliers and ‘C’ licensees.³⁰³ Despite demonstrating recognition of the importance of road haulage to the national economy, the Act contained little consideration for BR’s ability to exist alongside a reinvigorated road haulage sector. Instead, the government commenced another reorganisation by abolishing the RE and dividing its responsibilities between the BTC and regional management.³⁰⁴ Although the Act anticipated renewed transport competition by removing all railway rate restrictions except maximum charges, success would ultimately hinge upon the outcome of investment funding released to the railways in 1955.³⁰⁵

2.12 The ‘Modernisation Plan’, 1955-1959

In 1955, BR’s freight business was characterised by a labour-intensive steam-hauled wagon-load service and rising staff wages, as highlighted below in **Graph 3**.³⁰⁶ In proportion to annual revenue earned, estimated total annual male adult wages calculated from BR’s average weekly wage bill represented 60 per cent of £336 million earned in 1949, eventually rising to 67 per cent of £472 million earned in 1958.³⁰⁷ In 1954, BR attempted to capitalise upon political goodwill and address the issue by compiling a report entitled ‘Modernisation and Re-equipment of British Railways’, which described, in general terms, how an anticipated £1,240 million in funding would be spent upon revitalising the network, a new motive power construction programme and the adoption of new technology to streamline existing methods of freight handling.³⁰⁸ Despite the BTC receiving government support and permission to acquire funding through the issue of Loan Stock on the market following publication in January 1955, circumstances conspired to ensure that the plan would fail to stem the flow of freight traffic turning to road transport.

³⁰³ D. L. Munby, “Mrs. Castle’s Transport Policy,” *Journal of Transport Economics and Policy* 11, (1968), p. 146.

³⁰⁴ Gourvish, *British Railways, 1948-1973*, p. 67, p. 139.

³⁰⁵ Clough, *The Modernisation Plan*, p. 18; The Transport Act, 1 & 2 Eliz. 2, 1953, c. 13, s. 1-5.

³⁰⁶ Thalmann, *The Dynamics of Freight Transport Development*, pp. 21-22.

³⁰⁷ British Transport Commission, *Annual Report and Accounts* (London: HMSO, 1949-1958).

³⁰⁸ Gourvish, *British Railways, 1948-1973*, p. 256; British Transport Commission, *Modernisation and Re-equipment of British Railways* (London: Curwen Press, 1955).

Graph 3



Source: See Appendix 2, Table 3 (p. 298).

Firstly, former BR employee Stewart Joy argues that there was a lack of strategic vision amongst the upper echelons of management, leading to a failure to recognise the changing character of trade and industry in Britain.³⁰⁹ Whilst the country was moving towards a more competitive, consumer-based economy, the choice between road and rail transport became starker as producers, manufacturers and retailers increasingly desired a standardised form of logistics that gave ‘primary consideration ...to the interests of people using transport’.³¹⁰ This included the integration of storage and final distribution into a seamless operation which minimised costly handling, with the retail sector using third-party hauliers to provide most of their distribution requirements.³¹¹ BR’s response was to improve its existing wagon-load and container operations, which ostensibly offered the trader the flexibility they desired by expanding services that catered for the dispatch of small loads over long distances, thereby justifying investment in a new generation of automated marshalling yards.³¹²

³⁰⁹ S. Joy, *The Train that Ran Away: A Business History of British Railways, 1948-1968* (Shepperton: Ian Allan, 1973), p. 43.

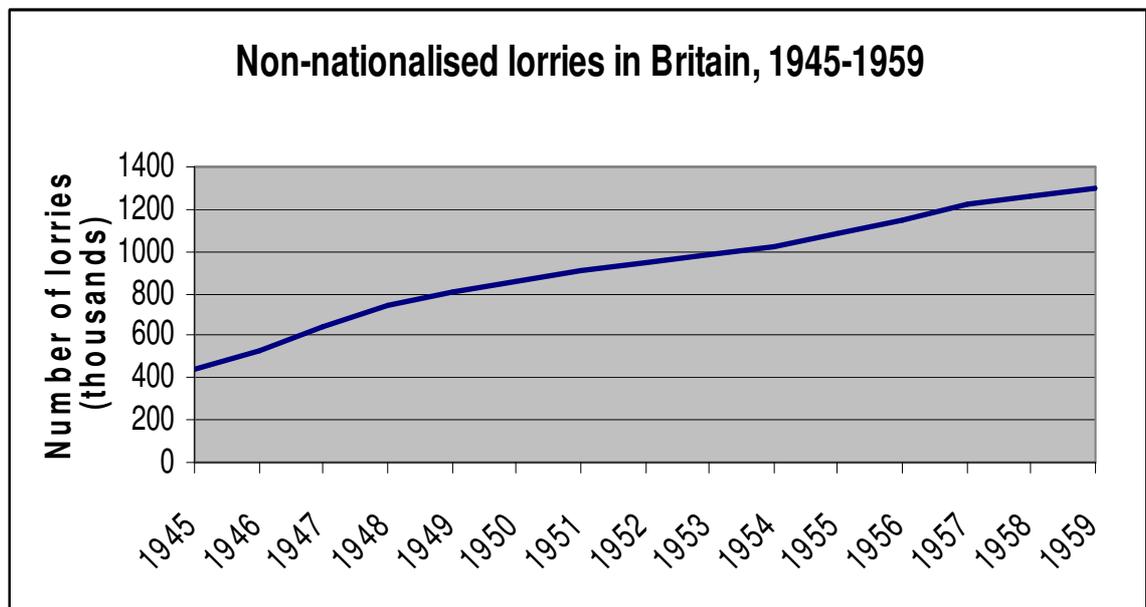
³¹⁰ B. Bayliss, “Regulation in the Freight Transport Sector,” *Journal of Transport Economics and Policy*, 32 (1998), p. 119.

³¹¹ MSA, *M&S Transport and Logistics: How we sourced, stored and distributed goods, from 1884 to today* (Archive Research Pamphlet, c.2014), p. 3. See also: D. A. Quarmby, “Developments in the Retail Market and their Effect on Freight Distribution,” *Journal of Transport Economics and Policy*, 23 (1989), pp. 75-87.

³¹² Clough, *The Modernisation Plan*, pp. 150-151; British Transport Commission, *Modernisation and Re-equipment of British Railways*, pp. 24-25.

Although BR management had correctly identified the need for a reduction in the labour-intensity of goods operations, the decision to invest £50 million in marshalling yards raises the hypothesis that it was working towards a ‘modernised’ rather than ‘modern’ railway network to address 16 years of disinvestment.³¹³ Schemes initiated under the plan included dieselisation and the acceleration of vacuum-braked goods wagon construction; both attempted to improve the industry’s competitive position against longer-distance road haulage by increasing speed of transit and reducing the number of staff required to safely operate goods trains.³¹⁴ However, an ‘inadequate response to productivity from railwaymen’ was accompanied by the degeneration of a pilot scheme to test new diesels into a morass of panic-ordering.³¹⁵

Graph 4



Source: See Appendix 2, Table 4 (p. 299).

The acceleration of vacuum-braked wagon construction also proved an expensive white elephant on two counts. Although BR policy envisaged a gradual transition from steam to diesel motive power that necessitated the retention of vacuum brakes, both Joy and subsequently Gourvish indicate that more efficient air-braking was widely used by various European railways and could be adapted for use with diesel motive power.³¹⁶ Secondly, the practical benefit of fitting vacuum brakes to all wagons was nullified by the need to

³¹³ Gourvish, *British Railways, 1948-1973*, p. 259; Clough, *The Modernisation Plan*, pp. 167-168.

³¹⁴ British Transport Commission, *Modernisation and Re-equipment of British Railways*, pp. 16-17, pp. 23-24.

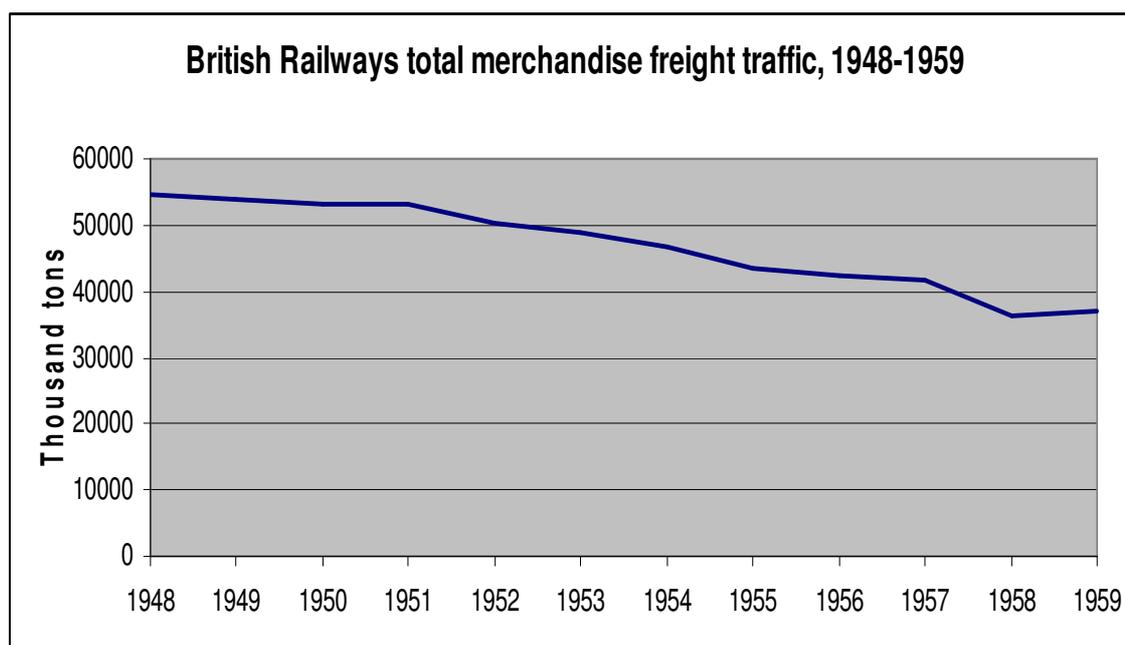
³¹⁵ Gourvish, *British Railways, 1948-1973*, p. 257.

³¹⁶ Gourvish, *British Railways, 1948-1973*, p. 277; Joy, *The Train that Ran Away*, p. 52.

manually couple individual wagons at marshalling yards. Taken together, these demonstrate BR's failure to construct its Modernisation Plan according to the demands of its customers, resulting in money being wasted on infrastructure being rendered redundant by the growth of road haulage highlighted above in **Graph 4**.³¹⁷

The unveiling of the Modernisation Plan was followed by industrial action over a long-standing engineman's wages dispute. An ASLEF strike between May and June 1955 caused severe disruption, and indicated that a modernising BR had yet to overcome the problem of employee relations, which continued to impact upon service reliability.³¹⁸ The fragmentary nature of the road haulage industry meant that it was less susceptible to trade union interference, and it is possible to hypothesise that this, and subsequent rate adjustments made by BR in 1957 contributed to the decline in the tonnage of merchandise conveyed in 1958, as indicated by **Graph 5**; the lack of a substantial recovery in 1959 permits an assumption that a permanent transfer to road haulage had taken place in the traffic concerned.³¹⁹

Graph 5



Source: See Appendix 2, Table 5 (p. 299).

The loss of traffic thus suggests that Britain's railways were no longer an automatic proposition for goods conveyance and therefore needed a more proactive approach to marketing that 'sold' services to the trader. This is exemplified by BR's introduction of

³¹⁷ Aldcroft, *British Railways in Transition*, p. 155.

³¹⁸ Gourvish, *British Railways, 1948-1973*, pp. 214-225.

³¹⁹ Aldcroft, *British Railways in Transition*, p. 137.

the ‘liner train’ in 1959, which entailed running fast, regular, fixed-formation trains over long-distance trunk routes such as London-Glasgow.³²⁰ The service used rail-mounted containers to eradicate shunting and reduce the need for specialist wagons, whilst traders could trunk loose or palletised traffic to a selection of locations for transshipment. The concept thus showcased BR’s ability to offer a full door-to-door service; collection, trunk-haulage and delivery was conveniently arranged by one organisation, whilst the reduction in handling afforded by the container preserved condition during transit.³²¹ However, a combination of the Modernisation Plan’s inability to reverse the decline in traffic and income hindered any meaningful expansion of the liner train concept before 1963.

2.13 Railways in retreat, road haulage under pressure: goods transport, 1959-1975

If the six years between 1953 and 1958 witnessed the balance tip in favour of road haulage, the period to 1975 sealed BR’s fate in the conveyance of merchandise; the decline in the overall tonnage of freight carried by Britain’s railways throughout the period has already been shown in the introduction of this chapter. The decline coincided with a change in the politics of inland transport with the appointment of Ernest Marples as Minister of Transport.³²² This marked the Conservative government’s adoption of a more pragmatic stance which accounted for the advance of private motor transport and rising demand for the lorry as the principal means of goods conveyance by trade and industry. The opening of the M1 in 1959 and the subsequent motorway construction programme provided new arterial routes for long-distance transport that relieved urban traffic congestion and permitted competition between rail and road for long-distance traffic.³²³

Marples’ response to the decline in BR’s fortunes was to establish a Parliamentary Select Committee on BTC finances and a Special Advisory Group to review the Modernisation Plan. Gourvish records that BR had little immediate chance of ‘breaking even’, whilst the Advisory Group, led by Sir Ivan Stedeford and featuring Dr. Richard

³²⁰ One of the initial long-distance services was given the name ‘Condor’. See “Door to Door by Condor,” *British Railways (Midland Region) Magazine*, 10 (1959), p. 142.

³²¹ Gourvish, *British Railways, 1948-1973*, p. 290.

³²² Alfred Ernest Marples was a politician and businessman. He was the one-time director of road construction firm Marples, Ridgeway and Partners, and after being invalided out of the army during the Second World War, was elected Conservative Member of Parliament for Wallasey in 1945. After a spell as Minister of Pensions and National Insurance from 1954, he was appointed Minister of Transport by Harold Macmillan in 1959. D. J. Dutton, “Marples, (Alfred) Ernest, Baron Marples (1907–1978),” *Oxford Dictionary of National Biography*, Oxford University Press, May 2006, accessed 12 September 2016, <http://www.oxforddnb.com/view/article/31411>.

³²³ Merriman, *Driving Spaces*, p. 69.

Beeching of Imperial Chemical Industries, recommended the cessation of the Modernisation Plan.³²⁴ The Group concluded that BR's declining financial performance between 1951 and 1960, highlighted in **Table 1** (p. 45), stemmed from ineffective management accounting, a factor considered in detail by John Quail.³²⁵ Quail's analysis suggests that the 'Big Four' failed to fully cost services before the Second World War; indeed, success was measured by the tonnage carried rather than profit derived thereof, and institutional path-dependency in day-to-day management meant that any attempt to implement cost-budget accounting took place within a business culture unaccustomed to pegging revenue with cost.³²⁶

Derek Aldcroft attributes the inability to implement management accounting to the sheer burden of demand upon revenue, the need to offer competitive rates in the face of road competition and excessive cross-subsidisation between profitable and unprofitable services exacerbated by the sunk costs in existing infrastructure.³²⁷ Furthermore, he records that whilst the 1953 Act had given the BTC the freedom to adjust charges within a published maxima, the risk of failing to cover indirect costs such as track maintenance and administration remained.³²⁸ The situation demanded strict budgetary restraint, yet the challenge of covering total costs meant that the growth of BR's financial deficit continued unchecked, as highlighted in **Table 1**, prompting questions about the optimum size of the network.³²⁹ The debate gained traction as traffic forwarded by BR's traditional major customers, the coal and steel industries, shrank in the face of global competition.³³⁰ This was the context in which Beeching was appointed BTC Chairman in 1961, which presaged another reorganisation under the Transport Act (1962).³³¹

Whilst the BTC was dissolved to permit the creation of an autonomous British Railways Board (BRB), the Act also removed the last of the Victorian legislative handicaps affecting the freight business. The statutory duty to offer 'reasonable facilities'

³²⁴ Gourvish, *British Railways, 1948-1973*, pp. 300-304. Sir Ivan Arthur Rice Stedeford (1897-1975) was an engineer, banker and governor of the BBC. After his time as Chairman of the Special Advisory Group, he was appointed Life President of Tube Investments. "STEDFORD, Sir Ivan (Arthur Rice)," *Who Was Who*, A & C Black, an imprint of Bloomsbury Publishing plc, 1920-2016; online edn, Oxford University Press, 2014, accessed 12 September 2016, <http://www.kwhoswho.com/view/article/oupww/whowaswho/U159864>.

³²⁵ J. Quail, "Accounting's Motive Power: The Vision and Reality for Management Accounting on the Nationalised Railways to 1959," *Accounting, Business and Financial History*, 16 (2006), pp. 419-446.

³²⁶ Quail, "Accounting's Motive Power," pp. 425-426; Gourvish, *British Railways, 1948-1973*, p. 97.

³²⁷ Aldcroft, *British Railways in Transition*, pp. 14-15.

³²⁸ Aldcroft, *British Railways in Transition*, pp. 140-141.

³²⁹ Gourvish, *British Railways, 1948-1973*, 304; Joy, *The Train that Ran Away*, p. 55.

³³⁰ Thalmann, *The Dynamics of Freight Transport Development*, p. 23.

³³¹ Dr. Richard Beeching was a chemist who joined the Technical Department of Imperial Chemical Industries Ltd. (ICI) in 1948. He was a member of Ivan Stedeford's Special Advisory Group on British Railways in 1960, and was seconded from ICI into the position of Chairman of the British Railways Board at the request of Marples in 1962. A. P. Baker, "Beeching, Richard, Baron Beeching (1913-1985)," *Oxford Dictionary of National Biography*, Oxford University Press, 2004; online edn, January 2011, accessed 12 September 2016, <http://www.oxforddnb.com/view/article/30804>.

to all traders requiring rail transport was repealed, which furnished the BRB with the commercial freedom to withdraw services and refuse unremunerative traffic. The 1962 Act also made it easier for the BRB to adjust to the demands of trade and industry by 'reshaping' the railway network, thereby divesting itself of unremunerative infrastructure.³³² Equally, the Act spawned Beeching's 1965 plan for developing the remaining railway services, which proposed a drastic reduction in inefficient wagon-load services in favour of train-load and long-distance inter-modal liner trains.³³³

The growth of road haulage in the early 1960s might also be consistent with the expansion of motorways, which made long-distance competition with the railways possible. Although Scott has shown that the share of Gross Domestic Fixed Capital Formation granted to road infrastructure was 2.1 per cent was lower than the 4.3 per cent granted to the BRB in 1959-1960, the situation was reversed by 1963 when the share had risen to 2.9 per cent as opposed to the 1.9 percent granted to the railways; indeed, this increased to 3.1 per cent in 1965 with the commencement of extensions to the M1 and the construction of the M6 providing a publically-funded fillip for the long-distance road haulage sector.³³⁴ The ubiquity of road haulage meant that the BRB was reduced to a supplemental role, although proposals for high-speed liner trains operating between 55 'Freightliner' terminals emerged in 1963.³³⁵ Whilst a step towards competing with long-distance road haulage, attempts to grant non-BRB hauliers access to the rail terminals were met with opposition from the National Union of Railwaymen (NUR) on grounds that the BRB's road feeder services were threatened; the first Freightliner train finally ran in November 1965 after two years of negotiation.³³⁶ However, the schemes emerging from the Beeching reports provided the BRB with a response to the evolving demands of trade by streamlining the railway operation to minimise handling and the potential for delay, and hence improve door-to-door distribution capability.³³⁷

The election of a Labour government in 1964 marked another change in direction. The appointment of Barbara Castle as Minister of Transport and the enforced departure of

³³² British Railways Board, *The Reshaping of the Railways, Parts One and Two: Report and Maps* (London: HMSO, 1963).

³³³ British Railways Board, *The Development of the Major Railway Trunk Routes* (London: HMSO, 1965).

³³⁴ P. Scott, "Public Sector Investment and Britain's Post-war Economic Performance: A Case Study of Roads Policy," *Journal of European Economic History*, 34 (2005), p. 412; C. H. Feinstein, *National Income, Expenditure and Output of the United Kingdom, 1855-1965* (Cambridge: Cambridge University Press, 1972), Table 41.

³³⁵ Joy, "Public and Private Railways," p. 27.

³³⁶ "BR Boosts Container Concept," *The Commercial Motor*, 125 (March 24, 1967), p. 17; HC Deb 23 November 1966, vol 736, cols 1365-67; TNA: MT 160/7, 25 November 1965 Memorandum entitled Co-ordination of inter-urban freight transport, p. 4.

³³⁷ This will be highlighted in subsequent chapters. For example: J. L. Rogers and R. Binstead, *Quick-frozen Foods, 2nd Edition* (London: Food Trade Press Ltd., 1972), pp. 144-145; Thalmann, *The Dynamics of Freight Transport Development*, p. 26.

Beeching in 1965 presaged what Dennis Munby describes as another ‘revolution’ in nationalised transport policy that paid lip-service to transport coordination through the creation of a ‘model’ of road and rail organisation.³³⁸ The scheme was outlined in the Transport Act (1968), which Gourvish suggests reflected a shift in emphasis ‘...from “efficiency” and “competition” towards “service” and “modal integration”’ for the benefit of the trading community.³³⁹ The Act legislated for the amalgamation of Freightliner and the BRB’s unprofitable and labour-intensive small goods services with what remained of BRS to create a National Freight Corporation (NFC) in January 1969.³⁴⁰ The development of the NFC scheme ran parallel to the BRB’s policy to cease unremunerative services and invest in the profitable core of its operations, namely bulk or trainload goods regularly conveyed between fixed points; criteria that the Freightliner concept sought to address. Consequently, the proposal attracted opposition from the BRB, as it entailed removing the ‘brightest jewel in British Rail’s crown’.³⁴¹

The Act also raised concerns amongst independent and own-account hauliers, as it contained clauses for tightening-up road safety legislation. On the one hand, developments in road safety legislation were purely administrative in nature and included the compulsory logging of routes and times, whilst vehicles were to be ‘plated’ with details of tare and loaded weights in the interests of improving loading and construction standards.³⁴² Concern principally stemmed from the Act’s replacement of quantitative licensing with qualitative licensing based upon driver competency, thus restricting entry into the industry by increasing start-up costs and establishing minimum pricing.³⁴³ As the government faced increased pressure to accelerate motorway expansion, the author speculates that the restriction of new-entrants into the sector was a means to govern traffic growth when Britain’s struggling economy had forced the imposition of wage freezes and financial stringency in infrastructure investment.³⁴⁴

³³⁸ Munby, “Mrs. Castle’s Transport Policy,” p. 136, p. 146. Barbara Anne Castle became a Labour Member of Parliament for Blackburn in 1945, and was appointed Minister for Overseas Development in 1964 and subsequently Minister of Transport in 1965 by Harold Wilson. A. Howard, “Castle, Barbara Anne, Baroness Castle of Blackburn (1910–2002),” *Oxford Dictionary of National Biography*, Oxford University Press, Jan 2006; online edn, May 2012, accessed 12 September 2016, [http:// www.oxforddnb.com/view/article/76877](http://www.oxforddnb.com/view/article/76877).

³³⁹ Gourvish, *British Railways, 1948-1973*, p. 365.

³⁴⁰ Transport Act, 1968, c. 73 (UK): Part I; Joy, “Public and Private Railways,” 31; Munby, “Mrs. Castle’s Transport Policy,” p. 146.

³⁴¹ This was quoted by Stanley Raymond, Beeching’s successor as BRB Chairman. However, Gourvish demonstrates that Freightliner had recorded a loss of £3 million in 1968, making it a long-term project that required bedding-in. Gourvish, *British Railways, 1948-1973*, p. 394.

³⁴² Transport Act, 1968, c. 73 (UK): paras. 96- 99.

³⁴³ Transport Act, 1968, c. 73 (UK): para 60.1.

³⁴⁴ TNA: MT 160/7, 25 November 1965 Memorandum entitled Co-ordination of inter-urban freight transport, p. 2; Seth-Smith, *The Long Haul*, pp. 157-158.

The Conservative government's election in 1970 precipitated another change in focus from rail and road coordination to reducing the BRB's stubborn financial deficit. To this end, the Railways Act (1974) implemented a system of grants for retaining profitable traffics.³⁴⁵ However, aside from the emergence of Freightliner in 1965, the closure of railway facilities since 1963 meant that many traders no longer enjoyed a viable alternative to road transport.³⁴⁶ The strategic implication of this was revealed by the Oil Crisis in December 1973, which caused a temporary interruption in the development of Britain's motorway network. Although the crisis demonstrated the sensitivity of Britain's road haulage sector to global events, the overall flexibility of the lorry in meeting a wide range of distribution needs, as well as government support in contrast to the infrastructure-dependent railways, would guarantee growth and development well beyond 1975.

2.14 Conclusion

This chapter has indicated that a top-down approach to freight transport only partially explains Britain's transition from rail to road during the mid-twentieth century. Whilst the basic elements of industrial relations, service quality and technological innovation are key factors, the question of the extent to which external agencies influenced transport remains. Crucially, this raises the hypothesis that the course taken by inland transport between 1919 and 1975 may have been shaped by the needs of the trading community in facilitating the supply of goods. The governance of the supply chain thus provides a working context for the themes of transport cost, convenience, service and efficiency, thus corroborating their importance as prerequisites for effective logistics.

This review of freight transport has highlighted the differences between rail and road; the former was relatively free to pursue investment projects such as containers and infrastructure improvements. However, the inflexibility of railways as a mode of guided transport and through anti-monopolist rate regulation posed challenges; furthermore, their inability to charge rates that reflected direct and indirect operating costs rendered the mode particularly vulnerable to the effects of rate undercutting within a competitive transport market. Britain's railways were also hamstrung by crises of reliability, which included traffic embargoes and recurring industrial disputes. The strikes of 1919, 1926 and 1955

³⁴⁵ Railways Act, 1974, c. 48 (UK): para 8.

³⁴⁶ Furthermore, the Conservative MP Robert Adley raised the question of whether there was '...indecent haste with which some years ago British Rail scrapped steam engines'. HC Deb 03 December 1973, vol 865, col 897.

and the freight embargoes of 1919 and 1946-47 were clearly injurious; how this emerged in practice requires an exploration of the attitudes of individual traders.

In contrast, road haulage, despite initial load and range limitations, enjoyed a comparatively free hand to compete for traffic and quote low rates whilst the fragmented and competitive nature of participants provided a bulwark against industrial action. In the 1920s, individuals seeking self-employment found the industry simple to enter; before the Road and Rail Traffic Act (1933) imposed a basic regulatory structure, the sector was characterised by a 'race to the bottom' in which inexperienced newcomers undercut established firms to obtain traffic at any cost. Whilst Britain's transition to road can be partially attributed to the independent haulier's opportunism, the existing literature may be enhanced by case studies explaining why specific traders began to adopt the mode.³⁴⁷

Aside from restructuring many aspects of the industry between 1919 and 1945, the shifting political debate which took place between 1945 and the passing of the 1968 Transport Act has implied a disconnect between the government's determination to reform transport management and the operational needs of the industry. Bonavia highlights that the 'pendulum' of nationalisation and subsequent denationalisation was inconvenient from an administrator's perspective, yet in the case of independent long-distance road transport, the process helped to stabilise the industry.³⁴⁸ In contrast, BR underwent a series of financial crises and reorganisations which disrupted continuity and prevented the nationalised industry from responding expeditiously to the changing demands of traders. The government's discursive approach to transport between 1953 and 1975 alternated between improving coordination between rail and road, imposing moratoriums on investment in the interests of supporting macro-economic policy and investing in motorway construction, which suggests a persistent lack of clarity of vision.

Whilst this chapter has demonstrated that rail and road transport functioned within the broad parameters laid-down by Britain's changing political and economic environments between 1919 and 1975, this is a convenient point for reiterating that this thesis will take a new direction by placing the supply of transport within the broader context of its demand. Consequently, food distribution presents an important lens for viewing transport within the supply chain, as the structure and agency of participants other than the transport provider is key to shaping demand. How factors such as cost, service, technology and the overall governance of supply chains influenced Britain's transition to road-based food distribution is the focus for subsequent chapters, beginning with a case study of an everyday food staple which continues to demand efficient distribution: milk.

³⁴⁷ Scott and Reid, "The White Slavery of the Motor World," pp. 300-315.

³⁴⁸ Bonavia, *The Nationalisation of British Transport*, p. 164.

Chapter 3 - Milk distribution by rail and road, 1919-1975

3.1 Introduction

The previous chapter has provided a general context for freight transport in Britain from the existing historiography. Its relevance to food distribution becomes clear throughout the following chapters, as the narrative of technological and regulatory change within the transport sector provides an important backdrop for the development of food logistics between 1919 and 1975. However, the focus upon the why and wherefore of the transport industry only provides part of the freight story, and it is therefore necessary to place the supply of logistical services within the context of the supply chain. In doing so, this chapter proposes to consider the reasons how and why a transition from rail to road took place in the transport of a highly perishable staple food commodity, with milk providing a useful starting point for this analysis of food distribution in Britain because of its importance as an essential commodity with daily demand.

The existing literature on milk distribution is diverse and falls into five categories. Firstly, agricultural historians such as Edith Whetham, Jonathan Brown, Richard Perren and John Martin have noted the commodity's importance to British agriculture, as it played a role in providing the farming community with a stable market throughout an agrarian depression experienced between 1873 and 1940.³⁴⁹ The bulk of the historiography considers the pre-Second World War period, and this chapter will establish, using the foundations laid by Brian Holderness and Martin, how post-war agricultural developments influenced milk distribution.³⁵⁰ It will consider how shifts in milk supply chain governance between wholesalers, producers and government acted as a catalyst to innovation in transport technology or hindered operation.

The second historiographical strand incorporates the business histories of firms and organisations involved with milk distribution. Bryan Morgan's account of Express Dairies has provided a useful introduction to the development of the wholesale industry

³⁴⁹ See E. H. Whetham, *The Agrarian History of England and Wales, Vol. VIII* (Cambridge: Cambridge University Press, 1978); Jonathan Brown, *Agriculture in England: A Survey of Farming, 1870-1947* (Manchester: Manchester University Press, 1987); R. Perren, *Agriculture in Depression, 1870-1940* (Cambridge: Cambridge University Press, 1995) and J. Martin, *The Development of Modern Agriculture: British Farming Since 1931* (London: Macmillan, 2000).

³⁵⁰ B. Holderness, *British Agriculture Since 1945* (Manchester: Manchester University Press, 1985); Martin, *The Development of Modern Agriculture*, pp. 67-132.

since 1864, whilst Stanley Baker's account of the Milk Marketing Board (MMB), *Milk to Market*, highlights the efforts required to market the product to both consumers and manufacturers to the benefit of the producer.³⁵¹ Both give reference to transport operations, but once again lack an analysis of how the relationship between both organisations influenced rail and road transport technology and operation. The third strand, milk distribution in the Second World War, highlights the influence of government regulation upon milk transport whilst controlling supply and demand, which provides the focus for accounts by R. J. Hammond and Alan Wilt.³⁵²

Another relevant area is food hygiene, with Michael French and Jim Phillips' account of food regulation in Britain providing an important contribution to this aspect of food history, which Deborah Valenze considers a key marketing tool within an oligopolistic trade.³⁵³ However, the focus on regulation rather than hygiene in the practical sense means that consideration of the problems of spoilage and excessive handling during transport remains elusive, although the fifth historiographical strand, literature dealing with specific aspects of road and railway operations, provides some assistance in this regard.³⁵⁴ This chapter therefore combines and builds upon this literature with archival material pertaining to United Dairies and the MMB to establish the role of the milk wholesaler in the development of rail and road distribution. It begins with a brief supply chain analysis for the London milk trade, the most prominent example of long-distance milk distribution in Britain, which accounted for an estimated 12 per cent of the national market in 1938.³⁵⁵ **Figure 1** (p. 101) shows the stages of milk distribution, which consist of farm collection; country depot; ex-country depot transport, London depot and distribution to the retail dairy. The supply chain analysis therefore gives an overview of organisational change, thereby providing reasons for the sector's transition from rail to road transport.

Having established the structure of the London milk trade at various points between 1919 and 1975, the transport operations of United Dairies and the MMB will be

³⁵¹ B. Morgan, *Express Journey 1864-1964: The Centenary History of the Express Dairy Company Limited* (London: Newman Neame, 1964); S. Baker, *Milk to Market* (London: Heinemann, 1973).

³⁵² R. J. Hammond, *History of the Second World War- Food Vols. I & II* (London: HMSO, 1951-55); A. F. Wilt, *Food for War: Agriculture and Rearmament in Britain before the Second World War* (Oxford: Oxford University Press, 2001).

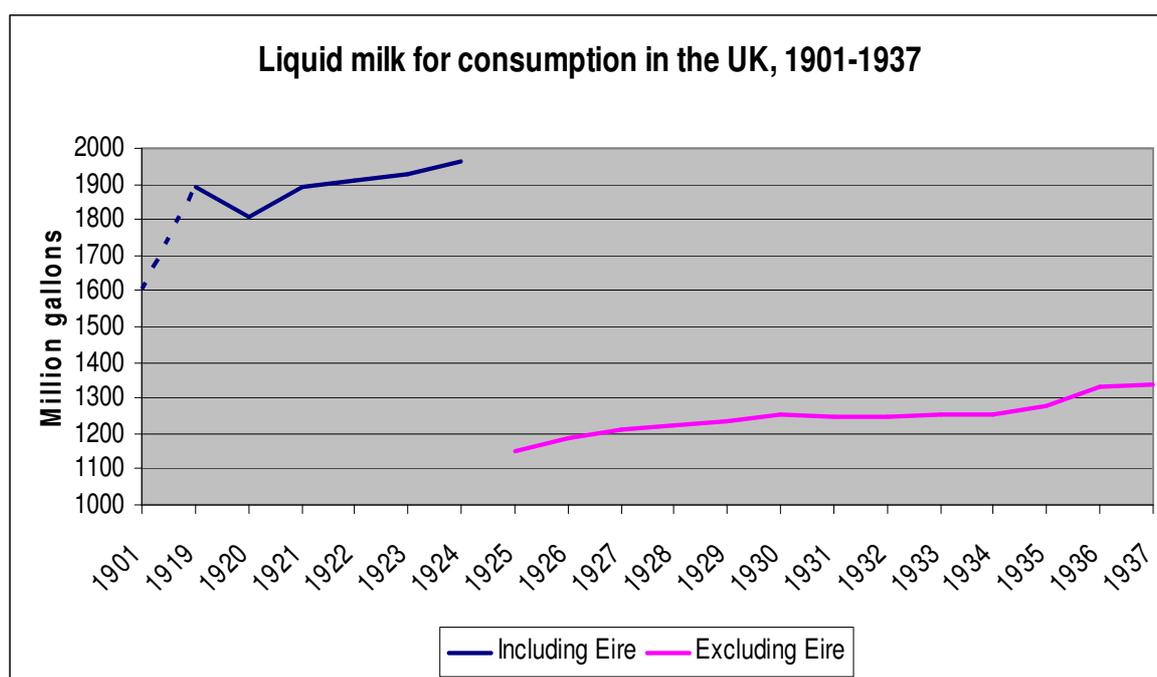
³⁵³ M. French and J. Phillips, *Cheated not Poisoned?: Food Regulation in the United Kingdom, 1875-1938* (Manchester: Manchester University Press, 2000); D. Valenze, *Milk: A Local and Global History* (London: Yale University Press, 2011), p. 163.

³⁵⁴ For example, the railway response to road competition is considered in P. Scott, "British Railways and the Challenge from Road Haulage: 1919-1939," *Twentieth Century British History*, 13 (2002), pp. 101-120, whilst material on specific railway vehicles and infrastructure may be found in publications such as J. N. Slinn and B. K. Clarke, *GW Siphons* (Stamford: HMRS Publications, 1987).

³⁵⁵ F. A. Barnes, "The Evolution of Salient Patterns on Milk Production and Distribution in England and Wales," *Transaction and Papers (Institute of British Geographers)*, 25 (1958), p. 181; J. B. Jefferys, M. Maccoll and G. L. Levett, *The Distribution of Consumer Goods: A Factual Study of Methods and Costs in the United Kingdom in 1938* (Cambridge: Cambridge University Press, 1950), p. 197.

examined. In doing so, the impact of changes in supply chain organisation and external pressures such as the interwar economic decline will be considered. **Graph 6** below provides a rough indication of the size of the distribution problem between 1901 and 1937, and shows a fluctuation in production between 1919 and 1921 that encompasses the implementation of the 1920 Agriculture Act's price guarantees for domestic arable produce and its repeal in 1921.³⁵⁶ Thereafter, the growth in milk production remained steady from 1925 until 1934, when a rise is observed following the establishment of the MMB.

Graph 6



Source: See Appendix 2, Table 6 (p. 300).

Although ‘success in dairy farming [depended upon] the exercise of efficiency and economy in all departments of the industry’, a consideration of the government’s control over milk distribution in the Second World War provides a useful prelude to an analysis of the post-war trade.³⁵⁷ The relationship between the MMB, the railways and private haulier after 1945 provides the focus for this section. With transport proving a ‘major investment’ for wholesaler and MMB alike, the chapter aims to consider precisely how the trade’s stakeholders drove technological innovation in transport, whilst establishing the main turning points in the transition from rail to road distribution.³⁵⁸ Finally, the chapter will

³⁵⁶ E. Whetham, “The Agriculture Act, 1920 and its Repeal – the ‘Great Betrayal,’” *Agricultural History Review*, 22 (1974), pp. 36-46.

³⁵⁷ Ministry of Agriculture, *Modern Milk Production* (London: HMSO, 1938), Foreword, p. iii.

³⁵⁸ Captain A. H. Amor, “Notes on Our Transport,” *Our Notebook*, 1 (October/November 1921), p. 14.

detail the contemporaneous shift in supply chain governance from wholesaler to MMB, thus presenting a reason for the milk supply's modal shift from rail to road haulage.

3.2 Milk supply chain analysis

A review of the key changes taking place within the milk supply chain will provide an analytical framework for exploring the evolution of the sector's demand for transport. Whilst existing analyses focus upon the economic performance of the trade, detailed accounts dealing specifically with transport are rare; indeed, Michael Chisholm's 1959 account of milk collection and delivery provides the only detailed analysis of the efficiency of this operation.³⁵⁹ The account is notable for the use of data obtained from 285 contractors and the MMB, and uses statistical analysis to argue that there were no economies of scale emerging from large road haulage firms. The use of the lorry in large catchment areas may also have proved a diseconomy because of the possibility of 'dead running' between farms.³⁶⁰ However, the passage of time has meant that the present author has been unable to obtain access to similar data series or interview industry participants, and consequently any attempt to establish how financial economies of scale influenced the transition from rail to road milk transport is prone to assumption, a problem perpetuated when using data from a company's financial accounts.

This is exemplified below by **Graph 7**, in which accounts data permits the calculation of the cost of transport as a proportion of total sales for United Dairies between 1927 and 1938. The author has assumed that the data includes both milk collection from farms and the depot-to-depot trunk haul. Although factors such as seasonal variation in production preclude accurate analysis, the graph shows that the cost of carriage and haulage declined between 1927 and 1930, which coincides with the firm's adoption of the rail tank and lorries. The dip in 1932 might therefore be consistent with economies achieved by the use of innovations in transport technology such as the bulk rail and road tank; indeed, whilst it occurred during the depths of an economic recession, United Dairies' sales had increased by 14 per cent over the previous year, from £2,464,819 to £2,815,305 at current prices.³⁶¹ Reasons for the subsequent rise in carriage and haulage costs in proportion to income between 1932 and 1936 are difficult to ascertain, although this may have been caused by the reconfiguration of the market after the establishment of

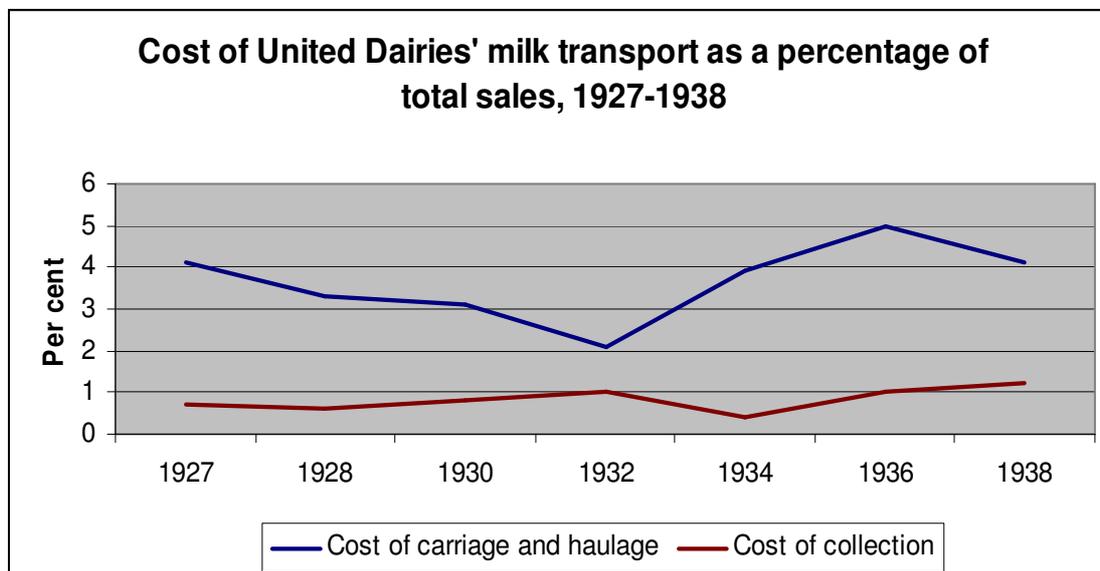
³⁵⁹ M. Chisholm, "Economies of Scale in Road Goods Transport? Off-farm Milk Collection in England and Wales," *Oxford Economic Papers*, 11 (1959), pp. 282-290.

³⁶⁰ Chisholm, "Economies of Scale in Road Goods Transport?," p. 7.

³⁶¹ WSA: 1531/130/1, Wilts United Dairies, *Annual Accounts and Balances*, 1917-1938.

the MMB. The graph also shows that the cost of collection remained broadly below one per cent of sales over the period apart from a dip in 1934, which in the absence of records concerning the volume of milk handled by the firm remains unexplained.

Graph 7



Source: See Appendix 2, Table 7 (p. 300).

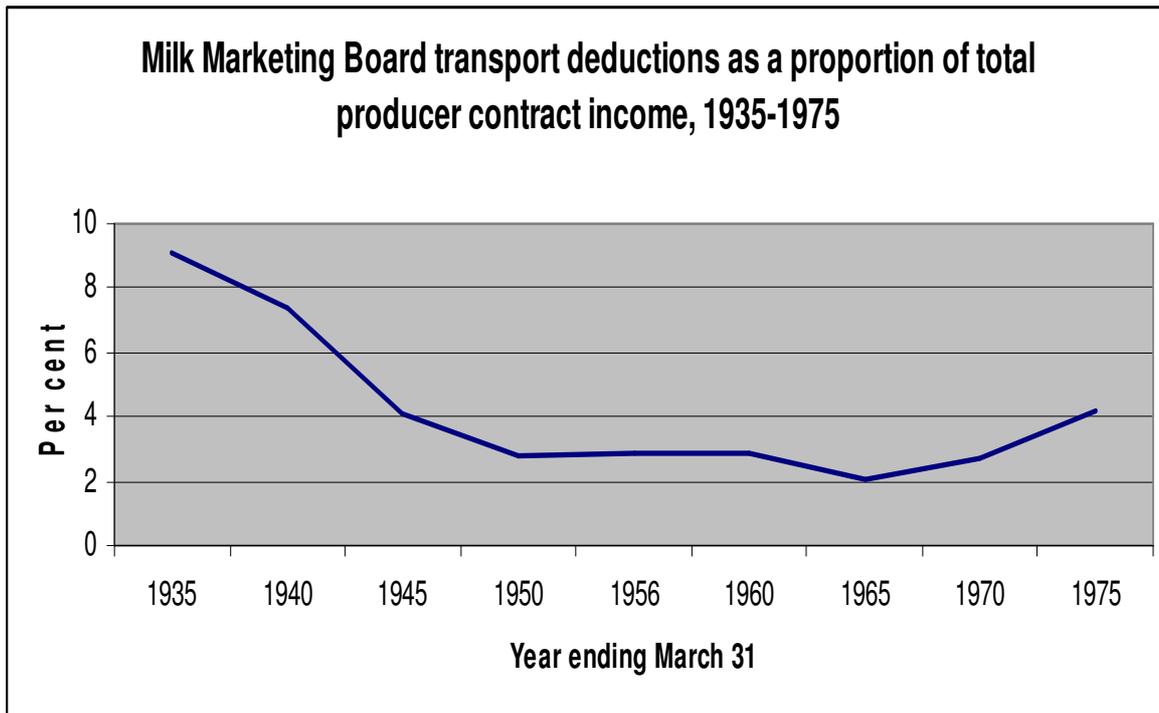
Graph 8 below highlights the cost of farm milk collections undertaken by purchasers, which has been calculated using MMB data ranging from 1935 to 1975. These costs were a direct deduction from the producer’s monthly contract until the MMB took responsibility for pooling the proceeds of all milk purchases. The graph shows the reduction in farm collection costs over the period, reflecting the efforts undertaken by the MMB to reduce this cost to farmers; the value of the milk sold collectively by producers rose by 115.5 per cent, from £311,133,075 in 1935 to £670,765,834 in 1975.³⁶² This corresponded with a rise in the volume processed by the MMB from 912,701,586 to 1,084,850,000 gallons, suggesting that the MMB and wartime rationalisation had generally succeeded in driving down costs from 0.031p to 0.025p per gallon at 1975 prices.³⁶³ Further decline before 1965 coincides with the roll-out of bulk road collection direct from the farm, whilst the subsequent increase to 1975 may be explained by rising costs brought about by rising petrol prices following the oil crisis in 1973.³⁶⁴

³⁶² The 1935 value has been converted to equivalent 1975 prices using retail price index data. O’ Donoghue, Goulding and Allen, “Consumer Price Inflation Since 1750,” pp. 38-46.

³⁶³ SR MMB B/1, Milk Marketing Board, *Annual Report and Accounts*, 1935; SR MMB B/38, Milk Marketing Board, *Annual Report and Accounts*, 1975; Donoghue, Goulding and Allen, “Consumer Price Inflation Since 1750,” pp. 38-46.

³⁶⁴ F. Venn, *The Oil Crisis* (London: Longman, 2002), pp. 8-9, p. 21.

Graph 8



Source: See Appendix 2, Table 8 (p. 301).

With the analysis of long-term trends hindered by fragmentary financial data series, a series of simple, heuristic supply chain analysis may be pursued instead to consider the impact of changes in the governance of milk distribution. **Figure 1** below provides a schematic of the London milk trade prior to the formation of the MMB in 1934. It shows several distinct activities, with inbound logistics represented by the input of raw milk by the producer at the country depot. Subsequent activities broadly fell under the remit of large wholesalers such as United and Express Dairies, with processing and subsequent outbound logistics operations organised by these firms.³⁶⁵ The fourth primary activity is sales to retail customers and company-owned outlets, whilst the fifth constitutes the services the retail dairies provided to the customer, such as home delivery.³⁶⁶

The milk supply chain is characterised by the need to balance supply with demand, yet is complicated by the fact that the product is perishable. Consequently, the wholesale trade established its authority through the National Society of Creamery Proprietors and Wholesale Dairymen, which negotiated prices with producers, although a lack of enforcement meant that executive governance within the London milk trade became concentrated amongst four large wholesalers between 1919 and 1933.³⁶⁷

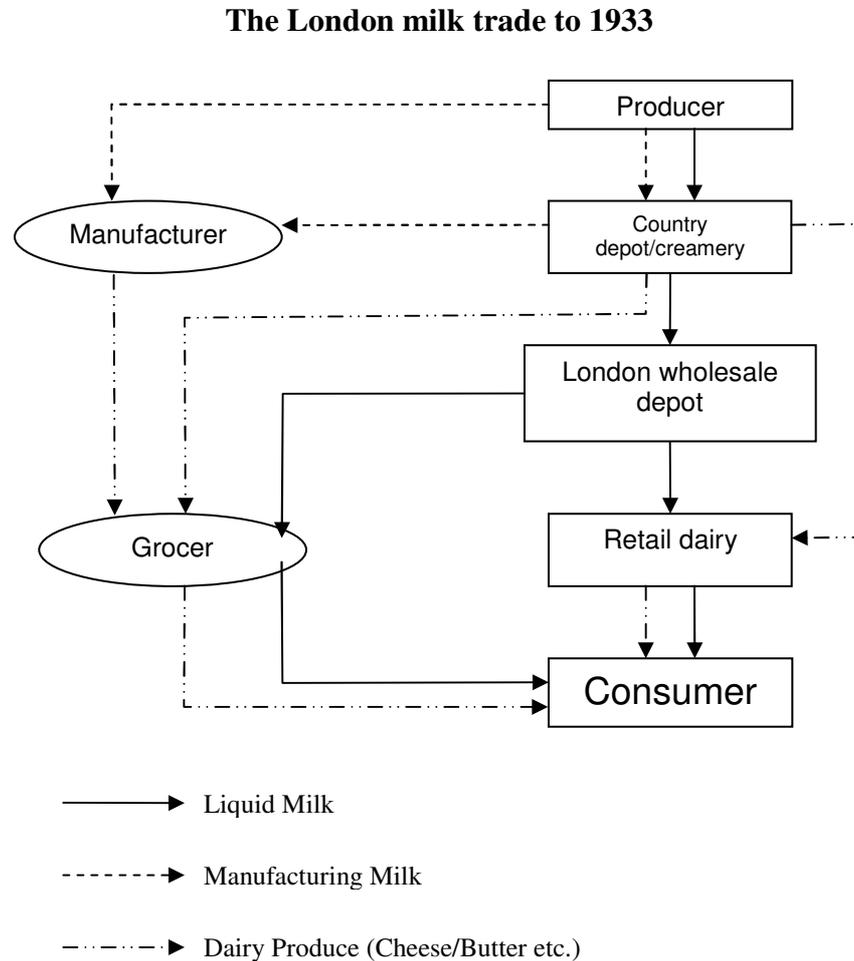
³⁶⁵ Baker, *Milk to Market*, p. 49.

³⁶⁶ M. Porter, *The Competitive Advantage of Nations* (London: Macmillan, 1990), pp. 241-242.

³⁶⁷ Baker, *Milk to Market*, p. 59.

Consequently, decisions relating to transport and innovations rested with the wholesaler until 1933, when the creation of the Milk Marketing Board brought a shift in supply chain governance that ultimately worked in the producer's favour.

Figure 1



The wholesaler's executive governance over the milk supply chain began to decline after the Agricultural Marketing Act (1931) was passed, which called for the creation of marketing boards to ensure that produce was sold for the best possible prices.³⁶⁸ With regional and executive committee members elected by producers, the creation of the MMB in 1933 marked a shift in executive governance over the supply chain towards the producer.³⁶⁹ However, the Board also exercised control by implementing a form of legislative governance to control entry to the market, with milk sales controlled through

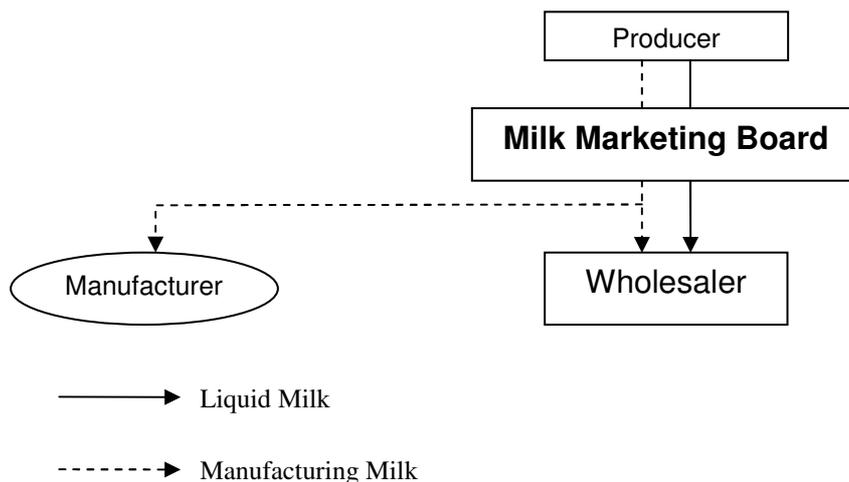
³⁶⁸ Martin, *The Development of Modern Agriculture*, p. 23-24.

³⁶⁹ See R. Kaplinsky, "Globalisation and Unequalisation: What can be Learned from Value Chain Analysis?," *The Journal of Development Studies*, 37 (2000), p. 124 ; Martin, *The Development of Modern Agriculture*, pp. 23-24.

compulsory producer registration.³⁷⁰ **Figure 2** shows the MMB's position within the supply chain between producer and the wholesaler as a party to milk contracts to ensure fair prices were paid for milk sold as liquid or for manufacturing into other food products.³⁷¹ Consequently, producer's returns were pooled to ensure a minimum price per gallon of milk, with transport costs credited to the pool.³⁷²

Figure 2

The Milk Marketing Board and the London milk trade, 1933-1943



Whilst the administration of the milk pool was intended to stabilise prices, the Board's advisory role meant that influence over the primary activities associated with distributing milk was limited; the Board merely acted as a clearing house for payments and did not purchase milk direct from the producer. However, milk shortages due to the lack of imported animal feed during Second World War prompted a further shift in executive governance away from the wholesaler, as the Ministry of Food granted the MMB authority to become the sole purchaser off-farm in 1942.³⁷³ The Ministry asserted legislative governance over the market via the Board to regulate the commodity's supply according government priorities, a corollary of which was the rationalisation of distribution. In becoming an executive agency of the Ministry of Food, the Board was responsible for arranging the collection of milk from farms, administering the pool and organising

³⁷⁰ Kaplinsky, "Globalisation and Unequalisation," p. 124; J. Empson, "History of the Milk Marketing Board, 1933-1994: British Farmers' Greatest Commercial Enterprise," *International Journal of Dairy Technology*, 51 (1998), p. 79.

³⁷¹ Empson, "History of the Milk Marketing Board," p. 77.

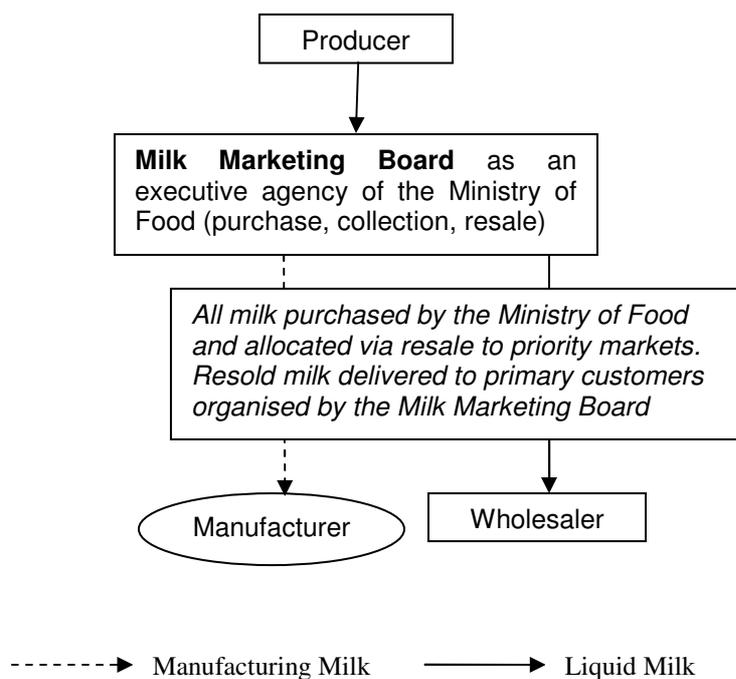
³⁷² E. S. Simpson, "Milk Production in England and Wales: A Study in the Influence of Collective Marketing," *The Geographical Review*, 49 (1959), p. 96.

³⁷³ R. J. Hammond, *History of the Second World War- Food Vol. II* (London: HMSO, 1955), pp. 223-224, pp. 234-251.

subsequent distribution to customers, as seen in **Figure 3**. The war thus saw the concentration of executive governance within the MMB, which became a central body for managing and improving milk distribution efficiency, and hence created the conditions for a transition to road haulage.³⁷⁴

Figure 3

The Ministry of Food and the London milk trade, 1943-1953



The immediate post-war period saw little change in executive governance within Britain’s milk trade, as the MMB retained control over ex-farm collection and the milk pool, whilst the government continued to negotiate liquid milk prices with the wholesalers.³⁷⁵ Furthermore, the government initially retained its ability to direct the milk supply through the Ministry of Food, although this eventually passed to the Board when it assumed overall responsibility for directing long-distance bulk milk transport by rail in 1954.³⁷⁶ The MMB thus used its position to effect improvements in distribution by trialling new collection and delivery methods, which included employing bulk road tanks to collect refrigerated milk directly from the farm.

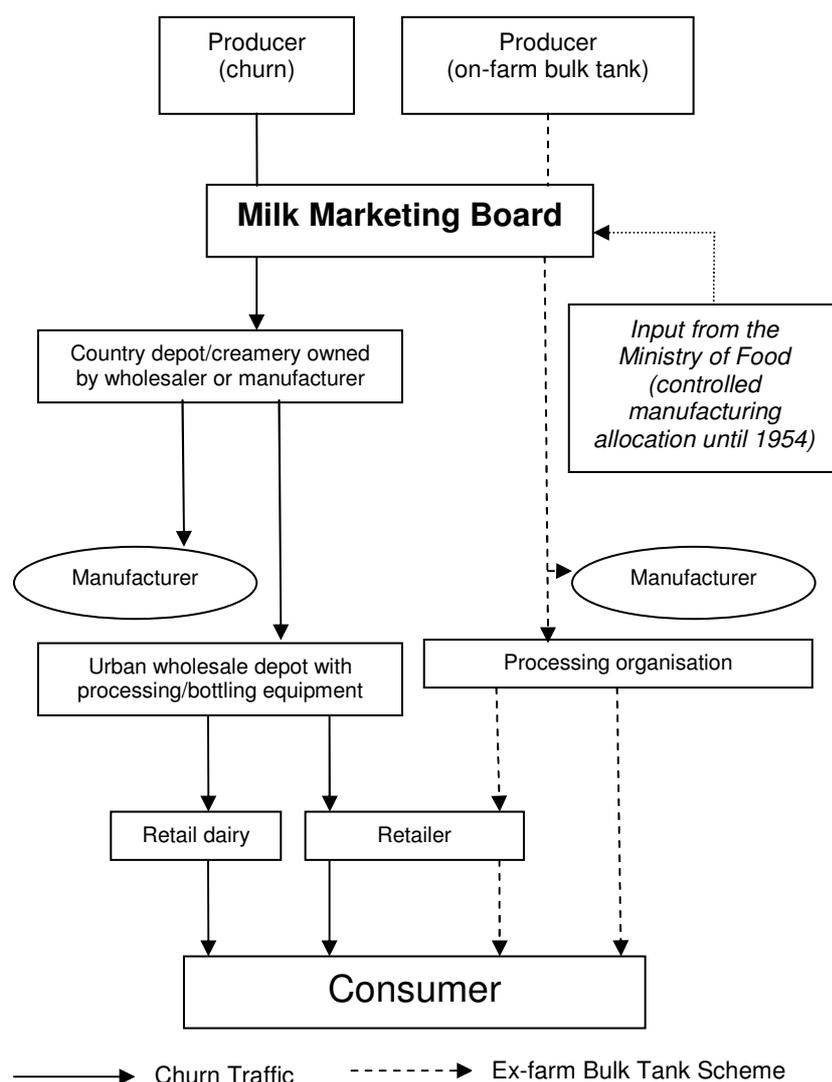
³⁷⁴ Simpson, “Milk Production in England and Wales,” p. 96.

³⁷⁵ Simpson, “Milk Production in England and Wales,” p. 96; Empson, “History of the Milk Marketing Board,” p. 79.

³⁷⁶ WSA: 1539/209/1, United Dairies Annual Reports, *39th Annual Report, 1954*, p. 17.

Figure 4

The bulk road tanker scheme, 1954-1975



The scheme addressed the labour intensity of churn-based distribution as well as the cost of returning empty churns, and facilitated direct farm to retailer deliveries.³⁷⁷ **Figure 4** provides a comparison between the rail and road tank operations; the latter cutting the need for numerous depots to bulk and process milk for onward rail transit.³⁷⁸ Once again, the transition of executive governance within the milk supply chain from the wholesaler to the MMB benefited the producer, as it meant that efforts were focused upon making efficiencies within the supply chain to ensure a fair return on the milk supplied.³⁷⁹ This is not to say that wholesalers had stagnated; the post-war period was characterised by amalgamations to achieve economies of scale and secure greater market share, as

³⁷⁷ Baker, *Milk to Market*, p. 180.

³⁷⁸ Baker, *Milk to Market*, p. 59, 180.

³⁷⁹ MERL: SR MMB B/17, *The Home Farmer*, 19 (May 1952), p. 12.

exemplified by the merger of United Dairies and Cow & Gate in 1959.³⁸⁰ The impact of the shift in supply chain governance upon transport will be covered in the following sections, beginning with an analysis of the principal elements of the distribution system established by the milk wholesale industry.

3.3 Distribution before 1919

Before 1860, Britain's milk supply was distributed by producer/retailers, with urban and rural demand met locally.³⁸¹ Whilst James Jefferys suggests this remained the case in 1938, urban and general population expansion throughout the mid-nineteenth century increased both consumer demand for this staple commodity and the distance between source and market, particularly in the case of the London trade.³⁸² The population of Greater London expanded from approximately 3.3 to 8.1 million between 1861 and 1931, although the task of supplying the city's population with locally-produced milk had been impeded by a cattle plague outbreak in 1865, causing a crisis amongst the urban producer/retail trade.³⁸³ Although a supply shortfall loomed, the situation presented an opportunity for enterprise; since the 1850s, Britain's expanding railway network had enabled the capital's dairy owners to diversify by procuring fresh, unadulterated and disease-free 'country milk' on a small-scale for distribution to customers.³⁸⁴ The consequent division of production and retail functions therefore provided the basis for the development of London's nationally significant milk wholesale trade towards the end of the nineteenth century.³⁸⁵

³⁸⁰ E. Strauss, "The Structure of the English Milk Industry," *Journal of the Royal Statistical Society, Series A (General)*, 123 (1960), p. 162.

³⁸¹ R. Scola, *Feeding the Victorian City: The Food Supply of Manchester, 1770-1870* (Manchester: Manchester University Press, 1992), p. 71; J. B. Jefferys, *Retail Trading in Britain, 1850-1950* (Cambridge: Cambridge University Press, 1954), p. 226. Indeed, Jack Simmons notes that milk was carried on the Liverpool and Manchester Railway in 1832. See: J. Simmons, *The Railway in Town and Country, 1830-1914* (Newton Abbot: David & Charles, 1986), p. 128.

³⁸² Jefferys et al., *The Distribution of Consumer Goods*, p. 197; Valenze, *Milk*, pp. 254-255, p. 261.

³⁸³ Greater London population data obtained from: "London Government Office through time | Population Statistics | Total Population," *A Vision of Britain through Time*, GB Historical GIS/University of Portsmouth, 2014, accessed January 2017, http://www.visionofbritain.org.uk/unit/10097836/cube/TOT_POP; Morgan, *Express Journey*, p. 15.

³⁸⁴ E. Whetham, "The London Milk Trade, 1860-1900," *The Economic History Review, New Series*, 17 (1964), p. 370.

³⁸⁵ Jefferys, *Retail Trading in Britain, 1850-1950*, p. 226.

The most prominent figure in this expansion was George Barham, who founded the Express County Milk Supply Company in 1864.³⁸⁶ Barham negotiated favourable rates with the Great Northern and Midland Railways to provide a milk trunking service from Derbyshire to King's Cross, from where containers were shuttled to the company's depot at Bloomsbury for subsequent sale.³⁸⁷ The responsibility for arranging and paying for milk transport from farm to railway station was delegated to the farmer, although the opportunity presented by Express Dairies was fortuitous for dairy farmers, as traditional farmhouse cheese and butter produced in regions with low local demand for milk was labour-intensive, required possession of specialist equipment and was open to foreign competition.³⁸⁸ When later coupled with falling butter and cheese prices in the 1890s, the liquid milk market, with its regular income, was favourable to producers.³⁸⁹

London retail dairies keen to engage with producers in areas away from regional centres such as Birmingham, Manchester and Liverpool found willing participants amongst the farmers of Cheshire, Staffordshire and Wiltshire.³⁹⁰ The rapid expansion of the trade between 1860 and 1890 merited further investment, with Express Dairies' subsidiary, the Dairy Supply Company, introducing the American innovation of the galvanised metal milk churn to Britain and developing on-farm fresh water cooling equipment, which eased handling and reduced the potential for milk spoilage during transit.³⁹¹ Equally, the railway companies' contribution towards the traffic, which was also sold at railway termini, was through the introduction of specialist rolling stock for conveying churns, an important example being the Great Western Railway (GWR) ventilated milk vans, or 'Siphons'.

Direct railway investment in specific traffics was a rare occurrence; private firms owned coal, oil and mineral wagons, and the railways possessed non-specific 'Common User' vehicles for various uses.³⁹² However, the stability of the traffic between 1870 and

³⁸⁶ Sir George Barham (1836-1913) worked in his father's dairy business before founding Express Dairies in 1864. Although born in London, the Barhams were a notable Sussex farming family with an estate at Wadhurst. Barham also founded the Dairy Supply Company Limited which supplied utensils for the dairy trade, and was knighted in 1904. "BARHAM, Sir George," *Who Was Who*, A & C Black, an imprint of Bloomsbury Publishing plc, 1920–2016; online edn, Oxford University Press, 2014, accessed 12 September 2016, <http://www.ukwhoswho.com/view/article/ioupww/whowaswho/U183477>.

³⁸⁷ Whetham, "The London Milk Trade, 1860-1900," p. 376; Morgan, *Express Journey*, p. 12, p. 23.

³⁸⁸ Whetham, *The Agrarian History of England and Wales*, p. 229; Jefferys, *Retail Trading in Britain, 1850-1950*, p. 226.

³⁸⁹ R. Blundel and A. Tregear, "From artisans to 'factories': The Interpenetration of Craft and Industry in English Cheese-making, c1650-1950," *Enterprise & Society*, 7 (2006), pp. 713–714.

³⁹⁰ E. S. Simpson, "Milk Production in England and Wales: A Study in the Influence of Collective Marketing," *American Geographical Society*, 49 (1959), p. 103; Barnes, "The Evolution of Salient Patterns of Milk Production," p. 193.

³⁹¹ Whetham, "The London Milk Trade, 1860-1900," p. 371.

³⁹² R. J. Essery, D. P. Rowland and W. O. Steel, *British Goods Wagons from 1887 to the Present Day* (New York: Augustus M Kelley, 1970), pp. 98-103; Gilbert Walker, *Road and Rail: An Inquiry into the Economics of Competition and State Control* (London: George Allen and Unwin, 1942), p. 54, p. 58; E. Gibbins, "Private Owner Wagons," *Backtrack*, 28 (March 2014), pp. 148-154.

1900 had provided a compelling case for the railway companies to permanently allocate vehicles to the milk traffic. The GWR ‘Siphon’ therefore mirrors the development of the country milk trade, as the design was continuously enlarged after the first emerged from Swindon Works in the 1860s.³⁹³ These were converted passenger carriages due to the need to provide a high-speed service to maintain milk freshness, with purpose-built vehicles constructed thereafter. With 600 in service by 1906, the final development was the bogie ventilated milk van of 1907, which preceded the longer, but essentially similar ‘Siphon G’ of 1913, underlining the fact that the trade was ‘locked-in’ to handling churn traffic.³⁹⁴

Churns were bulked at railway stations before being loaded into ventilated vans or passenger carriages for carriage to their final destination, or for transfer to other trains.³⁹⁵ The use of passenger services meant that all transport costs to the first point of sale were paid up-front; farmers also faced a monthly deduction for onward transport to a distributing dairy, and were expected to transport churns by horse and cart and to assist with loading the vans themselves to minimise railway liability for spoilage.³⁹⁶ The principal characteristics of the supply chain described in section 3.2 were in place by the outbreak of the First World War, which profoundly changed the character of Britain’s milk market. This was because hostile marketing conditions had prompted the merger of small rural suppliers into larger wholesale organisations, as exemplified by the formation of Britain’s largest milk wholesaler, United Dairies, in 1915.³⁹⁷ After the cessation of the conflict, the wholesalers took responsibility for overcoming the geographical challenge posed by farm location, and would assist producers and retailers by establishing rail-connected country depots at key railway stations to coordinate and concentrate supplies, as well as provide a farm collection and delivery service.³⁹⁸ This was made possible by the lorry, and United Dairies consequently invested in a transport subsidiary, Mickleover Transport Ltd., to provide vehicles for use in farm collection and depot distribution.

³⁹³ Slinn and Clarke, *GW Siphons*, p. 1.

³⁹⁴ Slinn and Clarke, *GW Siphons*, p. 8.

³⁹⁵ Barnes, “The Evolution of Salient Patterns of Milk Production,” p. 186.

³⁹⁶ F. P. Larkin, “The Story of Milk from the Cow to the Consumer,” *Great Western Railway Magazine*, XXXV (1923), pp. 357-358; Jefferys et al., *The Distribution of Consumer Goods*, p. 200; Barnes, “The Evolution of Salient Patterns of Milk Production,” p. 186; Sir F. J. Pole and J. Milne, “Parcels Traffic by Passenger-Train Services” in J. R. Bailey et al., *Modern Railway Administration, Vol. II* (London: Gresham Publishing, 1925), p. 145.

³⁹⁷ Valenze, *Milk*, p. 263; Jefferys, *Retail Trading in Britain, 1850-1950*, p. 228.

³⁹⁸ Jefferys, *Retail Trading in Britain, 1850-1950*, p. 226; C. Hallas, “The Social and Economic Impact of a Rural Railway: The Wensleydale Line,” *Agricultural History Review*, 34 (1986), pp. 29-44.

3.4 Motorising churn collection

The few surviving records detailing United Dairies' early relationship with the haulage firm imply that the latter had been a subsidiary of the wholesaler since 1917.³⁹⁹ Its interest in Mickleover Transport Ltd. is representative of a wholesaler's desire to exercise greater control over distribution in the interests of maintaining service reliability; a move which may be considered prudent in view of the disruption caused by the national railway strike of September 1919. Consequently, this section examines the role strike action played in United Dairies' attitude to road haulage. Although the records consulted reveal little about plans implemented to mitigate the strike's effects, national newspapers including *The Times* detail the preparations undertaken. These included the stockpiling of milk in cold storage in the days before the strike, which enabled the wholesale dairies to continue supplying their retailers during the initial stages when rail distribution was severely curtailed.⁴⁰⁰ Indeed, the chairman of United Dairies emphasised that 'no industry was so intimately affected by the strike than the dairy trade in relation to London and other centres of population' due to the reliance upon rail.⁴⁰¹

Other preparations included establishing a major road transport hub at Hyde Park for the reception and onward dispatch of milk supplies to retailers.⁴⁰² Although the government provided ex-military lorries for general food distribution throughout the emergency, it was reported that milk wholesalers already operated some motorised collection services, and 1,000 vehicles were consequently used to deliver 9,000 churns of milk daily from farms up to a radius of 100 miles from London for the duration of the strike.⁴⁰³ The strike thus appeared to demonstrate that the 'stranglehold' of the railways over transport was slipping because of the lorry, which reportedly permitted the 'undermining of former [transport] monopolies' held by the railway companies.⁴⁰⁴ Consequently, what may have been considered a temporary switch to trunk haulage by road laid the foundations for adopting the lorry under less exceptional circumstances.

By 1920, investment in road collection services had become an important facet in differentiating United Dairies from its competitors; the firm's chairman reported that 'we are now required to collect at the farm or roadside stations', and that this 'innovation to get milk into our creameries' was not something that was considered essential five years

³⁹⁹ Wiltshire and Swindon Archives (WSA): 1531/240/5, United Dairies Acquisition of Mickleover Transport Co., 1919-1922.

⁴⁰⁰ "Company Meetings: United Dairies Ltd.," *The Times* November 11, 1919, p. 24.

⁴⁰¹ "Company Meetings: United Dairies Ltd.," *The Times* November 11, 1919, p. 24.

⁴⁰² "London's Milk: Means to Assure the Supply," *The Times* (September 29, 1919), p. 8.

⁴⁰³ "London's Milk: Means to Assure the Supply," p. 8.

⁴⁰⁴ "Lessons of the Railway Strike," *The Times* (October 6, 1919), p. 9.

previously.⁴⁰⁵ Consequently, the purchase of Mickleover was an example of vertical integration, as the firm provided the wholesaler with a self-contained transport operation that constructed and maintained 300 specialist vehicles for churn collection and delivery to depots nationwide.⁴⁰⁶ Furthermore, the ability to provide an alternative to rail transport during the strike had provided confirmation that the wholesaler had made a wise investment in light of the post-war maintenance arrears and reliability issues afflicting Britain's railways.⁴⁰⁷

Another advantage of road transport was its flexibility in use. Through its Mickleover Transport subsidiary, United Dairies possessed three strategically-located road haulage depots. The main works and depot at Mickleover, Derbyshire and another depot at Wells catered for churn collection in two major milk producing areas, whilst the third depot was located in London to provide a maintenance hub for vehicles used to collect milk from surrounding dairy farms and dispatch to retailers.⁴⁰⁸ The motorised operation also benefited the farmer by reducing the cost of transporting small quantities of milk over short distances, as milk distribution by rail attracted a premium because of the need for speed and care in transit.⁴⁰⁹ The railway industry's justification for a premium charge was that urgent consignments imposed a 'high cost [upon] the railways', whilst farmers enjoyed lower charges when using dedicated milk services.⁴¹⁰ In this respect, the railway industry's implication was that it was subsidising Britain's milk industry whilst the agricultural sector experienced a post-First World War recession in 1921.⁴¹¹

In contrast, motor haulage possessed better speed and range over horse and rail transport for the cost of vehicle operation and driver wages. The ability to directly audit the cleanliness of individual motor vehicles allowed United Dairies to comply with the Milk and Dairies (Amendment Act) of 1922, which began the process of defining minimum milk production and sales standards in the interests of hygiene, quality and public safety.⁴¹² Furthermore, United Dairies could directly assist farmers unwilling to send milk to their local station using horses because of the general increase in motor traffic on the roads. As such, United Dairies had amassed a fleet of 400 motor lorries with

⁴⁰⁵ "United Dairies, Limited: Continued Progress," *The Times* December 2, 1920, p. 23.

⁴⁰⁶ WSA: 1531/240/5, United Dairies Acquisition of Mickleover Transport Co., 1919-1922.

⁴⁰⁷ Captain A. H. Amor, "Road Motor Transport," *Our Notebook*, 4 (September 1924), p. 79.

⁴⁰⁸ "Transport Topics," *Our Notebook*, 29 (Summer 1949), p. 7; see also: WSA: 1531/240/5, United Dairies Acquisition of Mickleover Transport Co., 1919-1922.

⁴⁰⁹ Pole and Milne, "Parcels Traffic by Passenger-Train Services," p. 145; Brown, *Agriculture in England*, p. 94; H. A. Pedley, "Conveyance of Milk by Rail," *LMS Railway Magazine*, III (1926), p. 260.

⁴¹⁰ Larkin, "The Story of Milk from the Cow to the Consumer," p. 355.

⁴¹¹ Perren, *Agriculture in Depression*, p. 40, p. 55; Whetham, "The Agriculture Act, 1920 and its Repeal – the 'Great Betrayal,'" p. 49; S. Fairlie, "Dairy Miles," *The Land*, 13 (Winter 2012-2013), p. 50.

⁴¹² French and Phillips, *Cheated not Poisoned?*, pp. 170-173.

substantial geographical coverage by 1924, thereby providing a service that ‘...obviates the countless instances [of] the same commodity being handled over and over again, with its consequent duplication and increased expense’ between farm and depot.⁴¹³ Furthermore, Captain Amor, United Dairies’ transport manager, reported in *Our Notebook*, the firm’s staff magazine, that road haulage costs were ‘lower than the railway rates for the same journeys’, although details have proved elusive.⁴¹⁴ The combination of resilience during industrial action, flexibility in operation and lower handling costs were therefore key characteristics for an industry engaged with the distribution of perishable produce.

3.5 The railway response to competition

In the absence of comparable figures between both modes of transport, one can speculate that the use of lorries for milk collection prompted a reduction in milk traffic forwarded by rail, as the railways experienced a seven per cent decline in milk revenue between 1926 and 1928, from £1.5 to £1.4 million; indeed, revenue was to decline by a further eight per cent to £1.28 million in 1930.⁴¹⁵ In spite of this, the railway industry remained heavily involved in country distribution, as farms situated in high-output areas such as Wensleydale collectively produced more than enough milk to justify rail transit alongside a road service.⁴¹⁶ Britain’s railway companies also expanded their involvement in farm distribution once the Railway (Road Transport) Acts, described in chapter 2, were passed in 1928. Despite being contested by the road haulage lobby, the acts enabled each of the ‘Big Four’ to operate road haulage services in direct competition with private hauliers as an adjunct to railway operations, thus providing the opportunity to establish a feeder service on behalf of milk wholesalers.⁴¹⁷

Such a service is described within a *GWR Magazine* article regarding the logistical operation for 600 small Cornish farms contracted to supply a Nestlé depot at Lostwithiel with milk intended for the London market in 1933.⁴¹⁸ The area’s geography posed a problem for Nestlé, and the farmers lacked the time to deliver milk to the nearest depot or railway station themselves. In response, the GWR offered to undertake a trial whereby a complete farm-to-London service was provided, which entailed the

⁴¹³ Captain Amor, “Road Motor Transport,” p. 79.

⁴¹⁴ Captain Amor, “Road Motor Transport,” pp. 79-80.

⁴¹⁵ Ministry of Transport, *Railway Returns* (London: HMSO, 1926-1930).

⁴¹⁶ Hallas, “The Social and Economic Impact of a Rural Railway,” pp. 39-40, p. 43.

⁴¹⁷ Walker, *Road and Rail*, p. 149; “The Effect of the Revision of Railway Traffic Conditions,” *The Commercial Motor*, XLVI (January 1928), p. 760.

⁴¹⁸ R. F. Thurtle, “Transport Enterprise in Cornish Milk Traffic,” *Great Western Railway Magazine*, XLV (1933), p. 63.

establishment of ten sub-depots at strategic points around the county for housing the collection lorry fleet.⁴¹⁹ The depots provided distribution hubs for 24 regular motor routes to farms throughout Cornwall, allowing the GWR to provide a door-to-door service and consolidate its grip on Nestlé's London traffic. The process was described as 'further impressive evidence of the possibilities and advantages of coordinated road and railway transport', implying that the 'Big Four' considered themselves capable of farm and depot milk distribution with equal aplomb.⁴²⁰

3.6 The railways and wholesaler expansion

Despite the self-congratulatory tone of railway reportage, these instances of collaboration depended upon the demands of the wholesaler, as evidenced by the search for new sources of supply when London's demand for milk increased throughout the 1920s. Consequently, this section argues that the wholesaler, rather than the railways through the advertising of services, drove expansion. Express Dairies' decision to establish its Westmorland depot in 1927 revitalised a depressed agrarian economy in which local farmers had endured poor transport links and the decimation of their traditional milk market in the North East because of a decline in Tyneside's heavy industrial economy.⁴²¹ The new rail-connected depot and creamery at Appleby thus gave local farmers access to the lucrative London market via its wholesale dairy at Cricklewood. The venture's success is recorded within the company's official history, which quotes traffic growth from 1,000 to 50,000 gallons of milk dispatched daily between 1927 and 1931.⁴²²

The rising demand for liquid milk was proving beneficial for farmers in regions beyond London's traditional 'milk shed' such as Cornwall and South West Wales, where limited local demand resulted in surplus milk being used in the on-farm production of cheese and butter.⁴²³ The establishment of creameries in these areas after the First World War reduced this practice, although milk sold in this market attracted a lower price because of the influence of cheap, imported products.⁴²⁴ Both commodities were therefore treated

⁴¹⁹ Thurtle, "Transport Enterprise in Cornish Milk Traffic," p. 64.

⁴²⁰ Thurtle, "Transport Enterprise in Cornish Milk Traffic," p. 66.

⁴²¹ Morgan, *Express Journey*, p. 82.

⁴²² Morgan, *Express Journey*, p. 82.

⁴²³ Brown, *Agriculture in England*, pp. 94-95.

⁴²⁴ Empson, "History of the Milk Marketing Board," p. 78.

as 'sinks' for surplus milk, the creamery creating a paradox that the more milk produced in a given area, the less it needed to be moved.⁴²⁵

This emphasised the importance of cheap transport, as seasonal fluctuations in production affected prices and necessitated the careful management of the liquid market to balance supply with demand throughout the year. Milk production peaked during the spring and summer months; to deal with any surplus, larger country depots incorporated a creamery that provided wholesalers with a means of balancing supplies and exercising control over the manufacturing market.⁴²⁶ In consequence, the increasing oligopoly enjoyed by the wholesaler over the various stages of milk supply created a buyer's market, although David Taylor highlights that despite a lack of reliable data, the liquid trade remained attractive to dairy farmers in Somerset and Gloucestershire because of the superior quality and cheapness of cheese and butter imports; the latter region experienced an increase of 40 per cent in production.⁴²⁷ Furthermore, arable agricultural holdings in Norfolk and Lincolnshire had diversified into liquid milk production because of the prospect of a regular payment for the commodity with minimal capital outlay, the railways being used to dispatch milk to London.⁴²⁸

The ability to readily engage in liquid milk production was symptomatic of an unregulated industry, particularly following the introduction of the mobile milking bail in 1922, which permitted the mechanised milking of cattle in the field, as any contract negotiated with milk wholesalers thus provided some financial certainty for the farmer.⁴²⁹ The contract was a source of regular income when the government's free trade policy permitted the sale of 60 to 80 per cent of global butter exports on the British market, which marked an increase from 6.1 to 8 million tons between 1928 and 1931 and starkly contrasted with an estimated 800,000 tons produced domestically between 1930 and 1931.⁴³⁰ The country milk depot was therefore a lifeline for Britain's agrarian economy, creating an assured market for producers, with milk accounting for 25 per cent of Britain's agrarian output in 1930.⁴³¹ However, the 'technique of annihilating the gap between town

⁴²⁵ A. J. Youngson, *Britain's Economic Growth, 1920-1966, 2nd Edition* (London: George Allen & Unwin, 1968), p. 119; Strauss, "The Structure of the English Milk Industry," p. 146; Baker, *Milk to Market*, p. 165.

⁴²⁶ Whetham, *The Agrarian History of England and Wales*, p. 23; Youngson, *Britain's Economic Growth*, p. 119; Strauss, "The Structure of the English Milk Industry," p. 146; Brown, *Agriculture in England*, p. 110.

⁴²⁷ D. Taylor, "Growth and Structural Change in the English Dairy Industry, c1860-1930," *The Agricultural History Review*, 35 (1987), p. 62.

⁴²⁸ Baker, *Milk to Market*, p. 162; Taylor, "Growth and Structural Change in the English Dairy Industry," p. 52.

⁴²⁹ Taylor, "Growth and Structural Change in the English Dairy Industry," p. 64; Brown, *Agriculture in England*, p. 94.

⁴³⁰ HC Deb 28 June 1934, vol 291, cols 1296-1297; Whetham, *The Agrarian History of England and Wales*, p. 231.

⁴³¹ Fairlie, "Dairy Miles," p. 50; Morgan, *Express Journey*, p. 66.

and country' required constant improvement, and the speed at which technological innovations and service quality improvements could be adopted became an important battleground for service-based competition between rail and road transport.⁴³²

3.7 Rail and road competition in depot milk distribution

Although the railways had provided the backbone of long-distance milk distribution since 1864, rate increases proposed after 1920 were considered 'exorbitant' by the National Farmer's Union (NFU) for the quality of service offered.⁴³³ This section poses the hypothesis that the railways were complacent towards the traffic, an assertion which might explain the apparent lack of effort expended in advertising services to milk wholesalers. The hypothesis is confirmed by the NFU's Milk and Dairy Produce Committee minutes, which refer to a deputation sent to the Railway Clearing House (RCH) to discuss the misuse of milk vans in August 1921.⁴³⁴ They reveal farmers' complaints about ventilated milk vans used to transport other perishables, compromising hygiene.⁴³⁵ A subsequent minute from October 1922 drew attention to the continued use of dirty railway vehicles in milk transit, indicating that little progress was made before the 1923 railway grouping.⁴³⁶

These problems prompted a new development in milk transport as a Liverpool dairy began to experiment with glass-lined lorry-hauled tanks, thus marking the beginning of an era of intense inter-modal competition and technological advance.⁴³⁷ The bulk tank is an important example of the transfer of technical knowledge developed in the United States; its advantages included efficiencies in handling during and after transit whilst negating the expedient of transporting numerous empty churns over long distances.⁴³⁸ Their use also reduced the cost of the seasonal transfers of liquid and manufacturing milk between depots to balance supply, whilst the ease in which tanks could be cleaned as a result of their vitreous enamel 'glass' or stainless steel linings promoted milk hygiene.⁴³⁹ In short, the tank presented a means of overcoming many of the disadvantages associated with being 'locked-in' to distribution with the milk churn.

The emergence of the bulk milk tank therefore presented road haulage with the chance to engage in service-based competition, and considerable cost and qualitative

⁴³² Morgan, *Express Journey*, p. 15.

⁴³³ MERL: NFU AD1/44, National Farmer's Union (NFU), Minutes of Meeting, February 20, 1923, Item 11.

⁴³⁴ MERL: NFU AD1/44, NFU, Minutes of Meeting, August 18, 1921, Item 3.

⁴³⁵ MERL: NFU AD1/44, NFU, Minutes of Meeting, June 20, 1922, Item 6.

⁴³⁶ MERL: NFU AD1/44, NFU, Minutes of Meeting, October 17, 1922, Item 4.

⁴³⁷ "Motor Tankers for Milk," *The Commercial Motor*, XXXVII (July 31, 1923), pp. 756-757.

⁴³⁸ "Motor Tankers for Milk," p. 756.

⁴³⁹ "Transportation of Milk in Glass-Lined Tanks," *Our Notebook*, 4 (September 1924), pp. 56-57.

advantages over the railways were reported for milk hauled direct from country depots and London.⁴⁴⁰ Uptake was rapid, with Express Dairies adopting the concept later in 1923; although the company considered itself an ‘ardent [exponent] of rapid delivery’ when road speeds were 20mph, the benefits of direct delivery, minimal charges for road access and low staffing costs were evidently attractive.⁴⁴¹ Furthermore, although the 1919 strike had provided a taster of road transport’s ability in adversity, the road tank was able to play a role in the 1926 General Strike, particularly in relation to an emergency road operation implemented to collect milk from producers within a 100-mile radius of London which gave further proof of the lorry’s long-distance transport capability.⁴⁴²

In supplementing the churn haulage fleet during the General Strike, the road tanker had long-term ramifications for rail, as Garston Dairies was reported to be regularly conveying milk over 100 miles from Frome in Somerset to its London depot in ten hours by August 1926, which saved an estimated £6,000 per annum in railway rates and terminal charges.⁴⁴³ When considered against the developments taking place in road haulage, it is possible to argue that the railway industry’s response was lacklustre.⁴⁴⁴ The ‘Big Four’ companies remained ‘locked-in’ to pre-1900 principles, with the GWR ‘Siphon’ particularly emblematic of financial conservatism and entrenched working practices, and provides a succinct example of technological path-dependency when there was demand for new development to meet the dairy sector’s need for low-cost and seamless distribution.⁴⁴⁵

Instead of developing existing services, the grouping of the railway companies in 1923 had placed emphasis upon attracting new traffic flows to meet the ‘Standard Revenue’, as discussed in chapter 2, once again supporting the hypothesis that the railways were relaxed about promoting and supporting existing traffic.⁴⁴⁶ Consequently, the wholesaler took responsibility for overcoming this disadvantage by unilaterally driving innovation in milk transport by rail; the railway industry’s lack of initiative in relation to rail-mounted tanks was highlighted by the *Locomotive, Railway Carriage and Wagon Review*.⁴⁴⁷ In 1925, the publication reported the successful use of tanks with cooling apparatus in the United States, thereby bolstering railway competition with road

⁴⁴⁰ “Road Transport Scores a Valuable Point,” *The Commercial Motor*, XXXVIII (January 29, 1924), p. 800; “The Great Strike,” *Our Notebook*, 6 (July 1926), p. 63. See also: Morgan, *Express Journey*, pp. 60-76.

⁴⁴¹ “The Milky Way,” *The Commercial Motor*, XXXVI (January 16, 1923), p. 656.

⁴⁴² “The Great Strike,” pp. 63-64. See also: Morgan, *Express Journey*, p. 69.

⁴⁴³ “Carrying Milk in Bulk by Road,” *The Commercial Motor*, XLIV (August 24, 1926), p. 12.

⁴⁴⁴ Walker, *Road and Rail*, p. 115.

⁴⁴⁵ The longevity of the ‘Siphon’ concept is demonstrated by Slinn and Clarke, *GW Siphons*; see also: “Fifty Years On: Whitland Creamery,” *Our Notebook*, 44 (Autumn 1964), pp. 3-4. For a brief account of the dairy farmer’s requirement for low distribution costs, see Fairlie, “Dairy Miles,” pp. 48-49.

⁴⁴⁶ B. Essery, “Railway Salesmanship,” *Backtrack*, Special Issue 1 (1998), p. 52; Walker, *Road and Rail*, p. 111.

⁴⁴⁷ “Railway Milk Transport in Bulk,” *The Locomotive, Railway Carriage and Wagon Review*, XXXI (1925), pp. 163-164

transport.⁴⁴⁸ In 1926, the publication flew a higher kite when a daily road-based service conveying 2,500 gallons of milk from the West Country to London was used to emphasise the competition facing Britain's railways.⁴⁴⁹

The case for adoption was to compare the road tank operation with the 'old-fashioned ...method of conveying [milk] in small capacity churns', which was cited as being un-remunerative deadweight during long-distance transit.⁴⁵⁰ An analysis of the savings obtained implied similar benefits for the railways, as 'allowing for depreciation... the working cost works out at £1,600 per annum, carrying over 2,000 tons of milk. This is said to be less than half the cost of transport by rail', with savings accrued in the reduction of handling and the economies of scale through bulk conveyance.⁴⁵¹ The article therefore acknowledges that the efficiency and cost-effectiveness of the rail operation had general scope for improvement, implying that Britain's railways were more than capable of reducing the lead established by road haulage as the first mode of inland transport to adopt bulk tank technology for milk distribution.

Image 6



Restored LMS/United Dairies bulk milk tank No. 44057, which forms part of the National Collection of railway vehicles. This example is a later six-wheeled vehicle, built in 1937. Source: National Railway Museum NRM_CT_937988.

⁴⁴⁸ "Railway Milk Transport in Bulk," p. 163.

⁴⁴⁹ "The Transport of Milk," *The Locomotive, Railway Carriage and Wagon Review*, XXXII (1926), p. 364.

⁴⁵⁰ "The Transport of Milk," p. 364.

⁴⁵¹ "The Transport of Milk," p. 364.

Along with its rival Express Dairies, United Dairies, which already operated road tankers from Banbury, Petersfield and Moreton-in-Marsh to London, forced the issue by threatening a transfer to road haulage.⁴⁵² Faced with a significant loss of milk traffic, the GWR and LMS entered into a compromise whereby United Dairies provided loading and cleaning facilities at its Calveley, Wootton Bassett and Mitre Bridge (London) depots, whilst the railways re-organised sidings and operated the services.⁴⁵³ The compromise was most evident in the unusual agreement whereby the railway companies would construct the chassis and mount 3,000 gallon glass-lined tanks supplied by United Dairies, creating similar vehicles to that illustrated above in **Image 6**.⁴⁵⁴ This dual-ownership had no precedent, as other traders purchased and registered their own 'Private Owner' tanks with the railway companies, allowing speculation that neither party was willing or able to fully commit to the enterprise alone; yet both stood to benefit from overcoming years of being 'locked-in' to inefficient technology.⁴⁵⁵

Trial services between Cheshire, Wiltshire and London commenced on 15 December 1927. As with the road tanks, the potential benefits were threefold: the concentration of larger quantities of milk at fewer country depots; a reduction in unnecessary train movements and associated handling, the preservation of milk quality via insulation and near-complete protection from contamination.⁴⁵⁶ The economy of scale provided by the tank was also made clear; their 3,000 gallon capacity was double the 1,440 gallons the GWR 'Siphon' vans could carry in 'ideal conditions', and could displace three LMS ventilated milk vans.⁴⁵⁷ United Dairies' trial proved successful, whilst Express Dairies established daily services from Appleby to Cricklewood and Frome to South Acton; the latter route was in near-direct competition with Garston Dairies' road operation.⁴⁵⁸ Although the concept was emulated by other wholesale dairies, it is necessary to reiterate the argument that this an example of change being driven by the transport user; whilst the benefits for both parties are clear, the adoption of the railway bulk tank had not emerged from railway industry actively responding to road competition for the traffic.

⁴⁵² "The Value of Milk Tankers," *The Commercial Motor*, XLII (December 15, 1925), p. 629; Whetham, *The Agrarian History of England and Wales*, p. 151.

⁴⁵³ "Conveyance of Milk in Bulk," p. 491; Editorial, *LMS Railway Magazine*, IV (1927), p. 361.

⁴⁵⁴ "Milk Transport in Tank Wagons," *The Railway Magazine*, LXII (January-June 1928), pp. 120-122.

⁴⁵⁵ Essery, Rowland and Steel, *British Goods Wagons*, p. 98.

⁴⁵⁶ "Milk Transport in Tank Wagons," p. 122.

⁴⁵⁷ "Conveyance of Milk in Bulk," p. 491; Editorial, *LMS Railway Magazine*, IV (1927), p. 361.

⁴⁵⁸ Morgan, *Express Journey*, p. 78.

3.8 The London wholesale depot

The London wholesale depots helped to fill the ‘widening gap between retailers and dairy farmers’ and were the natural successors to the small town dairy prevalent in George Barham’s era.⁴⁵⁹ In the case of United Dairies, a structural division of the firm’s wholesale and retail functions ensured that the reception, processing and subsequent distribution of liquid milk destined for the London market became the sole responsibility of a single organisation, allowing retailers to concentrate upon the disposal of milk to customers and consumers.⁴⁶⁰ The changes facing London’s wholesale depot operations before 1930 thus provides another factor supporting the hypothesis that transport innovation was governed by the milk distributors, rather than through proactive development by external providers.

The London depot was of paramount importance to the supply operation for two principal reasons. Firstly, although the country depot provided an effective means for directing the flow of milk to liquid or manufacturing markets, daily calculations were needed to estimate demand. Such calculations depended upon the daily collection of data regarding consumer demand, which could only be accurately performed at the wholesale depot.⁴⁶¹ A second function was to process milk for retail, an activity synonymous with moves to promote milk hygiene in the 1920s. However, government legislation in this regard lacked teeth due to the cost of enforcement, and distributors were left to voluntarily grade and licence their milk under the Milk and Dairies (Amendment) Act (1922).

The Act attempted to improve quality assurance in the interests of public health and food hygiene by preventing the sale of tuberculous milk, and United Dairies identified hygiene as a potential tool for establishing a competitive edge within an oligopolistic trade.⁴⁶² From this perspective, investment in rail and road bulk milk tanks complemented a rolling programme of depot improvement, as the installation of improved pasteurising and bottling equipment guaranteed milk quality during the final stages of its journey to the consumer, with 90 per cent of London’s milk being pasteurised by 1934.⁴⁶³ This was supplemented by bottling, which aside from preventing contamination between wholesale depot and customer, permitted the retail of standard measures of milk. Therefore, the

⁴⁵⁹ “London Wholesale Dairies Ltd.- Transport Department,” *Our Notebook*, 16 (July 1936), pp. 6-8; Whetham, “The London Milk Trade, 1860-1900,” p. 372.

⁴⁶⁰ Whetham, “The London Milk Trade, 1860-1900,” p. 172.

⁴⁶¹ “London Wholesale Dairies Ltd.- Transport Department,” p. 6.

⁴⁶² French and Phillips, *Cheated not Poisoned?*, p. 169, p. 174; P. Atkins, “The Pasteurization of England: The Science, Culture and Health Implications of Food Processing, 1900-1950,” in *Food Science Policy and Regulation in the Twentieth Century: International and Comparative Perspectives*, ed. D. F. Smith and J. Phillips (London: Routledge, 2000), p. 41.

⁴⁶³ Atkins, “The Pasteurization of England,” p. 39; French and Phillips, *Cheated not Poisoned?*, p. 174.

combination of bulk tanks, pasteurisation and bottling were products of the wholesalers' governance over the supply chain to establish a near-seamless flow of milk to the consumer that minimised spoilage and reduced handling costs.⁴⁶⁴

3.9 Developing the rail-tank operation, c.1928-1935

The wholesaler's ability to drive the railway operation is also demonstrated by United Dairies' plans for its East Finchley and Vauxhall depots in 1928. A small depot at East Finchley received milk in churns 'from many points'; the daily quantity of milk ranging from 7,000 to 9,000 gallons provided the LNER with business worth up to £17,000 per annum.⁴⁶⁵ A memorandum submitted to the Traffic, Locomotive and Works Committee, which authorised engineering work, reported that United Dairies had '...decided to adopt the tank system' at East Finchley and to 'discontinue sending churns to that place' from Ingestre, Staffordshire.⁴⁶⁶ It also highlights that new technological innovations increased competition between Britain's 'Big Four' railway companies, as specific mention was made of the GWR and LMS' services from Calveley and Wootton Bassett to Mitre Bridge.

Whilst United Dairies' proposal implies a desire to maintain a relationship with the railways, the memorandum's tone suggests that the LNER did not relish the prospect of spending money. Although the LNER would benefit from the release of milk vans for other duties and reduced labour costs at East Finchley station, this was offset by increased track maintenance costs in the long term.⁴⁶⁷ Furthermore, the Committee highlighted that 'every effort [had] been made to induce the firm to bear the whole of this expenditure', but the precedent set by the LMS and GWR meant United Dairies threatened to transfer the traffic to Willesden for road transfer to East Finchley depot.⁴⁶⁸ Therefore, the loss of traffic and revenue compelled the railway company to participate.⁴⁶⁹

The railway's principal concern about acceding to United Dairies' proposals was an anticipated decline in churn traffic once the tanks entered service, with estimates suggesting that the annual revenue for the East Finchley operation would reduce from £17,00 to £14,500.⁴⁷⁰ However, it was anticipated that the £2,500 shortfall would be mitigated by the concentration of United Dairies' churn traffic at Finsbury Park depot. The

⁴⁶⁴ B. Davies, "The Birth of an Epoch," *Our Notebook*, 18 (January 1928), p. 45, p. 48.

⁴⁶⁵ TNA: RAIL 390/708, 25 February 1928 Memorandum to the Traffic, Locomotive and Works Committees, pp. 1-5.

⁴⁶⁶ TNA: RAIL 390/708, 25 February 1928 Memorandum, p. 1.

⁴⁶⁷ TNA: RAIL 390/708, 25 February 1928 Memorandum, p. 4.

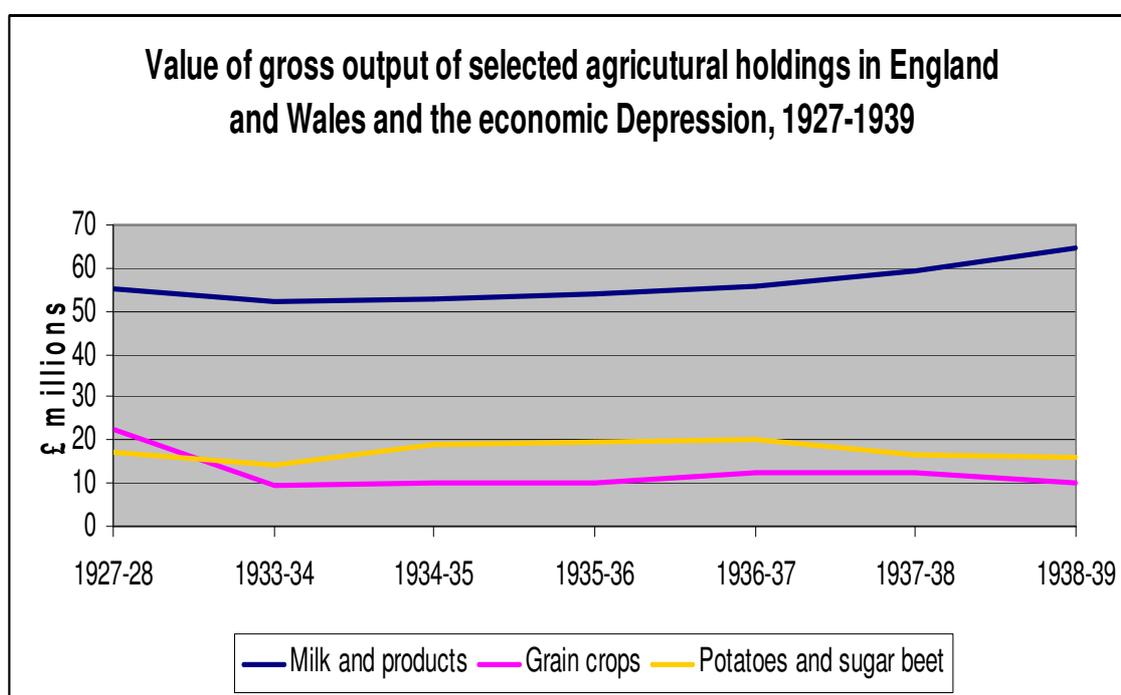
⁴⁶⁸ TNA: RAIL 390/708, 25 February 1928 Memorandum, p. 3.

⁴⁶⁹ TNA: RAIL 390/708, 26 March 1928 Wedgwood to Bury.

⁴⁷⁰ RAIL 390/708, 25 February 1928 Memorandum, p. 3.

memorandum also lists the extent of the works required, which included a siding with loop to hold three tanks at East Finchley depot; a siding to hold six empty tanks; a short extension to the milk stage at Ingestre, and the construction of seven tank chassis, all of which incurred a capital cost of £7,605.⁴⁷¹ Whilst finite financial resources was the reason for the LNER's reticence to participate, United Dairies also openly promoted its prowess '...in bringing milk to London in glass-lined road tanks' in October 1928, which implies that the wholesaler considered its vertically-integrated road haulage operation as its principal means of milk distribution.⁴⁷² The onset of economic depression at the end of 1928 slowed expansion, with tank chassis construction by the GWR halted until 1931.⁴⁷³

Graph 9



Source: See Appendix 2, Table 9 (p. 301).

Although the Depression placed pressure upon the industry to maintain low distribution costs, the value of the gross output of milk detailed in **Graph 9** remained stable in comparison with other agricultural food commodities, making the trade more attractive to

⁴⁷¹ TNA: RAIL 390/708, 25 February 1928 Memorandum, p. 3.

⁴⁷² "London Wholesale Dairies New Vauxhall Depot and Head Offices," *Our Notebook*, 8 (October 1928), p. 11; TNA: RAIL 390/708, 18 November 1929 Memorandum to the Traffic and Locomotive Committees, p. 1.

⁴⁷³ Viscount Astor and B. Seebohm Rowntree, *British Agriculture: The Principles of Future Policy* (London: Penguin, 1939), p. 196; TNA: RAIL 390/708, 14 January 1929 Memorandum to the Traffic and Locomotive Committees, p. 1; J. N. Slinn, "Milk Traffic on the GWR Part 10: The Milk Tank Wagons," *HMRS Journal*, 12 (1985), p. 87.

farmers in a depressed agricultural market.⁴⁷⁴ This stability might have encouraged the GWR to develop an insulated ‘Siphon’ that used dry ice to keep churns cool in 1930 and United Dairies to commence tank operations at Vauxhall depot by installing pumping equipment at the railway station.⁴⁷⁵ Vauxhall thus became the main reception point for tank-borne milk dispatched via the Southern Railway from United Dairies’ country depots at Semley and Gillingham, as indicated below in **Map 2**, with one million gallons received in the year ending January 1933.⁴⁷⁶ Further evidence of increased confidence was the GWR’s decision to design a six-wheel chassis to improve stability at speed in 1931, whilst United Dairies developed internal baffling to reduce churning in transit.⁴⁷⁷

Similarly, confidence in the principle of bulk tank operations is evidenced by the Southern’s decision to attract traffic from wholesalers without a direct rail connection in 1931. A scheme was developed in collaboration with the London Co-operative Wholesale Society (CWS) to serve several non-rail connected dairies in Somerset, from where churns were delivered to the nearest railway station for dispatch to its Clapham Junction depot.⁴⁷⁸ The desire to reduce handling resulted in a new development in the bulk tank concept which combined the flexibility of the lorry with the efficiency of long-distance rail transport. The CWS thus provided 2,000-gallon trailer-tanks for towing between its Bruton dairy and Cole station, where they were loaded and secured onto special flat-wagons designed by the Southern before being worked the 138 miles to Clapham.⁴⁷⁹

⁴⁷⁴ Brown, *Agriculture in England*, p. 110; B. Jeuda, “The Decline of Milk Trains in North Staffordshire in LMS Days,” *Journal of the North Staffordshire Railway Study Group*, 26 (2010), pp. 27-28; Copsey, “The Whitland Milk Train in Postwar Years,” p. 147.

⁴⁷⁵ Slinn and Clarke, *GW Siphons*, pp. 90-96.

⁴⁷⁶ “Milk Traffic by Glass-Lined Tankers,” p. 83; “How the Country Helps London,” *Our Notebook*, 12 (January 1932), pp. 6-8.

⁴⁷⁷ “Conveyance of Milk in Bulk,” *Great Western Railway Magazine*, XLIII (1931), p. 460.

⁴⁷⁸ Details are to be found in the Co-operative Wholesale Society’s staff magazine: *Ourselves*, X (January 1934), p. 8.

⁴⁷⁹ “Milk by Rail- The Modern Way: Tanks Instead of Churns,” *Southern Railway Magazine*, 9 (1931), pp. 400-401; “Milk Traffic by Glass-Lined Tankers,” *Southern Railway Magazine*, 11 (1933), p. 83.

Map 2

Selected wholesaler depot locations on the Southern Railway network

7, 8

2

3

4

5

6

1

Key to map:

Country depots and mileage to London depots

- 1. United Dairies Chard, 138
- 2. London CWS Bruton, 138
(Clapham Junction via Templecombe and Yeovil Junction)
- 3. United Dairies Gillingham, 104
- 4. United Dairies Semley, 99
- 5. United Dairies Tisbury, 95
- 6. United Dairies Salisbury, 82

London depots

- 7. London CWS Clapham Junction
- 8. United Dairies Vauxhall

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Such collaboration is a rare example of full coordination between rail and road transport before the Second World War.⁴⁸⁰ A subsequent arrangement between the LNER and the CWS saw a similar service commence between Stowmarket and Stratford, East London in 1934, where railway-owned lorries were used to provide a coordinated service, and **Image 7** shows that the concept was adopted by smaller milk wholesale firms.⁴⁸¹ The scheme coincided with the expansion of the fixed-tank operation to new destinations, with United Dairies' Wood Lane processing and bottling depot opening in early 1935. However, although the GWR was keen to publicise its 'vital part in the transport of milk from the countryside' by highlighting its role in the depot's development, it obscures the effort expended by the wholesaler in driving forward innovation in distribution.⁴⁸²

Image 7



Bradford Model Milk Company Limited 2,000-gallon demountable milk tank and flat-wagon, illustrating the arrangement pioneered by the Southern Railway and the London Co-operative Wholesale Society at the latter's Bruton dairy in 1931. Although undated, the wagon was probably constructed by the LNER c1934. Source: National Railway Museum DS130202-101926.

⁴⁸⁰ "Six-wheel wagons for conveying Road Milk Tank Trailers, Great Western Railway," *Locomotive, Railway Carriage and Wagon Review*, 38 (1932), p. 258; "Rail and Road Coordination in Milk Transport," *The Commercial Motor*, LIV (13 October 1931), p. 285.

⁴⁸¹ TNA: RAIL 390/957, 23 April 1934 Memorandum to the Traffic, Locomotive and Works Committees, pp. 1-2.

⁴⁸² "The World's Largest Milk Depot: Another Vital Industry Served by the Great Western Railway," *Great Western Railway Magazine*, XLVII (1935), pp. 75-78.

3.10 Motorising urban milk distribution

The inter-war development of London's wholesale depot network provides a barometer of the milk industry's success in adapting to changing economic circumstances through centralisation, innovation and investment.⁴⁸³ Although the eradication of churns in favour of tank operations was a long-term ambition, investment in technologies such as pasteurisation and labour reduction ensured that some progress was being made towards maintaining overall market stability and competitiveness.⁴⁸⁴ These were important considerations when economic uncertainty and changing consumer and government attitudes towards milk quality influenced purchasing habits, and confirms the depot's status as a crucial component in an integrated milk supply operation.

This was particularly true of the urban distribution of milk to retailers, which underwent a transformation between 1919 and 1932 equalling that experienced in rail haulage and farm collection.⁴⁸⁵ As already indicated, primary responsibility for urban distribution was with the wholesaler, and *The Commercial Motor* magazine published a feature-article about a successful trial motorised delivery operation initiated by Express Dairies in North London in 1920.⁴⁸⁶ However, whilst the willingness to motorise country depot collection services was prompted by longer distances and the need to improve the reliability of the flow of milk from the farm, the urban environment posed a completely different challenge for the wholesaler's distribution operation.⁴⁸⁷

The stop-start nature of routes, shorter distances and the path-dependency of retailing infrastructure meant that the horse and float remained the predominant method of distribution from the depot, whilst growing congestion meant that motorised transport could not necessarily be used to best advantage.⁴⁸⁸ However, it is possible to hypothesise that the adoption of motor haulage for milk deliveries to retail customers stemmed from two motivations. Firstly, the limited range of horse distribution meant the multiplication of wholesaler depots at strategic locations around central London; road transport could operate longer delivery routes from fewer depots, permitting a reduction in overheads through depot amalgamation.⁴⁸⁹ Secondly, the transformation of urban distribution was an

⁴⁸³ Simpson, "Milk Production in England and Wales," p. 98.

⁴⁸⁴ Valenze, *Milk*, p. 263.

⁴⁸⁵ "How London Helps the Country," *Our Notebook*, 11 (April 1932), pp. 7-8.

⁴⁸⁶ "London's New Milk Service," *The Commercial Motor*, XXXI (August 10, 1920), p. 709.

⁴⁸⁷ "London Wholesale Dairies Ltd.- Transport Department," pp. 6-8.

⁴⁸⁸ "How London Helps the Country," p. 7; Morgan, *Express Journey*, p. 51; "Should Horse Transport be Eliminated from Congested Areas?," *The Commercial Motor*, XLIV (January 4, 1927), p. 623.

⁴⁸⁹ "London Wholesale Dairies Ltd.- Transport Department," p. 6.

important marketing tool, as the use of horse transport ran contrary to the modernising image that the wholesale dairies wished to convey in 1930.⁴⁹⁰

It is also possible to hypothesise that the changes taking place in farm collections and long-distance distribution over the previous decade had prompted a fresh look at urban distribution in the interests of rationalisation.⁴⁹¹ The modernisation of the firm's London transport operations began in earnest in 1931, and 300 horses were replaced by 100 lorries constructed by its Mickleover Transport subsidiary in 1932.⁴⁹² Although the adoption of motor transport for urban distribution illustrates the potential for economies of scale in the carriage of more milk with less vehicles over the course of a day, the rush to purchase vehicles fell foul of government regulations responding to the growth of motor transport.

A prominent example followed the implementation of the Road Traffic Act (1930), which introduced a punitive tax for operators of solid-tyre vehicles in favour of pneumatic tyres to reduce road damage.⁴⁹³ This had an adverse effect upon United Dairies' modernisation programme as many of its existing vehicles featured solid tyres that required changing, concisely illustrating the potential expense of operating a fleet of vehicles on own account.⁴⁹⁴ Despite this setback, United Dairies' acquisition of a motorised fleet for urban distribution ensured 'that the high standard of purity and excellence maintained in the processing plant is kept up whilst milk ...is in transit' whilst economies emerged from the longer operational range and repeat-reloading.⁴⁹⁵

3.11 The Milk Marketing Board and milk distribution, c.1936-1939

Britain's interwar milk supply was the product of a relationship between oligopolistic milk wholesalers and a monopolistic railway industry. However, the emergence of the Milk Marketing Board (MMB) in 1933 represented the beginning of a shift in governance from the wholesaler towards the producer. The supply chain analysis has already indicated the MMB's position within the supply chain; the organisation was tasked with stabilising the milk market whilst other agricultural commodities experienced dire economic performance.⁴⁹⁶ The Board's structure comprised of eleven regions in England and Wales,

⁴⁹⁰ Morgan, *Express Journey*, p. 52, p. 64.

⁴⁹¹ "How London Helps the Country," p. 7.

⁴⁹² "How London Helps the Country," p. 7.

⁴⁹³ "The Maintenance of Mechanical Rolling Stock Owned by United Dairies," *Our Notebook*, 12 (January 1932), p. 11; Road Traffic Act, 1930, 20 & 21 Geo. 5, c. 43, s. 3.

⁴⁹⁴ "The Maintenance of Mechanical Rolling Stock," p. 11.

⁴⁹⁵ "London Wholesale Dairies Ltd.- Transport Department," p. 8.

⁴⁹⁶ Baker, *Milk to Market*, pp. 55-56, p. 62, p. 73; Brown, *Agriculture in England*, p. 113, pp. 115-116; Martin, *The Development of Modern Agriculture*, pp. 23-24.

which held statutory powers to wrest control from the wholesale industry by setting minimum producer prices and acting as a third-party in producer-wholesaler contract negotiations to ‘rationalise the flow of milk supplies and concentrate surplus in areas where manufacturing could be operated most economically’.⁴⁹⁷

The MMB’s interest in addressing distribution problems caused by the whims of the wholesale industry began in 1934, when the dairy economy west of Carlisle was hit by a local creamery’s review of contracts, removing a significant market in an area with limited local demand.⁴⁹⁸ The Board therefore established its own creamery for cheese manufacturing at Aspatria, although its lack of experience in transport operations presented an opportunity for the LMS to establish a working relationship by agreeing to operate an experimental ‘all-in’ collection and delivery service that assisted the MMB and prevented traffic loss to private road hauliers.⁴⁹⁹ The LMS’ willingness to cooperate with the MMB suggests that Britain’s railway companies were fully cognisant of the changes taking place, and the potential for further traffic opportunities instilled greater confidence in the longevity of both churn and tank traffic, with the LMS introducing an insulated churn van in 1935.⁵⁰⁰ However, initial optimism for a fruitful working relationship was receding by 1936 when the MMB complained of railway complacency in the very road collection business it helped create.

The principal cause of tension was railway bureaucracy regarding the cost of an LMS road collection and delivery service at the MMB’s Wem creamery.⁵⁰¹ Although no rates are quoted, a competing creamery with its own lorry fleet reduced its collection charges to entice local farmers into transferring their business. The Board, having given the LMS ‘every opportunity of taking the business at the prices quoted by reputable hauliers’, was not given a prompt response, and issued the threat of transferring traffic to private road hauliers.⁵⁰² The MMB’s ability to negotiate on behalf of the producer in transport matters demonstrates the shift in influence within the supply chain; the LMS’ apparent lack of regard for commercial pressures within the milk industry fuelled a belief

⁴⁹⁷ G. Walworth, *Feeding the Nation in Peace and War* (London: George Allen and Unwin, 1940), p. 345.

⁴⁹⁸ Baker, *Milk to Market*, p. 87; Empson, “History of the Milk Marketing Board, 1933-1994,” p. 79.

⁴⁹⁹ Empson, “History of the Milk Marketing Board, 1933-1994,” p. 79; TNA: JV 7/562, 25 May 1934 Minutes of Board Meeting Procedures.

⁵⁰⁰ S. Banks, “Milk Traffic- An Overview,” *LMS Journal*, 34 (2011), pp. 41-47; J. Harvey, “Post-World War II Milk Traffic on the SR/BR(S) Western Section Part 1,” *Historical Model Railway Society Journal*, 20 (2009), pp. 117-118; “Insulated Milk Vans, LMSR,” *Locomotive, Railway Carriage and Wagon Review* 41 (1935), p. 242.

⁵⁰¹ TNA: JV 7/562, 21 September 1936 Milk Marketing Board (MMB) to London Midland and Scottish Railway (LMS).

⁵⁰² TNA: JV 7/562, 21 September 1936 MMB to LMS.

that the railways were complacent and inflexible, and that an alternative mode of transport was desirable.⁵⁰³

A second reason for declining railway traffic was the MMB's policy of reducing 'unnecessary' haulage by actively encouraging the local processing of surplus milk into dairy products.⁵⁰⁴ A report published by the LNER in 1937 about its Wensleydale milk traffic recorded a loss of 85,033 gallons of milk to road between December 1934 and December 1935 due to the short distance to a Cow & Gate creamery at Northallerton.⁵⁰⁵ Although this was mitigated by the dispatch of dried milk and butter products, the MMB's role in contract negotiations with wholesalers to improve the producer's financial return brought uncertainty, as exemplified by the Board's decision to direct the milk output from Express Dairies' depot at Leyburn solely to the London liquid trade from January 1937.⁵⁰⁶ This again suggests that the MMB's concern for reducing the transaction costs facing producers underpinned supply chain changes, as farmers continued to provide a rebate to wholesalers for transport to the first point of sale through their monthly contracts.⁵⁰⁷

Such interventions provided a means of circumventing the MMB's lack of legal powers to intervene in the choice of rail or road conveyance, which remained 'a matter of arrangement between the individual producer and his buyer' before the Second World War.⁵⁰⁸ In doing so, the Board could '...intervene in the matter of collection charges' made to its regional 'milk pools', which were created in 1934 to provide a guaranteed price for milk.⁵⁰⁹ Buyer rebates originally deducted from the producer's monthly milk contracts were therefore charged to the milk pool and were closely audited by the MMB; they were also differentiated according to whether the milk was intended for the liquid or manufacturing market to create a complex payments system that demanded accurate record-keeping by all parties.⁵¹⁰

Further evidence of the MMB's interest in transport matters is provided by records of a meeting held at the RCH in March 1938. The resultant memorandum indicated that the Board had requested details of the quantity of milk passing by rail

⁵⁰³ TNA: JV 7/562, 15 April 1937 Long Distance Transport; Scott, "British Railways and the Challenge from Road Transport, 1919-39," pp. 101-120.

⁵⁰⁴ TNA: RAIL 396/2, 10 December 1937 London and North Eastern Railway (LNER) Milk Traffic Received and Forwarded from Cow & Gate, Northallerton; Walworth, *Feeding the Nation*, pp. 145-146.

⁵⁰⁵ Viscount Astor and Rowntree, *British Agriculture*, p. 196; TNA: RAIL 396/2, 16 January 1936 LNER Milk Traffic- Hawes Branch to L.M.S. Line.

⁵⁰⁶ TNA: RAIL 396/2, 10 December 1937 LNER Milk Traffic Received and Forwarded from Cow & Gate.

⁵⁰⁷ MERL: SR MMB B/1, MMB Accounts and Report for the Year Ended 31 March 1935, p. 7.

⁵⁰⁸ Baker, *Milk to Market*, p. 89; TNA: RAIL 396/3, 3 March 1938 Memorandum of Meeting held at the Railway Clearing House, p. 1.

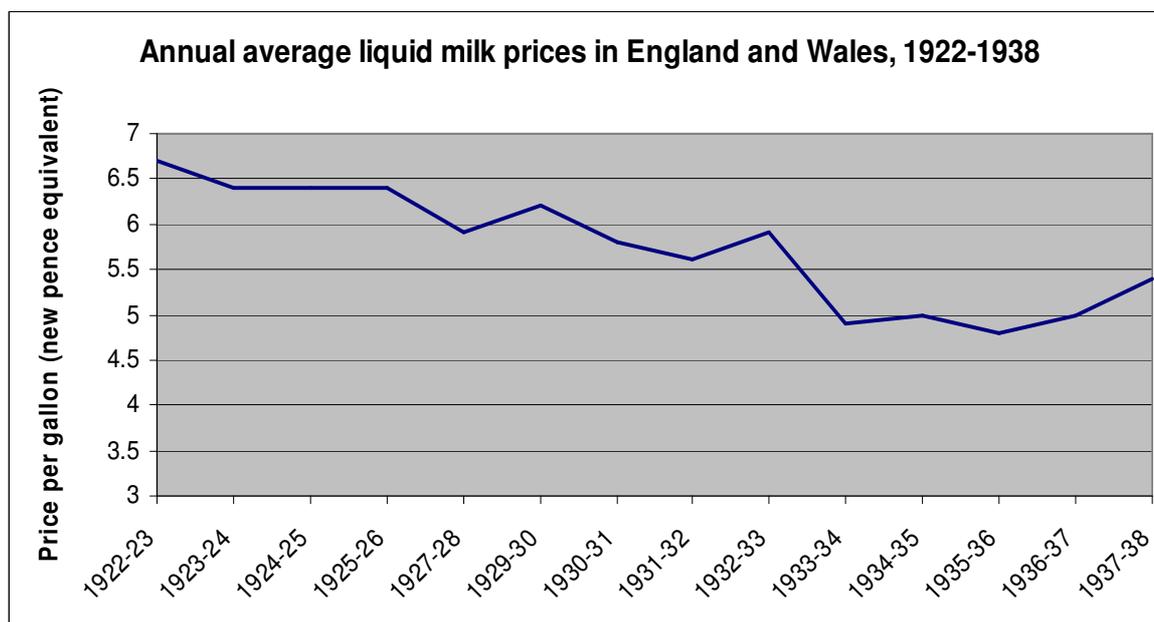
⁵⁰⁹ TNA: RAIL 396/3, 3 March 1938 Memorandum of Meeting, p. 1; Astor and Rowntree, *British Agriculture*, p. 196.

⁵¹⁰ SWA: 1531/240/12, MMB & United Dairies (Wholesale) Ltd.: Report on Rebate Claims for the Half-Year ended 31st March 1937, p. 4. See also: TNA: JV 7/551, July/August 1936 Special Transport Deductions.

between November 1936 and April 1937 from all points of origin.⁵¹¹ The request ostensibly formed part of a broad-ranging review of transport arrangements to identify unnecessary long-distance milk haulage to reduce the £5 million charged to producers in rail and road transport costs annually.⁵¹² As this was a long-term ambition, the MMB suggested that the data could also provide ‘material assistance’ for an ‘increase in the rail carryings of Milk traffic’ in the short-term as long-distance traffic was gradually concentrated at fewer locations.⁵¹³

Whilst the MMB indicated that it was purely an exercise to ascertain the hitherto unknown quantity of milk conveyed by road, there was apprehension that the data would be used to ‘force the present users of the railways to seek cheaper transport costs to the detriment of the Companies’.⁵¹⁴ This defensive attitude provides further indication of the MMB’s increasing influence over the milk supply chain, particularly as a reduction in the average price per gallon of milk from its peak in 1922-23 to the persistently lower levels between 1930 and 1939 indicated in **Graph 10** appears to support a hypothesis that railway receipts would have to be squeezed further to assist the producer.

Graph 10



Source: See Appendix 2, Table 10 (p. 302).

The Board’s ambition to improve the producer’s remuneration was to be achieved through transport efficiencies such as increased road haulage, and may be considered within the context of concurrent political interest in the cost of food distribution in Britain between

⁵¹¹ TNA: RAIL 396/3, 3 March 1938 Memorandum of Meeting, p. 1.

⁵¹² TNA: RAIL 396/3, 3 March 1938 Memorandum of Meeting, p. 2.

⁵¹³ TNA: RAIL 396/3, 3 March 1938 Memorandum of Meeting, p. 1.

⁵¹⁴ TNA: RAIL 396/3, 3 March 1938 Memorandum of Meeting, p. 2.

1936 and 1938. The examination of factors affecting milk distribution costs was the focus of the Cutforth Report, published in 1936 to inform a projected Milk Bill to intervene in the retail price of milk.⁵¹⁵ Although the report laid part of the blame upon the MMB's minimum pricing, a memorandum by the report's author, Arthur Cutforth, considered how practices followed by retail dairies inflated the retail cost of milk.⁵¹⁶ Cutforth paid particular attention to urban milk distribution, and highlighted that retailers were 'compelled to concede courtesy to the customer in order to retain business'.⁵¹⁷

Retail competition within a crowded, cost-conscious market prompted service-based competition through elaborate delivery rounds, and a survey undertaken in 1939 indicated that in Battersea alone, 11 per cent of families bought milk from more than one roundsman per day.⁵¹⁸ The situation was caused by customer loyalty, with firms extending milk rounds into new territory whenever valued customers moved away.⁵¹⁹ Although the projected Milk Bill failed to proceed in Parliament due to the government's devotion '...to questions of foreign affairs and defence' following the German annexation of Austria in March 1938, it is possible to argue that the broader rationalisation debate informed the MMB's approach to transport.⁵²⁰ The publication of a Board memorandum on long-distance milk transport in 1937 implied an ambition to obtain powers to rationalise milk transport through the vertical integration of farm collection to reduce the producer's transport costs.⁵²¹ Such direct intervention in milk distribution meant that whilst the railways would retain long-distance trunk traffic, it would be the MMB, and not the wholesalers, that made executive decisions in transport matters.

3.12 The Second World War: planning and prioritisation

In retrospect, the rationalisation debate that followed the Cutforth Report's publication was prescient when considered in the context of the Second World War, as it advocated the implementation of profound structural change within the milk trade that would make a

⁵¹⁵ See: Ministry of Agriculture and Fisheries, *Milk: Report of Reorganisation Commission for Britain (Economic Series No. 44)* (London: HMSO, 1936).

⁵¹⁶ TNA: MAF 69/86, Memorandum on Enquiry on Behalf of the of the Food Council into the Costs and Profits of Retail Milk Distribution in Great Britain, 1937, p. 35.

⁵¹⁷ TNA: MAF 69/86, Memorandum, p. 36. Sir Arthur Edwin Cutforth (1881-1958) had a background in finance. He was President of the Institute of Chartered Accountants in 1934-1936 and was appointed to the Food Council in 1932. He was appointed to committees examining the coal (1925-1937) and milk industries (1932-1938). "CUTFORTH, Sir Arthur Edwin," *Who Was Who*, A & C Black, an imprint of Bloomsbury Publishing plc, 1920–2016; online edn, Oxford University Press, 2014, accessed 12 September 2016, <http://www.ukwhoswho.com/view/article/oupww/whowaswho/U236304>.

⁵¹⁸ H. S. Booker, "A Survey of Milk Distribution," *Economica, New Series*, 6 (1939), p. 79, pp. 80-82.

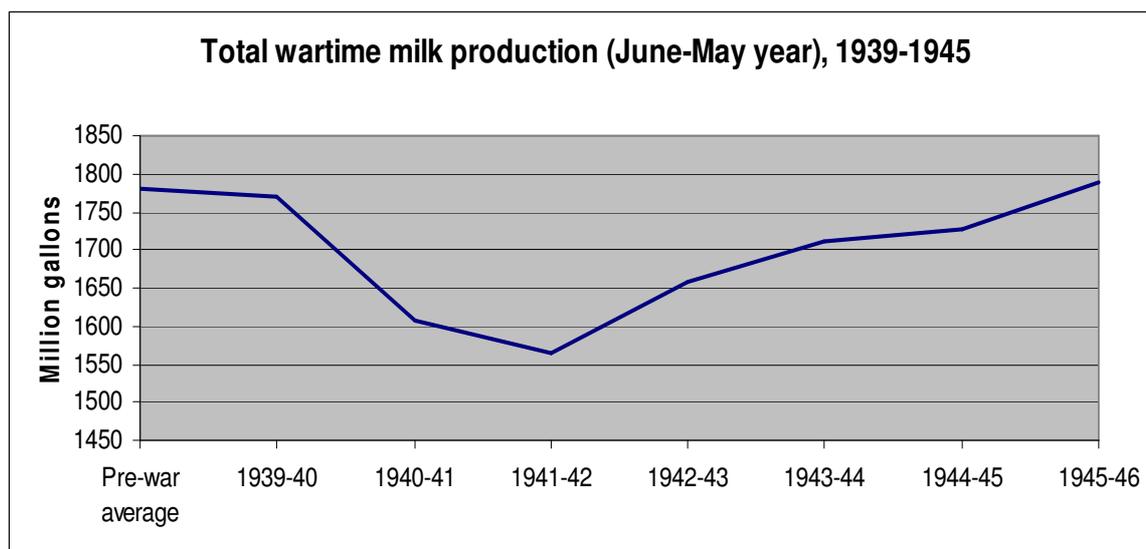
⁵¹⁹ Booker, "A Survey of Milk Distribution," p. 82.

⁵²⁰ HC Deb 04 July 1938, vol 338, col 116.

⁵²¹ TNA: JV 7/562, 15 April 1937 Long Distance Transport.

lasting impact upon the development of milk transport in post-war Britain. However, whilst the MMB represented one of the few agricultural bodies with the experience necessary for administering milk production, any move towards influencing transport organisation was initially curbed by the enactment of emergency measures placing Britain's agricultural output under the supervision of the Ministries of Agriculture and Fisheries and Food.⁵²² The MMB's pre-war task of using the milk contract to reduce excessive milk mileage by directing milk surpluses to creameries in producing areas had provided some experience of working with transport resources.⁵²³ This experience was instrumental in minimising transport charges levied upon producers whilst preventing the inflation of wholesale and retail milk prices within a fragile wartime economy.⁵²⁴ Furthermore, the government exercised legislative governance over the supply chain through the Ministry of Food, which became responsible for implementing market and demand controls via price-setting and commodity allocation.⁵²⁵

Graph 11



Source: See Appendix 2, Table 11 (p. 302).

As a *de-facto* government agency, the MMB was subservient to the Ministry of Food, which initially fixed milk prices at 1938 levels.⁵²⁶ To shield the consumer from corresponding retail price increases, milk was sold to buyers at a subsidised price, whilst the Ministry of Food set a flat-rate maximum retail price to provide an important incentive

⁵²² MERL: SR MMB B/5, *The Home Farmer*, 7 (May 1940), p. 11; Brown, *Agriculture in England*, p. 25.

⁵²³ MERL: SR MMB B/5, *The Home Farmer*, 7 (May 1940), p. 11.

⁵²⁴ Hammond, *Food Vol. I*, pp. 104-106.

⁵²⁵ Baker, *Milk to Market*, p. 100.

⁵²⁶ Baker, *Milk to Market*, p. 103; Wilt, *Food for War*, p. 187.

to reduce distribution costs.⁵²⁷ The wholesale industry was therefore instrumental in ensuring that milk distribution continued without disruption after the outbreak of war. The operation was almost immediately put under strain for two reasons; firstly, the setting of price guarantees failed to prevent a sharp decline in production during a contraction in Britain's overall agricultural output in 1940, highlighted above in **Graph 11**, as supplies of imported animal feed declined.⁵²⁸ Secondly, United Dairies' Annual Report for 1940 indicated that the evacuation of children from urban areas in September 1939 had increased demand in rural areas.⁵²⁹

Table 4

Milk Marketing Board census of road and rail bulk milk tanks, 1942

Wholesaler	Road Tanks	Rail Tanks	Road-Rail Tanks
United Dairies	24	157	8
Express Dairies	5	68	0
London Co-operative Wholesale Society	38	13	33
Manchester Co-operative Wholesale Society	6	0	1
Nestlé	7	35	0
Wincanton Transport & Engineering Ltd.	16	8	0
London Co-operative Society	17	16	0
Milk Marketing Board	1	0	0
Independent Milk Supplies	4	20	0
Total:	118	317	42

Source: TNA: JV 7/58, Summary of Milk Tank Vehicles, 1942.

Although the situation assisted the MMB in its task of reducing milk mileage, urban demand was distorted to the extent that it proved difficult to calculate daily supply requirements, whilst dislocating the existing transport operation as country depots equipped to forward milk met rural demand.⁵³⁰ Despite the upheaval caused by the evacuation, the wholesale trade's contribution towards preserving Britain's milk supply during the early stages of the conflict was the pooling of 118 road and 317 rail-mounted bulk tanks for common use, as **Table 4** illustrates.⁵³¹ This measure ostensibly increased flexibility by allowing quick transfer of tanks during periodic spikes in supply, although Express and United Dairies' pre-war rivalry meant their respective rail-mounted tanks

⁵²⁷ Martin, *The Development of Modern Agriculture*, pp. 38-39.

⁵²⁸ K. A. H. Murray, *History of the Second World War- Agriculture* (London: HMSO, 1955), p. 262; Baker, *Milk to Market*, pp. 103-104.

⁵²⁹ WSA: 1539/209/1, United Dairies Annual Reports, *25th Annual Report, 1940*, p. 2.

⁵³⁰ MERL: SR MMB B/5, *The Home Farmer*, 7 (May 1940), p. 11.

⁵³¹ M. D. Rowland, "London's Milk Supplies in Wartime," *Our Notebook*, 20 (Spring 1941), p. 5.

were fitted with non-compatible equipment, rendering the common use of some vehicles impossible.⁵³² Each wholesaler therefore remained responsible for maintaining equipment and ordering new vehicles.⁵³³ However, new construction was hampered by material shortages and the cumbersome auditing procedure undertaken by various Ministries and the Railway Executive Committee (REC).⁵³⁴

Although the REC assumed responsibility for coordinating Britain's day-to-day railway operations on behalf of the government on 1 September, 1939, no obvious strategy had been devised to mitigate against disruption and dislocation; the focus was upon administrative, rather than practical preparations, prompting an eleventh-hour compilation of contingency plans by the milk trade.⁵³⁵ A retrospective article published by United Dairies in the spring of 1941 implies that the wholesale industry took the initiative, an assertion difficult to dispute because of the conspicuous lack of material in the railway company magazines and publicity material relating to milk transport.⁵³⁶ The article indicates that discussions were held soon after the outbreak of war to establish contingency plans in the event that key rail routes into London and other conurbations were destroyed or made temporarily impassable by aerial bombardment.⁵³⁷ Emergency road-rail transshipment points for pumping milk into road tanks to minimise wastage established on the outskirts of London, further substantiating the hypothesis that planners considered road haulage as readily interchangeable with rail.⁵³⁸ Furthermore, the article indicates that ¼ million gallons of milk was transferred in 1941 alone, ensuring that 'London had its milk... even if it was a trifle late'.⁵³⁹

Aside from the implementation of price guarantees and contingency plans during a period of aerial bombardment between 1940 and 1942, the drive to increase milk production and minimise wastage was followed by efficiencies in the administration of milk distribution.⁵⁴⁰ A distinct change in executive governance within the supply chain emerged in October 1942 when the MMB was given the responsibility for purchasing milk from producers for subsequent sale to the Ministry of Food, which in turn allocated supplies to the market by reselling at strictly controlled prices.⁵⁴¹ The MMB's new role,

⁵³² See J. Harvey, "Post-World War II Milk Traffic on the SR/BR(S) Western Section Part 2," *Historical Model Railway Society Journal*, 20 (2009), p. 161.

⁵³³ TNA: RAIL 390/1859, 14 August 1942 Memorandum to Traffic and Locomotive Committees.

⁵³⁴ TNA: RAIL 390/1859, 14 August 1942 Memorandum.

⁵³⁵ Wilt, *Food For War*, p. 42; *The Home Farmer*, 7 (May 1940), p. 11; Baker, *Milk to Market*, pp. 99-100.

⁵³⁶ Rowland, "London's Milk Supplies in Wartime," pp. 5-6. The lack of reportage is perpetuated in Railway Executive Committee, *"It Can Now Be Revealed": More about British Railways in Peace and War* (London: British Railways Press Office, 1945).

⁵³⁷ Rowland, "London's Milk Supplies in Wartime," p. 5.

⁵³⁸ Rowland, "London's Milk Supplies in Wartime," p. 5.

⁵³⁹ Rowland, "London's Milk Supplies in Wartime," p. 6.

⁵⁴⁰ Hammond, *Food Vol. II*, p. 219.

⁵⁴¹ WSA: 1539/209/1, United Dairies Annual Reports, 39th Annual Report, 1954, p. 17.

described in section 3.2, represented an important milestone in the history of milk distribution in Britain as it constrained the wholesalers' influence over the supply chain.⁵⁴² The Ministry of Food instigated a comprehensive review and reorganisation of the collection and delivery operation, with the MMB's new role having long-term consequences for milk transport.⁵⁴³

3.13 Consolidating control and rural distribution, 1942-1945

A crucial consequence of the MMB's role as sole purchaser of milk from the farmer was its additional responsibility for organising transport operations to the first point of demand.⁵⁴⁴ The Board's pre-war ambitions to pursue the rationalisation of farm collection was propitious whilst various government departments laid claim to scarce transport resources, although the difficulty in meeting these multiple demands are somewhat underplayed by Wilt.⁵⁴⁵ As such, the period between 1942 and 1945 was marked by the Board's strenuous efforts to obtain financial and logistical efficiencies in collection '...to secure the utmost economy in transport and manpower'.⁵⁴⁶ Further change emerged from the initiation of a 'zoning' scheme by the Ministry of Food to reduce excessive transport usage by retailers, particularly with home deliveries.⁵⁴⁷ A system of customer registration at the retail dairy was implemented to fix the level of consumer demand at each establishment, with licensing and enforcement schemes established to curb unnecessary cross-haulage and manpower.⁵⁴⁸ However, Hammond suggests that attempts to concentrate creamery transport resources at fewer locations in 1943 by closing smaller concerns and redirecting their business proved less successful, as a series of legal objections resulted in the Ministry of Food abandoning the scheme.⁵⁴⁹

As part of the Ministry of Food's rationalisation scheme, the bulk rail services between rural and urban depots were placed under the direct supervision of the Milk Movements Department to ensure that supplies entered priority markets.⁵⁵⁰ However, whilst the Ministry could call upon the well-defined wholesale structure for this purpose, the MMB had to devise its own system of organising farm collections. The Board's

⁵⁴² Murray, *Agriculture*, p. 170; Baker, *Milk to Market*, p. 101.

⁵⁴³ Hammond, *Food Vol. II*, p. 219, pp. 223-224, pp. 234-251.

⁵⁴⁴ Murray, *Agriculture*, p. 171; TNA: JV 7/593, 31 July 1942 Duties of the Regional Transport Officers, p. 1.

⁵⁴⁵ Wilt, *Food For War*, p. 193.

⁵⁴⁶ TNA: JV 7/593, 1942 Wartime Transport Arrangements Memorandum, p. 1; MERL: SR MMB B/7, *The Home Farmer*, 9 (May 1942), p. 11.

⁵⁴⁷ Hammond, *Food Vol. II*, pp. 234-235.

⁵⁴⁸ Hammond, *Food Vol. II*, p. 234, p. 246.

⁵⁴⁹ Hammond, *Food Vol. II*, pp. 247-249.

⁵⁵⁰ TNA: JV 7/593, 31 July 1942 Duties of the Regional Transport Officers Memorandum, p. 2.

regional structure provided an administrative system which could be adopted by Regional Transport Officers appointed to ensure that milk travelled the shortest distance to the first point of demand.⁵⁵¹ As such, the Board turned its attention towards addressing the practical idiosyncrasies of rural road collection. Problems abounded in isolated areas, where the choice of contractor was restricted to firms that monopolised road haulage operations. However, internal correspondence concerning inefficient farm collection in West Wales between October and November 1940 supports a hypothesis that wartime conditions set an important precedent for the MMB in demonstrating the value of direct intervention in transport management.⁵⁵²

The correspondence concerned the road-based milk collection service at the MMB's Pont Llanio creamery, near Tregaron, which produced butter in an area of high productive output and low demand. The creamery was acquired by the MMB in 1937 and was the recipient of investment to incorporate equipment for forwarding milk by rail in tanks.⁵⁵³ After the outbreak of war, the prioritisation of liquid milk for human consumption meant that butter production ceased at the depot, which was subsequently solely used as a facility to cool, bulk and dispatch milk to destinations determined by the Ministry of Food. The first letter, written by the depot manager at Pont Llanio to the MMB's General Manager highlights that road haulage had yet to reach its apogee in farm collection in the remoter areas of Britain, with milk souring en-route to the creamery attributed to the local contractor's poorly-maintained lorries.⁵⁵⁴ The General Manager's response in November 1940 implied that this was a widespread issue, and highlighted that the poor quality of local roads and the geography of the catchment area were also critical factors in causing late arrivals and wastage.⁵⁵⁵

The government's 'every gallon counts' directive had increased the pressure to improve farm collection, yet the consequent expectation for consistent performance in straitened wartime conditions was taking its toll upon vehicle reliability.⁵⁵⁶ Haulage contractors were plagued by the lack of spares, whilst route planning had to account for the location of the contractor in relation to the milk depot, a problem which seriously hampered the Pont Llanio operation. A letter written in 1941 reveals that whilst the haulier serving the creamery possessed six lorries, it was based at Llanybydder, a town located

⁵⁵¹ Martin, *The Development of Modern Agriculture*, p. 24; TNA: JV 7/593, 31 July 1942 Duties of the Regional Transport Officers, p. 2.

⁵⁵² See file: TNA: JV 5/60, 1936-1942 Purchase of first MMB lorries; first agreement between MMB and haulier.

⁵⁵³ V. Mitchell and K. Smith, *Western Main Lines: Aberystwyth to Carmarthen including Aberayron and Newcastle Emlyn Branches* (Midhurst: Middleton Press, 2011), pp. 23-24.

⁵⁵⁴ TNA: JV 5/60, 21 October 1940 Rowlands to Davies.

⁵⁵⁵ TNA: JV 5/60, 4 November 1940 Davies to Rowlands.

⁵⁵⁶ Baker, *Milk to Market*, p. 104.

thirteen miles south of the creamery.⁵⁵⁷ The MMB was thus a hostage to fortune because of its reliance upon small haulage contractors, which was cited as being ‘unable to cope’ in the case of Pont Llanio, thereby providing the impetus for the MMB to assemble its own fleet.⁵⁵⁸ A single vehicle was acquired to supplement the Pont Llanio operation, beginning a process of vertical integration to improve reliability.⁵⁵⁹ However, whilst the war revealed the benefit of direct intervention, the wartime economy was not conducive to a full programme of expansion.⁵⁶⁰ Therefore, the Board’s aspirations to internalise a proportion of the road operation would not be realised until after the war.

3.14 Post-war transport policy and road collection

Table 5

The growth of the Milk Marketing Board’s road transport fleet, 1945-47

Year	1945	1946	1947	1948	1949
Number of lorries	107	136	152	163	214
Gallons Carried (millions)	23.7	35.2	37.8	39.3	60.4
Number of road tanks	2	2	11	15	18

Source: TNA: JV 5/61, 19 January 1950 Report No. 272.

Once the principle of the Board organising its own collection service had been proven, road haulage was considered a focus for future investment by the MMB, as the lorry had demonstrated flexibility and economy under difficult circumstances.⁵⁶¹ The impact upon the Board’s transport policy is clearly evidenced in **Table 5**, which clearly demonstrates the expansion of the MMB’s road fleet between 1945 and 1949. However, the MMB’s position as principal buyer of raw milk on behalf of the Ministry of Food ensured that its transport aspirations would attract hostility. In November 1945, *The Commercial Motor* reported that the ‘Producer’s Board’ had managed to vertically integrate milk collection by deliberately offering un-remunerative rates to private hauliers.⁵⁶² Whilst such an accusation reveals concern for the private haulage sector’s well-being, the negative reportage receded once the detail of the government’s peacetime transport policy became clearer in 1946.⁵⁶³

⁵⁵⁷ TNA: JV 5/60, 8 July 1941 Memorandum.

⁵⁵⁸ TNA: JV 5/60, 8 July 1941 Memorandum.

⁵⁵⁹ TNA: JV 5/61, 14 August 1947 Note for Publicity Department.

⁵⁶⁰ TNA: JV 7/593, 1942 Wartime Transport Arrangements, p. 1.

⁵⁶¹ MERL: SR MMB B/9, *The Home Farmer*, 11 (May 1944), p. 9.

⁵⁶² G. Lallemand, “The Scandal of the MMB’s Haulage Rates,” *The Commercial Motor*, LXXXII (November 16, 1945), p. 285.

⁵⁶³ “Nationalization Must Be Fought,” *The Commercial Motor Magazine*, LXXXII (November 23, 1945), p. 293; “Long-distance Haulage to be Nationalised,” *The Commercial Motor*, LXXXII (November 23, 1945), p. 296.

The nationalisation of rail and long-distance road transport in Britain was a core tenet of the Labour Party's 1945 manifesto, and *The Commercial Motor* turned its attention towards highlighting the threat it posed to milk distribution as a whole.⁵⁶⁴ The 1946 Transport Bill's clauses for nationalising long-distance road haulage emphasised the need for transport coordination through centralised management.⁵⁶⁵ The magazine, in representing the haulier's interests, commented upon the possibility of haulage firms that boasted several years of experience in milk distribution being dissolved in favour of a system run by faceless officials who were distant from the actual business of transport. Furthermore, it expressed concern that the bureaucracy generated by a centralised management risked a decline in customer service whenever a variation from standard procedure was required by a customer.⁵⁶⁶

The situation was of equal concern to the MMB, which published an assessment of the potential implications in February 1947, concluding that the level of transport coordination demanded by the government was not compatible with the unique and specialist demands of farm collection.⁵⁶⁷ This was because the Bill determined that long-distance transport, defined as the 'carriage of goods by the person carrying on the undertaking for a distance of forty miles or upwards in one goods vehicle or a succession of goods vehicles', should be the preserve of the mode best suited to the task, namely the railways, or else undertaken by the nationalised road service.⁵⁶⁸ Private road hauliers with 'A' and 'B' licences thus faced an operating restriction of 25 miles radius from their depots.⁵⁶⁹ This exercise in asserting legislative governance had the potential to constrain the operations of private hauliers contracted by the MMB to undertake its collections in the short-term.⁵⁷⁰ In the longer-term, the concurrent Agriculture Bill provided a potential solution as it included price guarantees, thus permitting farmers to invest in farm mechanisation and lorries, a process considered in more detail in chapter 4.⁵⁷¹

There were other challenges; although the Bill contained provisions for the British Transport Commission (BTC) to issue permits through vehicle Licensing Authorities that waived the distance limit, their consideration on a case-by-case basis provided little

⁵⁶⁴ "Nationalization Must Be Fought," p. 293; *Let Us Face the Future: A Declaration of Labour Policy for the Consideration of the Nation* (London: The Labour Party, 1945).

⁵⁶⁵ Transport Bill (H.C.), 1946, 12, para. 40.

⁵⁶⁶ "Nationalization Must Be Fought," p. 293.

⁵⁶⁷ TNA: JV 7/550, 1 February 1947 The Effect of the Transport Bill Provisions on the Haulage of Milk from the Farms, pp. 1-2.

⁵⁶⁸ Transport Bill, para. 40.

⁵⁶⁹ Michael R Bonavia, *The Nationalization of British Transport* (New York: St. Martin's Press, 1987), 15; Transport Bill, para. 40.

⁵⁷⁰ TNA: JV 7/550, 1 January 1947 The Effect of the Transport Bill Provisions, p. 2.

⁵⁷¹ Martin, *The Development of Modern Agriculture*, pp. 73-74.

guarantee that any glut of applications would be cleared expeditiously.⁵⁷² Furthermore, the MMB's policy of primarily using its fleet to gauge operating costs for external contractors was compromised by the fact that its 'C'-licensed vehicles were restricted to carrying goods for up to 40 miles under the proposed legislation.⁵⁷³ With 3,945 private firms employed to collect milk from 130,000 farms to over 10,000 destinations, the Board had few means of taking over routes affected by the proposed restrictions.⁵⁷⁴

In contrast, meat was granted a full exemption from the mileage legislation, ostensibly because the firms involved with this equally perishable commodity were already operating as a self-contained transport unit, as revealed in the next chapter.⁵⁷⁵ As such, the Board expressed concern that the Bill had failed to account for the similarly unique circumstances of milk distribution, particularly as it was a strategic commodity that enjoyed considerable legislative support in the government's drive to shore-up Britain's ailing post-war economy.⁵⁷⁶ The MMB's desire for equality of treatment with the meat trade consequently became a source of heated debate with the Labour government as it corresponded with the Ministry of Transport to request a Bill amendment, and adds further evidence of the Board's influence over the supply chain.

In a letter written to Alfred Barnes, Minister of Transport in March 1947, the Board's General Manager highlighted that its longer hauls, 'almost exclusively within a radius of 40 miles, are allocated to [private] hauliers under contract', with vehicles 'generally [providing] an exclusive milk service'.⁵⁷⁷ The request for exemption was argued on the grounds that private haulage firms engaged in milk collection could not obtain other work for their vehicles without significant outlay because they were designed for churn traffic. However, the Minister's commitment to the Bill prompted the Board's Chairman to lobby the House of Lords for an amendment debate.⁵⁷⁸ The House of Lords approved the amendment, although Lord de la Warr, leading the debate on the MMB's behalf, expressed concern that any decision on the matter might be made on 'the wider constitutional relationship between the two Houses [of Parliament]', and not the interests of the milk

⁵⁷² Transport Bill, paras. 53, 54 and 57; TNA: JV 7/550, 1 February 1947 The Effect of the Transport Bill Provisions, p. 1.

⁵⁷³ Transport Bill, para. 55; TNA: JV 7/550, 1 February 1947 The Effect of the Transport Bill Provisions, p. 1. See also MERL: SR MMB B/10, *The Home Farmer*, 12 (May 1945), p. 11.

⁵⁷⁴ TNA: JV 7/550, 1 February 1947 The Effect of the Transport Bill Provisions, p. 1.

⁵⁷⁵ See Transport Bill, para. 53.

⁵⁷⁶ See P. Brassley, "Output and Technical Change in Twentieth-Century British Agriculture," *Agricultural History Review*, 48 (2000), p. 60; Holderness, *British Agriculture Since 1945*, pp. 12-14 and Martin, *The Development of Modern Agriculture*, pp. 73-74.

⁵⁷⁷ TNA: JV 7/550, 31 March 1947 Foster to Barnes. Alfred Barnes (1887-1974) was a Labour Co-operative Member of Parliament for East Ham. He was appointed Minister of War Transport by Clement Attlee in 1945, and was responsible for overseeing the implementation of the Transport Act (1947). "BARNES, Rt Hon. Alfred," *Who Was Who*, A & C Black, imprint of Bloomsbury Publishing plc, 1920-2016; online edn, Oxford University Press, 2014, accessed 12 September 2016 <http://www.ukwhoswho.com/view/article/oupww/whowaswho/U152042>.

⁵⁷⁸ TNA: JV 7/550, 8 May 1947 Baxter to Lord de la Warr.

industry.⁵⁷⁹ Labour's hostility towards non-state monopolies raises the suggestion that the government was suspicious of producer-led marketing boards because of their conservative character.⁵⁸⁰ The MMB's alliance with the road haulage lobby may have confirmed this assumption, and informed Barnes' response that there was '...insufficient ground for including milk among the traffics specially dealt with in the Act'.⁵⁸¹

3.15 Railway milk in decline, 1950-1957

Although the Labour government's intervention threatened to unsettle the MMB's existing farm collection plans, the Board's defence of an independent operation brought it into closer alignment with the road haulage industry.⁵⁸² However, the nationalisation of road haulage was ultimately undermined by administrative issues which delayed the vesting of private hauliers into British Road Services (BRS) until 1950, whilst the election of a Conservative government in 1951 threw the policy of transport coordination into disarray, as chapter 2 highlights.⁵⁸³ The Transport Act (1953) thus dismantled BRS' hegemony over long-distance haulage and *The Commercial Motor* marked the occasion by publishing an article announcing that milk haulage had returned to 'free enterprise'.⁵⁸⁴ However, the extent to which free enterprise had returned is debatable, as BRS remained a major force within the long-distance haulage business, whilst the MMB remained the lynchpin of farm collection.⁵⁸⁵ The Act therefore presented the Board with opportunities to expand its governance over the rates charged by private contractors, as the purchase of former BRS

⁵⁷⁹ TNA: JV 7/550, 23 June 1947 Lord de la Warr to Baxter. Herbrand Edward Dundonald Brassey Sackville, ninth Earl de la Warr, held interests in agriculture and served as a Labour peer under Ramsay Macdonald. A member of the coalition National Government between 1931 and 1939, de la Warr held a wide range of posts. As Chairman of the National Labour Party, an offshoot of the Parliamentary Labour Party, he was not appointed to a wartime Cabinet position. de la Warr was appointed Postmaster-General by Winston Churchill in 1951. Selkirk, "Sackville, Herbrand Edward Dundonald Brassey, ninth Earl De La Warr (1900–1976)," rev. *Oxford Dictionary of National Biography*, Oxford University Press, 2004; online edn, January 2011, accessed 12 September 2016, <http://www.oxforddnb.com/view/article/31647>.

⁵⁸⁰ See S. Fielding, "What did 'The People' Want?: The Meaning of the 1945 General Election," *The Historical Journal*, 35 (1992), p. 630.

⁵⁸¹ Transport Act, 1947, 10 & 11 Geo. 6, c. 49, s. 39(2); TNA: JV 7/550, 11 August 1947 Barnes to Baxter.

⁵⁸² "Hauliers Backed by MMB," *The Commercial Motor*, XLIII (March 16, 1951), p. 163; M. Seth-Smith, *The Long Haul: A Social History of the British Commercial Vehicle Industry* (London: Hutchinson Benham, 1975), p. 139.

⁵⁸³ "Milk Board to Seek Agreement with British Transport Commission," *The Commercial Motor*, LXXXVII (June 4, 1948), p. 475; Seth-Smith, *The Long Haul*, pp. 136-141; P. Bagwell, *The Transport Revolution, 1770-1985, 2nd Edition* (London: Routledge, 1988), pp. 316-317; J. Quail, "Accounting's Motive Power: The Vision and Reality for Management Accounting on the Nationalised Railways to 1959," *Accounting, Business and Financial History*, 16 (2006), p. 422; TNA: JV 7/550, 22 May 1952 Report on White Paper on Transport Policy.

⁵⁸⁴ The Transport Act, 1953, 1 & 2 Eliz. 2, c. 13: s. 1; R. P. Miers, "Milk Haulage Back to Free Enterprise," *The Commercial Motor*, XCVII (July 3, 1953), p. 637.

⁵⁸⁵ Seth-Smith, *The Long Haul*, p. 141.

depots enabled the MMB to acquire route knowledge before tailoring rates to the specific duties under negotiation.⁵⁸⁶

Table 6

Analysis of rail tanker use in year ending September 1953

Mileage	Gallorage (millions)
0-20	1.8
21-50	4.6
51-75	5.6
76-100	13.3
101-150	37.4
Over 151	120.8

Source: TNA: JV 7/563, c1954, Data Memorandum.

A further example of the MMB's expanding executive governance over the milk supply chain was the Conservative government's decision in 1954 to devolve milk distribution and restore the Board's marketing powers. The Ministry of Food was no longer the principal buyer of liquid milk, thereby enabling the MMB to deal directly with the trade by negotiating prices and supervising any rail tanker operations to the first point of sale.⁵⁸⁷ However, **Table 6** demonstrates that the rail tanks predominated on bulk flows of distances over 151 miles, with only 12 million gallons carried over shorter distances, implying that road transport had captured the majority of low-mileage traffic.⁵⁸⁸ The railway operation illustrated below in **Image 8** was thus in decline; the wartime reorganisations undertaken by the MMB had seen a reduction in the long-haul churn operation, rendering ventilated wagons increasingly redundant.⁵⁸⁹

⁵⁸⁶ TNA: JV 5/61, 19 January 1950 Report No. 272 A Note on the Board's Transport Fleets, p. 1. See also "The Ways of the Milk Marketing Board," *The Commercial Motor*, XCI (May 5, 1950), p. 408.

⁵⁸⁷ Empson, "History of the Milk Marketing Board," p. 80.

⁵⁸⁸ TNA: JV 7/563, c1954, Data Memorandum.

⁵⁸⁹ Banks, "Milk Traffic- An Overview," p. 47; "Great Northern Milk Traffic," *Railway World*, 42 (1981), p. 292.

Image 8



A mixed train of milk tankers, ventilated milk vans and road-rail tankers, hauled by ex-GWR 47XX class 2-8-0 No. 4702 at Ruscombe, Berkshire, 26 August 1950. Note the grubby condition of the vehicles. Photographer: J. F. Russell-Smith. Source: National Railway Museum 1996-7821_363.

The post-1945 political emphasis was upon increasing agricultural production to meet the needs of a growing population; the annual per capita consumption of milk sharply increased between 1947 and 1948, as **Graph 12** indicates below. Although a crude indicator that takes no account of the income levels of various social strata, the graph shows that milk consumption was 3.9 pints per capita per week in 1945, rising to 4.6 in 1948, with weekly consumption generally stabilising around 4.6 pints thereafter.⁵⁹⁰ Rising demand was met with improvements in farming practices, which included the MMB's programme for developing high-yielding breeds of dairy cows, with supplies from farms near demand centres reducing the requirement for long-distance milk distribution.⁵⁹¹ Another development was agricultural specialisation, where 'mixed' farming gave way to commodity-specific agriculture, which resulted in more milk being produced by fewer producers on larger farms.⁵⁹² Both help to explain how a 32 per cent increase in liquid milk

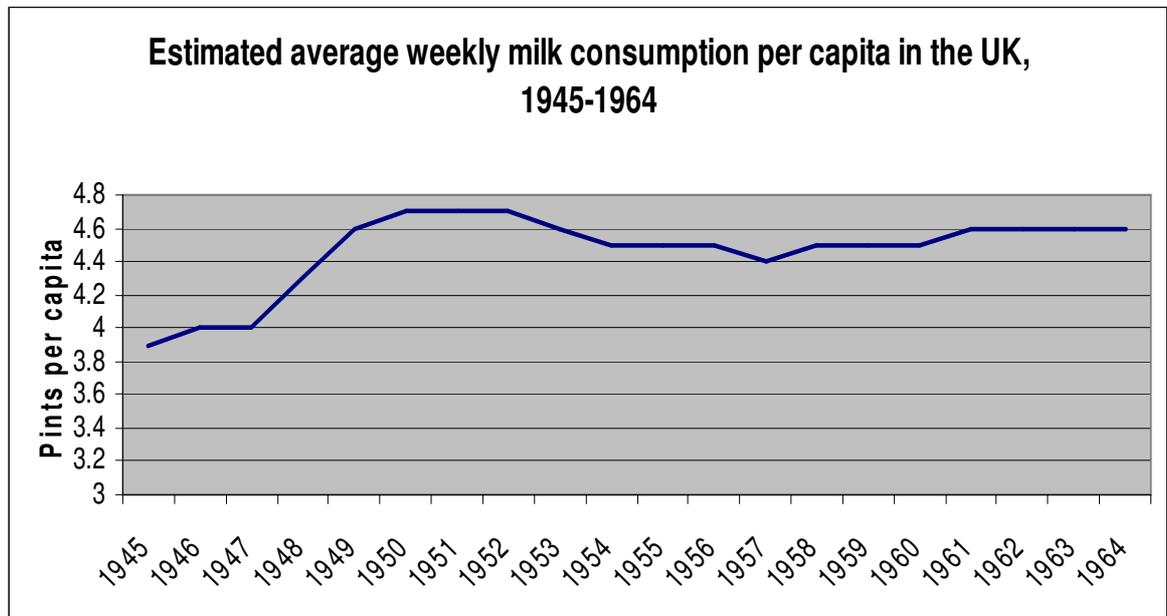
⁵⁹⁰ See Appendix 3.5 for the figures.

⁵⁹¹ Banks, "Milk Traffic- An Overview," p. 42, p. 47.

⁵⁹² P. Atkins and I. Bowler, *Food in Society: Economy, Culture, Geography* (London: Hodder Arnold, 2007), p. 61, pp. 66-71; Brassley, "Output and Technical Change in Twentieth-Century British Agriculture," p. 60.

sales from 1.2 to 1.6 million gallons was achieved between 1945 and 1964.⁵⁹³ However, there was no commensurate rise in milk forwarded by rail; indeed, surviving data for the year ending September 1953 indicates that of the 660 million gallons of milk conveyed to urban depots, 55 per cent was conveyed in road tankers as opposed to 25 per cent by rail, indicating that a modal shift from rail to road was underway in the milk trade.⁵⁹⁴

Graph 12



Source: See Appendix 2, Table 12 (p. 303).

The MMB's growing executive governance over the supply chain was characterised by a resumption of its rationalisation programme, which compounded the modal shift to road distribution. Firstly, the Board continued to establish creameries in remote areas where supply outpaced demand, with examples acquired and built at Egremont, Derbyshire and at Llangefni and Felin Fach in Wales.⁵⁹⁵ This was accompanied by the continued expansion of road distribution; improvements in the operational range of lorries permitted the closure of less viable establishments to achieve further cost reductions through economies of scale.⁵⁹⁶ Furthermore, whilst demand for liquid milk rose, rural population increases meant that the supply of milk to balance the London market shifted westwards throughout the 1950s, rendering many pre-war rail-connected depots redundant.⁵⁹⁷

⁵⁹³ Baker, *Milk to Market*, pp. 233-248; Banks, "Milk Traffic- An Overview," p. 47; Brassley, "Output and Technical Change in Twentieth-Century British Agriculture," p. 63; Holderness, *British Agriculture Since 1945*, p. 108.

⁵⁹⁴ TNA: JV 7/563, c1954, Data Memorandum.

⁵⁹⁵ MERL: SR MMB B/9, *The Home Farmer*, 11 (May 1944), p. 8; M. R. C. Price, *The Lampeter, Aberayron and New Quay Light Railway* (Oxford: The Oakwood Press, 1995), p. 49.

⁵⁹⁶ MERL: SR MMB B/17, *The Home Farmer*, 19 (May 1952), p. 12.

⁵⁹⁷ Holderness, *British Agriculture Since 1945*, pp. 71-72; Baker, *Milk to Market*, p. 162, p. 165.

Table 7**Bulk conveyance of milk by rail, 1955-57**

BR Region	Gallage Oct.-Sept. 1955-56	Gallage Oct.-Sept. 1956-57
BR (E)	9,806,037	10,458,000
BR (M)	24,786,899	27,892,000
BR (NE)	1,684,060	1,838,000
BR (S)	29,394,146	20,618,000
BR (W)	86,793,138	90,013,000
Total:	150,781,904	150,819,000
Percentage increase 1955-57: 0.03%		

Source: TNA: JV 7/563, Rail Tanker Despatches by Region (Annual Tables).

The perennial issues of service quality and cost were further factors militating against the railways, as post-war maintenance arrears caused declining wagon reliability.⁵⁹⁸ Firstly, underinvestment had compromised the reliability of the railway operation since 1945, with the maintenance situation worsening as the decade progressed.⁵⁹⁹ Secondly, the threat of disruption from declining labour relations within BR, which culminated in a sixteen-day railway strike by the Associated Society of Locomotive Engineers and Firemen (ASLEF) over pay in May 1955, as highlighted in chapter 2.⁶⁰⁰ The result was severe disruption and dislocation.⁶⁰¹ When the strike ended on 14 June, the damage to BR's reputation within the milk sector appears to have been considerable, and it is possible to hypothesise that some milk wholesalers were moved to re-examine their distribution arrangements. This is exemplified by the London CWS, which commenced a gradual transfer to road haulage, with rail-mounted tanks continuing to operate from its creameries at Llangadog, Melksham, Puxton and Wallingford in 1956.⁶⁰² Both hypotheses are supported by the fact that although archival evidence concerning the London CWS' decision to reduce rail usage has proved elusive, **Table 7** indicates a substantial loss of milk traffic on BR Southern Region, which served the wholesaler's depots in Somerset; the region experienced a decline of 8,777,146 gallons despite an overall national increase in gallons carried of 0.03 per cent between 1955 and 1957.

The dissatisfaction with BR's service is also demonstrated in correspondence between the MMB management and British Railways (BR) between 1956 and 1957, which

⁵⁹⁸ TNA: JV 7/563, c1954, Data Memorandum.

⁵⁹⁹ J. Harvey, "Post-World War II Milk Traffic on the SR/BR(S) Western Section Part 3," *Historical Model Railway Society Journal*, 20 (2009), p. 173; TNA: JV 7/563, c1954, Data Memorandum.

⁶⁰⁰ T. Gourvish, *British Railways, 1948-1973: A Business History* (Cambridge: Cambridge University Press, 1986), pp. 214-225.

⁶⁰¹ Gourvish, *British Railways, 1948-1973*, p. 227.

⁶⁰² Harvey, "Post-World War II Milk Traffic Part 1," p. 118; A. Buldyn-Rackowe, "Milk Traffic on the London Extension after Nationalisation," *Forward: The Journal of the Great Central Railway Society*, 33 (1982), p. 3.

provides a concise record of the Board's concern for value for money. The Board alleged that a railway rates increase of 7.5 per cent in 1956 would adversely affect the MMB's transport costs.⁶⁰³ A second rise of 7.5 per cent was scheduled later the same year, resulting in charges increasing from approximately 0.5p per gallon in 1946 to approximately 1.5p per gallon in 1956 notwithstanding inflation, whilst a further ten per cent rise projected for 1957 prompted the Board to begin '...negotiating for the transfer of rail milk to road haulage wherever possible'.⁶⁰⁴ An article on BR's financial management by John Quail might provide a reason for the situation, as freight flows were being analysed for the more profitable traffic, allowing speculation that BR perceived milk as being subsidised by cheap rates.⁶⁰⁵ Equally plausible is BR's failure to consider the commercial pressures facing the milk industry, echoing the complaints the MMB levelled at the LMS in 1936.⁶⁰⁶

This is revealed in an exchange between the Board and the BTC's Chief Commercial Officer in October 1956. The latter expressed the Commission's concern about a decline in rail-borne milk, to which the MMB responded that the 'costs of conveying milk by road have been considerably lower' than the rates offered by BR.⁶⁰⁷ Furthermore, the Board was candid in its assessment of BR's service by suggesting that 'in our view, the railways are largely to be blamed for losing traffic', highlighting the erosion of goodwill towards the railway industry from both service and financial perspectives.⁶⁰⁸ By 1957, the annual cost of sending milk to London £2.391 million by rail and £1.031 million for road; assuming that the quantity conveyed was similar in proportion to 1953, BR was charging double for approximately half of the work undertaken by road transport.⁶⁰⁹ Consequently, the MMB encouraged a further development in road haulage.

3.16 Developing bulk milk collection by road, 1953-1975

The development in question attempted to resolve the 'churn problem' that had plagued the dairy industry, and provides further indication of the executive governance exercised by the MMB over the supply chain. In 1953, the Scottish Milk Marketing Board (SMMB) trialled another scheme pioneered in America, which entailed the bulk transport of raw milk direct from producer to the first point of sale by road, thus entirely avoiding rail

⁶⁰³ TNA: JV 7/563, 26 April 1956 Memorandum on Increase in Rail Rates.

⁶⁰⁴ Converted to new pence. TNA: JV 7/563, 26 April 1956 Memorandum on Increase in Rail Rates.

⁶⁰⁵ Quail, "Accounting's Motive Power," p. 426.

⁶⁰⁶ TNA: JV 7/563, 26 April 1956 Memorandum on Increase in Rail Rates; Gourvish, *British Railways, 1948-1973*, p. 97.

⁶⁰⁷ TNA: JV 7/563, 18 October 1956 Pike to Davies and 20 October 1956 Davies to Pike.

⁶⁰⁸ TNA: JV 7/563, 20 October 1956 Davies to Pike.

⁶⁰⁹ TNA: JV 7/551, 6 December 1957 London Milk Supplies.

distribution, as indicated in section 3.2.⁶¹⁰ This required the storage of milk in on-farm refrigerated tanks; however, the initial cost of equipment necessitated the accumulation of substantial financial economies for success.⁶¹¹ Isolated Kirkcudbrightshire was chosen to examine what economies could be made in areas isolated from the main liquid markets.⁶¹²

The Commercial Motor covered the trial, highlighting that the existing churn collection operation was not economically viable for farms over 35 miles from the dairy because of the risk of spoilage as the churns heated in transit.⁶¹³ It was anticipated that the adoption of insulated tankers would extend this range and open-up new areas to the liquid market, whilst on-farm refrigeration increased operational flexibility by allowing the alternate scheduling of collections to concentrate vehicles in high-output areas.⁶¹⁴ Furthermore, the number of farms on a collection route could be increased during the winter to ensure full loads and maximum cost-efficiency, whilst refrigeration enabled the tankers to reach town dairies with increased regularity in summer months.

The rate of adoption was initially hindered by poor road access to farms; the potential for high empty tanker mileage and dairy delays caused by traffic congestion.⁶¹⁵ The gradual expansion of farm collection by tanker thus provided a temporary respite for BR, although its position remained precarious as the MMB dragged its heels over a long-term contract being pushed by the newly-merged Ministry of Agriculture, Food and Fisheries between 1956 and 1964.⁶¹⁶ It is possible to hypothesise that cost was a key factor, as **Table 8** below suggests that a loss of 48 per cent in the volume of milk carried by rail between 1947 and 1962 appears to be consistent with the aforementioned rises in railway rates, with the cost per thousand gallons of milk rising in real terms between 1947 and 1957. The reduction in 1962 was therefore caused by a 35.7 per cent reduction in milk conveyed by rail, rather than any offer of rate reductions from BR.

⁶¹⁰ Martin, *The Development of Modern Agriculture*, p. 24.

⁶¹¹ "Scotland Pioneers Milk Transport Experiment," *The Commercial Motor*, XCVIII (November 13, 1953), p. 420.

⁶¹² "Scotland Pioneers Milk Transport Experiment," p. 420.

⁶¹³ "Scotland Pioneers Milk Transport Experiment," p. 421.

⁶¹⁴ "Scotland Pioneers Milk Transport Experiment," p. 421.

⁶¹⁵ "Pinta in Tanka," *The Commercial Motor Magazine*, 114 (January 19, 1962), p. 830.

⁶¹⁶ TNA: MAF 251/605, 17 July 1968 Rushforth Note; TNA: JV 7/563, 20 October 1956 Davies to Pike; TNA: JV 7/563, 8 February 1963 Rail Transport of Milk; TNA: JV 7/563, 20 April 1964 Second Stage Rail Transport, pp. 1-4.

Table 8**Milk conveyed by rail, 1947-1962**

September	Percentage of total depot despatches	Gallons (millions)	Total cost of railed milk (£-thousands)	Approximate cost per thousand gallons	
				(£ at current prices)	(£ at 1962 prices)
1947	37	200.2	1260	6.2	11.4
1952	28	191	2267	11.8	15.9
1957	26	162.3	2625	16.1	18.2
1962	17	104.2	1612	15.4	15.4

Source: TNA: JV 7/563, 8 February 1963 Rail Transport of Milk, p. 1. To facilitate a crude real-terms comparison of cost per thousand gallons over time, values have been adjusted to equivalent 1962 values using Office of National Statistics retail price index data. See note accompanying Table 1 on p. 45 and: J. O' Donoghue, L. Goulding and G. Allen, "Consumer Price Inflation Since 1750," *Economic Trends No. 604* (London: HMSO, 2004), pp. 38-46.

BR's attempts to engage with the Board in the late 1950s to increase milk traffic might therefore be considered 'too little, too late', as the combination of the Board's influence over supply chain inputs from producers and its commitment to developing tanker haulage direct farm to first point of sale meant that it could no longer guarantee railway business from a commercial perspective.⁶¹⁷ Although discussions between BR, the MMB and the Ministry of Agriculture, Food and Fisheries would produce an annual agreed charge that guaranteed continued railway involvement in the traffic, the trend of decline hastened with the amalgamation of United Dairies with Cow & Gate to form Unigate in 1959.⁶¹⁸

The amalgamation between the two firms was a response to changes taking place in the retail sector, where mergers had created large corporations capable of leveraging the supply chain to drive down costs, a factor highlighted later in chapter 6.⁶¹⁹ This combined with the influence held by the MMB upstream to squeeze the wholesaler and transport providers between competing interests; the latter wishing to maximise returns to the producer, and the former minimising the cost to consumers. Therefore, the pressure from retailers and producers favoured a flexible distribution operation capable of intensive use at short notice; such a concept proved beyond the capabilities of BR, which remained wedded to traffic regularity and planning.⁶²⁰

⁶¹⁷ TNA: JV 7/563, 8 February 1963 Rail Transport of Milk, p. 1; TNA: JV 4/81, 23 March 1964 Memorandum: Board Responsibility for Depot Services, p. 5.

⁶¹⁸ Harvey, "Post-World War II Milk Traffic Part 1," p. 117.

⁶¹⁹ See: K. Humphery, *Shelf-Life: Supermarkets and the Changing Cultures of Consumption* (Cambridge: Cambridge University Press, 1998), p. 32.

⁶²⁰ Harvey, "Post-World War II Milk Traffic Part 1," p. 117.

The amalgamation and subsequent expansion of Unigate's road fleet therefore administered a partial severing of the wholesaler's historic link with the railways, although the endgame was ultimately initiated by BR with the publication of *Reshaping of the Railways* in 1963. Although the Board stressed that inflexibility and an unwillingness to reduce rates had demonstrated BR's lack of enterprise in regaining traffic lost to road haulage, the closure of routes in the interests of running a rationalised, commercial railway network represented a turning point in the railway industry's relationship with milk distribution. This prompted the MMB to observe that the '...drastic closure of the more uneconomic services... may affect the ability of country creameries to load milk direct onto rail', further highlighting the benefit of farm collection by road tanker as a flexible means of maintaining continuity.⁶²¹

The situation was eased during negotiations to establish a fixed annual charge for milk conveyed over the remaining milk runs to London in 1964. The resultant 'Western Agreement' concentrated the traffic into three daily trains from Whitland in Carmarthenshire and Cornwall, and included a guarantee that the MMB would permit the forwarding of an agreed minimum volume of milk until October 1965, with a rebate paid on any milk above the minimum.⁶²² The rebate was paid to the Ministry of Agriculture, Food and Fisheries in the first instance, which subsequently reimbursed the Board's milk pool.⁶²³ This indicates that the government still maintained its watching brief over milk distribution; furthermore, the election of the Labour government in October 1964 makes it possible to hypothesise that continued support for the agreement in subsequent years stemmed from its desire to reconfigure transport policy by regulating road haulage.

This is highlighted by the Labour government's Transport Act (1968), which imposed a series of regulations that appeared to undermine the agency of transport users to select their desired mode of transport by resurrecting the issue of transport coordination.⁶²⁴ The MMB contended that the Act restricted the ability of bulk transport by road to reduce distribution costs, as restrictions imposed upon drivers' hours necessitated the employment of relief drivers.⁶²⁵ It is also possible to detect the Board's underlying exasperation that the government had not given due consideration to the expenditure required to update the railway operation and ferry milk to the remaining rail-connected depots.⁶²⁶ Although investment in refurbishing tanks was ongoing when the MMB finally ceased the rail

⁶²¹ TNA: JV 7/563, 18 April 1963 Observations on BR Report.

⁶²² TNA: JV 7/563, 29 July 1964 Western Agreement; TNA: JV 4/82, 26 January 1967 Memorandum on Marketing efficiency: Board Responsibility to Depots, p. 5.

⁶²³ TNA: JV 7/563, 29 July 1964 Western Agreement; TNA: MAF 251/605, 17 July 1968 Rushforth Note.

⁶²⁴ Transport Act, 1968, c. 73.

⁶²⁵ Transport Act, 1968, c. 73: paras. 95-96; TNA: JV 5/62, August 1967 Report No. 483 Proposed Changes in Transport Legislation, pp. 1-2.

⁶²⁶ TNA: JV 5/62, August 1967 Report No. 483, p. 3.

operation in 1981, an administrative change in 1971 saw the MMB take responsibility for financing milk distribution to the second point of sale using funds made available by government.⁶²⁷ Consequently, the MMB seized the opportunity to continue its rationalisation of the milk supply chain with a modal shift to road tanker distribution to customers situated closer to the source of production.

3.17 Conclusion

Milk was identified as a case study because of its status as a staple product and its inherently perishable nature, which created a broadly sheltered market for Britain's beleaguered agricultural industry. However, the lack of foreign competition did not ease the challenge from a logistical perspective, as the example of the London trade demonstrates. The need to transport milk from farm to consumer both cheaply and efficiently necessitated the development of a complex supply network, highlighted in the diagrams, capable of channelling milk to centres of demand. The basic structure for achieving this was already in place by 1919; the trade having emerged from the entrepreneurship and investment of the milk wholesaler, and the railway industry's willingness to participate.

Whilst the origins of the trade stemmed from a close alliance between Britain's railways and urban milk retailers, this chapter makes it clear that innovation was initially driven by the wholesaler's governance over the supply chain. The reasons are manifold; first and foremost, the need to transport a perishable commodity required reliable transport links, with distribution time-bound to preserve freshness. Consequently, the wholesaler's desire for cheaply maintaining freshness and minimising contamination were key drivers of technological change in transport. However, the lack of innovation on the part of the transport provider and the need to engage in service-based competition with rivals prompted wholesalers to experiment and internalise some aspects of the transport operation, and use their initially dominant position in the supply chain to overcome any technological 'lock-in' by leveraging the adoption of new, labour-saving concepts, particularly in relation to Britain's railways.

The wholesaler's governance over the supply chain also reveals the lengths to which service reliability was pursued. Although United Dairies had commenced the motorisation of farm collection in 1919, the railway strike of that year demonstrated the flexibility of road haulage in an emergency, and called the railway industry's reliability into question. This combined with the issue of cost, which prompted wholesale dairies to

⁶²⁷ Baker, *Milk to Market*, p. 180.

adopt insulated bulk tank technology in 1923; this, coupled with the omnipresent risk of strike disruption provided an excuse to commence long-distance tank operations by road. The adoption of insulated tank technology for rail operations once again supports the hypothesis that change was wholesaler-driven, which leads to the chapter's second point, namely that the shifting focus of supply chain governance between wholesalers, producers and government between 1934 and 1953 was key to modal shift from rail to road.

The emergence of the MMB in the latter stages of the inter-war Depression began a reconfiguration of the trade that was only temporarily interrupted by the outbreak of war in 1939. In governing the milk supply chain, the Board upheld the producer's interests from the outset, and highlighted the shortcomings of the railway industry in relation to service provision. Further rationalisation was imposed by wartime expediency, as the government delegated the purchase and distribution of milk to the first point of sale to the MMB. Consequently, problems experienced with rural road distribution provided a foundation for the Board's post-war policy of the part-vertical integration of road haulage to assist with setting the terms of private haulier participation, although this was temporarily constrained by the nationalisation of long-distance road transport. Despite this, the distribution of milk to customers near producers and improving milk yields from herds after 1945 contributed to a reduction in the long-distance rail transport of milk.

Whilst the use of bulk rail tanks was a step towards improving milk quality, the use of churns at both ends of the haul meant that risks of contamination and the expense of handling remained. Therefore, the MMB used its position in the supply chain to initiate experiments in farm collection with road tankers from 1953, which extended the door-door principle established by the wholesalers to provide a seamless, yet flexible operation between farm and customer which was compatible with the demands for low-cost milk being made by retailers. This, coupled with the Beeching report's closure of branch lines marked the beginning of the final demise of railway milk. However, the fundamental issue of governance over a commodity's supply chain and its ramifications for transport operations is also present in livestock and meat distribution, the focus of the next chapter.

Chapter 4 - Meat distribution, 1919-1968

4.1 Introduction

The previous chapter on milk introduces several of the main themes relating to food transport in Britain and how they influenced the competitive relationship between road and rail. Speed, cost and reliability were paramount in the timely transport of perishable foods such as meat, although these factors were influenced by the geography of supply and demand; how the commodity's market was governed, transport regulation and the state of consumer demand. Although the existing literature on Britain's meat industry provides rich pickings for the historian interested in the development of trade regulation, demand and technology, the process of distributing the commodity is ripe for research. Since the publication of a three-volume narrative entitled *The Meat Trade* in 1935, subsequent analyses such as Derrick Rixson's *The History of Meat Trading* and Robert Malcolmson and Stephanos Mastoris' *The English Pig* have focused upon meat processing, nineteenth-century market development and preservation technology.⁶²⁸

Similarly, literature on British agriculture, such as John Martin's *The Development of Modern Agriculture: British Farming Since 1931* only hints at what took place beyond the farm gate, whilst Richard Perren's *Taste, Trade and Technology: The Development of the International Meat Industry Since 1840* places the British trade within the context of the global trade.⁶²⁹ The effect of the Second World War upon the trade is again covered in R. J. Hammond's multi-volume official history, which describes how meat transport was controlled by government agencies throughout the conflict.⁶³⁰ Britain's post-war meat trade has seen little meaningful analysis, and as such, this account will use the changes experienced in livestock and meat transport to deduce the character of the sector between 1950 and 1968 and ascertain when the transition to road transport occurred.

This chapter will therefore consider how the fragmented livestock and meat trades meant equally fractured supply chain governance, which determined the character of their relationship with transport providers.⁶³¹ Whilst geography and the governance exercised by the Milk Marketing Board helped to shape the transport requirements of Britain's milk

⁶²⁸ R. Malcolmson and S. Mastoris, *The English Pig: A History* (London: Hambledon Press, 1998); D. Rixson, *The History of Meat Trading* (Nottingham: Nottingham University Press, 2000); Chadwick, Allen, Grant et al., *The Meat Trade Vols. I-III* (London: Gresham Publishing Co., 1935).

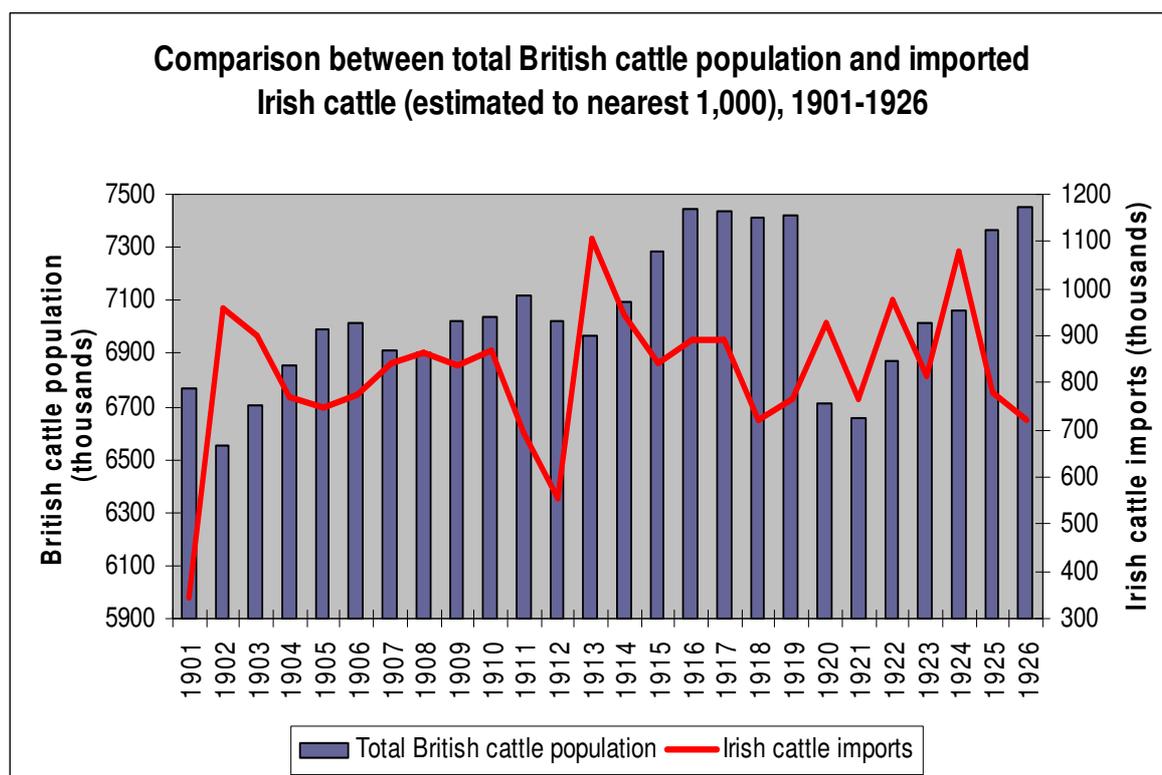
⁶²⁹ J. Martin, *The Development of Modern Agriculture: British Farming Since 1931* (Basingstoke: Macmillan, 2000); R. Perren, *Taste, Trade and Technology: The Development of the International Meat Industry Since 1840* (Aldershot: Ashgate, 2006).

⁶³⁰ R. J. Hammond, *History of the Second World War- Food Vols. I-III* (London: HMSO, 1951-1962).

⁶³¹ J. B. Jefferys, *Retail Trading in Britain, 1850-1950* (Cambridge: Cambridge University Press, 1954), p. 183.

market, domestically-produced perishable foods such as meat experienced modest home advantage. As a luxury commodity encompassing home-killed and imported meat, as well as canned and processed products, this chapter will primarily focus upon the two principal elements of the meat supply chain, namely ‘livestock’, encompassing live cattle, pigs and sheep; and ‘meat’, comprising fresh, chilled and frozen carcasses. This chapter will therefore reflect upon how competition between domestic and foreign meat supplies created a complex environment for transport between 1919 and 1968, with **Figure 5** (p. 153) demonstrating some of the different routes of entry into the market.

Graph 13



Sources: See Appendix 2, Table 13 (p. 304).

Before 1850, long-distance livestock distribution was achieved through driving, which entailed the movement of cattle ‘on the hoof’ from farm to market, with a period of fattening taking place before sale.⁶³² The railways rendered long-distance driving redundant, and permitted cattle to be marketed in better condition and with less fattening. Furthermore, they facilitated the sale of Irish cattle in the British market from 1861, with **Graph 13** indicating the potential number of cattle transported from ports to arable areas for fattening and slaughter by intermediaries before distribution as fresh meat between 1901 and 1926.⁶³³ The graph suggests that Irish imports helped balance periodic falls in the

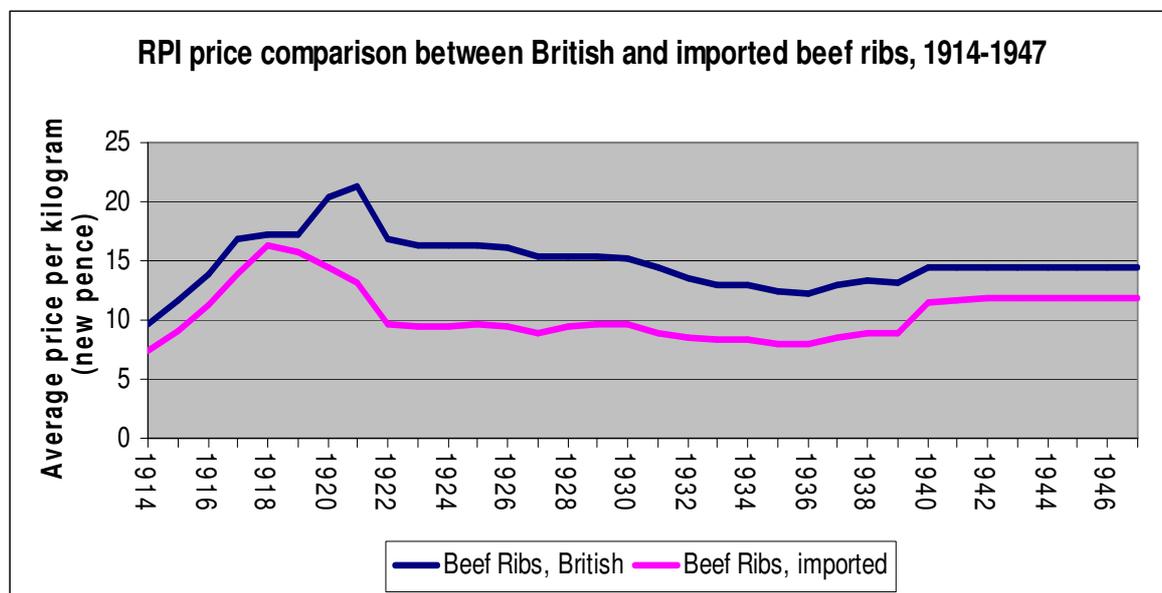
⁶³² Rixson, *The History of Meat Trading*, p. 259, p. 291.

⁶³³ Chadwick et al., *The Meat Trade Vol. I*, p. 139; Jefferys, *Retail Trading in Britain, 1850-1950*, p. 182.

domestic cattle population in 1902, 1913 and 1920, the latter coinciding with a post-war readjustment of the trade, sporadic outbreaks of foot and mouth disease and the preferential treatment given to arable farming under the terms of the Agriculture Act (1920).⁶³⁴ However, the period after the partition of Ireland in May 1921 was marked by peaks and troughs as competition emerged from global sources such as Canada.⁶³⁵

Technological innovation in transport was instrumental in the development of a competing meat import trade; in 1875, consignments of natural ice-cooled beef and lamb were shipped from New York and New Zealand to England. Competition emerged from consumer demand for low-price meat, the inability of the domestic trade to keep pace with population increases and the smoothing of seasonal shortages.⁶³⁶ Ignoring inflation, **Graph 14** demonstrates the price difference between imported and domestically-produced meat between 1914 and 1947, with the cheapness of the former placing a downward pressure upon domestic retail prices after the First World War. This conflicted with high domestic production costs, which combined with increasing government regulatory intervention in distribution to render British meat uncompetitive on price. Consequently, the chapter aims to consider whether this tension within the trade generated the modal shift from rail to road distribution.

Graph 14



Source: See Appendix 2, Table 14 (p. 305).

⁶³⁴ S. Moore, "The Real 'Great Betrayal?' Britain and the Canadian Cattle Crisis of 1922," *The Agricultural History Review*, 41 (1993), p. 157.

⁶³⁵ D. S. Johnson and L. Kennedy, "The Two Economies in Ireland in the Twentieth Century" in *A New History of Ireland Vol. VII, 1921-84*, ed. J. R. Hill (Oxford: Oxford University Press, 2003), p. 470; Moore, "The Real 'Great Betrayal?'," pp. 155-168.

⁶³⁶ Martin, *The Development of Modern Agriculture*, pp. 68-69.

Beyond analysing the relationship between transport provider and the multitude of interests within the meat trade, the chapter will also consider the evolution of meat transport technology, whilst the influence of government presents another point for analysis. The chapter will therefore detail the government's interventions, which initially ranged from *laissez-faire* with emphasis on self-regulation to statutory obligations regarding animal welfare, import tariffs. Subsequently, the government imposed control over the meat supply during the Second World War, thus presenting an opportunity to describe the changes made to meat distribution, and consider whether experience during the conflict and beyond influenced the balance between rail and road transport.

Post-war challenges facing both modes of transport include the 1947 Smithfield meat drivers' strike; the implications of the Agriculture Act (1947) and food decontrol, the effect of the 1955 railway strike and the Beeching Report of 1963, all of which raise the importance of maintaining reliable transport links in the distribution of perishable products. Finally, the chapter will consider briefly the effects of a post-war shift in supply chain governance towards the chain retailer upon the rail-road dynamic; a process which is also considered in greater detail in chapter 6. In considering this, it will be possible to assess the relative successes of Britain's rail and road transport industries in adapting to the changing needs of a fragmented meat trade between 1919 and 1968. This date range has been selected because the British Rail Board had concentrated the traffic to a single point of origin at Holyhead by 1968; indeed, subsequent financial losses, as reported in the contemporary press, precipitated the complete withdrawal from the business in 1975.⁶³⁷

4.2 Meat supply chain analysis

The following supply chain analysis explores the structural changes experienced within the meat trade. Consumer demand for cheap and plentiful supplies and government intervention during the Second World War key factors in driving the trade's distribution priorities.⁶³⁸ A logical outcome of this was that stakeholders sought transport technologies that catered for the perishability and vulnerability of meat and livestock during transit, yet also minimised costs by improving efficiency in handling and reducing transshipment. An analysis of **Figure 5** below gives an approximation of the different input, processing and sales activities taking place within the peacetime meat supply chain, and suggests that executive governance was highly fragmentary between 1919 and 1960. In doing so, it

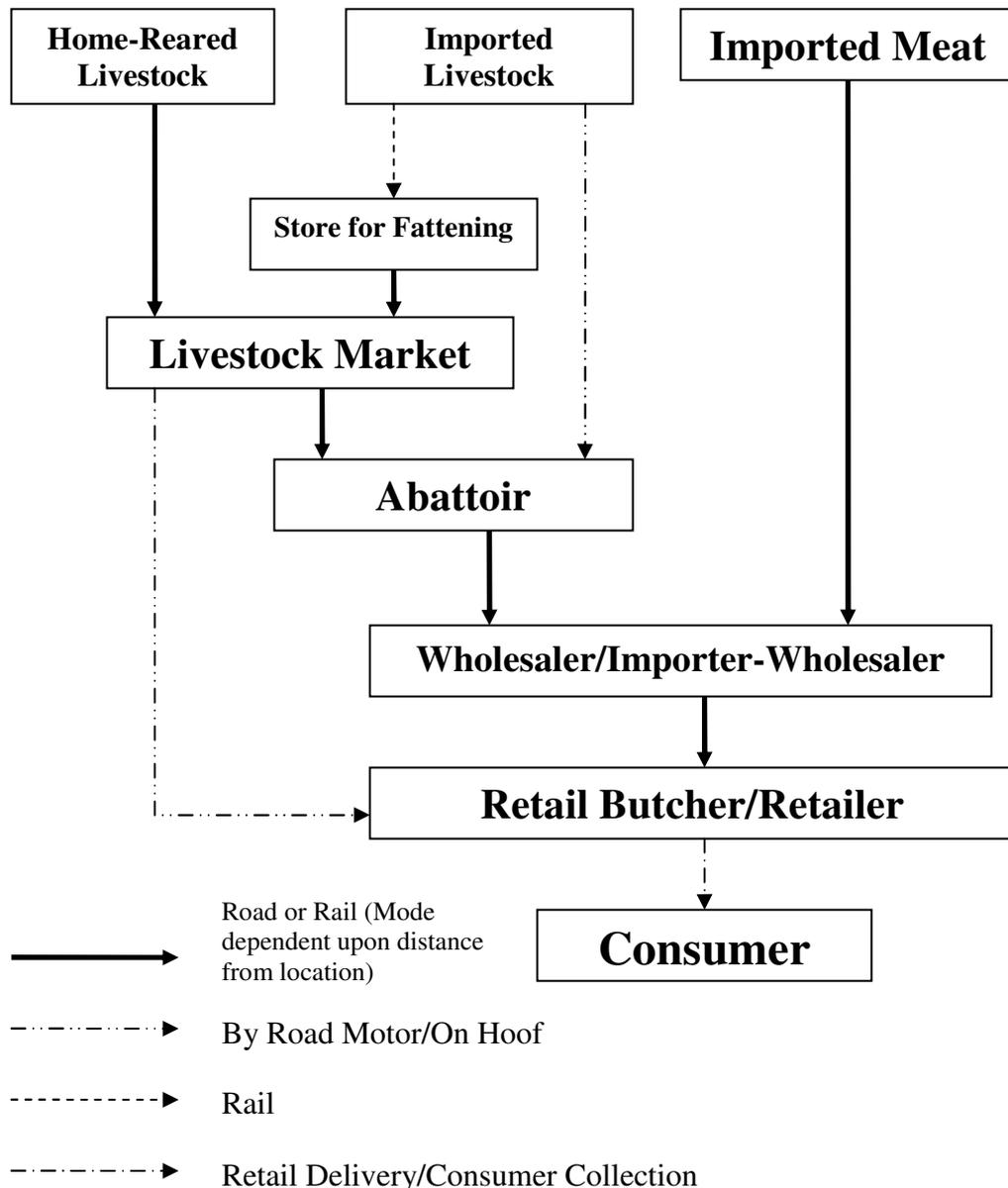
⁶³⁷ "Holyhead Shipping Service Plea Fails," *Financial Times* 28 November, 1975, p. 12.

⁶³⁸ R. Grant et al., *The Meat Trade Vol. III*, (London: Gresham Publishing Co., 1935), pp. 1-2; G. Gereffi, J. Humphrey and T. Sturgeon, "The Governance of Global Value Chains," *Review of International Political Economy*, 12 (2005), p. 86.

isolates the three main sources of meat sold in the British trade throughout the period, namely the domestic and imported livestock markets for fresh meat production, and imported pre-prepared chilled and frozen meat.

Figure 5

The structure of distribution within the British meat trade, 1919-1960



The potential distributive challenges facing Britain’s meat trade are established below in **Figure 6**, in which J. E. Hobbs and L. M. Young have tabulated the uncertainties associated with marketing agricultural produce in several quality-based scenarios that detail the market circumstances that influenced meat distribution. The resultant table is of particular relevance to the meat trade; as a perishable commodity, the buyer faces uncertainty in product quality and quantity, which in turn drove efforts to preserve meat

products during and after transit.⁶³⁹ Furthermore, transactions within the domestic livestock trade were made on trust, with farmers forming long-term relationships with salesmen to obtain the best prices for their animals, yet this highlights a vulnerability to long-term market changes.⁶⁴⁰ This is exemplified by the demands of a rising population, which could not be met by domestic agriculture alone, and created a market for imported products that supplemented the domestic supply.⁶⁴¹

Figure 6

Hobbs and Young’s relationship between product characteristics and transaction type in agri-food chains

	Transaction characteristics						
	Uncertainty for buyer: quality	Uncertainty for buyer: reliable supply timeliness and quantity	Uncertainty for buyer and seller: price	Uncertainty for seller: finding a buyer	Frequency of transaction	Relationship specific investment	Complexity of transaction (variety of outcomes)
Product Characteristics							
Perishability	v	v		v	v		v
Product differentiation	v	v	v	v		v	v
Quality variable and visible		v	v	v			v
Quality variable and invisible	v	v	v				v
New characteristics of importance to customers	v	sometimes	v	v		v	v
Regulatory drivers							
Liability	v			v		sometimes	v
Traceability				v		v	v

Abstract from: J. E. Hobbs and L. M. Young, “Closer Vertical Co-ordination in Agri-food Chains: A Conceptual Framework and Some Preliminary Evidence,” *Supply Chain Management*, 5 (2000), p. 133.

Product differentiation stemmed from the trade in imported processed meat, as frozen meat presented an opportunity to extend the shelf-life of the commodity and increase distance from source. The potential to store frozen meat enabled import merchants to engage in market speculation by releasing supplies during seasonal dips in the domestic supply, with

⁶³⁹ Rixson, *The History of Meat Trading*, p. 11; Chadwick et al., *The Meat Trade Vol. I*, p. 249; Grant et al., *The Meat Trade Vol. III*, p. 249.

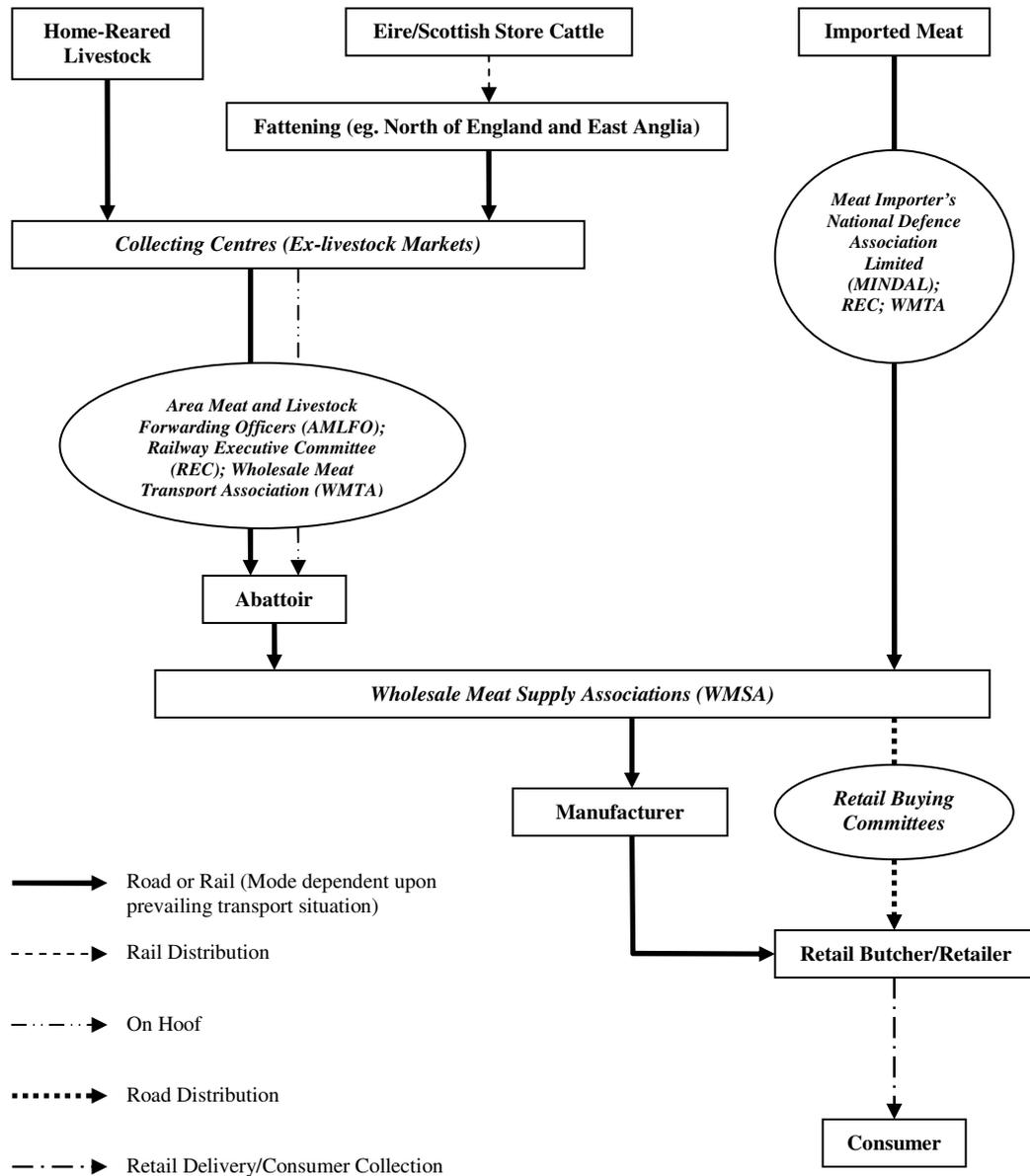
⁶⁴⁰ C. H. Blagburn, *Lessons of War-Time Control of Meat & Livestock* (London: Agricultural Economics Society, 1945), p. 2; Chadwick et al., *The Meat Trade Vol. I*, p. 249; Gereffi, Humphrey and Sturgeon, “The Governance of Global Value Chains,” p. 83

⁶⁴¹ Chadwick et al., *The Meat Trade Vol. I*, pp. 251-252; Jefferys, *Retail Trading in Britain, 1850-1950*, p. 184.

consumers substituting domestic supplies with the cheaper product.⁶⁴² Price changes borne from such competition were factored in decisions made by domestic supply chain participants, with innovative technology adopted for the inbound logistics and processing stages to reduce the impact of these activities upon final commodity prices.⁶⁴³

Figure 7

The structure of meat transport in wartime Britain, 1940-1945



⁶⁴² Rixson, *The History of Meat Trading*, p. 298; Martin, *The Development of Modern Agriculture*, pp. 68-69; J. Burnett, *Plenty and Want: A Social History of Diet in England from 1815 to the Present Day*, 2nd Edition (London: Scolar Press, 1979), p. 286.

⁶⁴³ Rixson, *The History of Meat Trading*, p. 20; M. Porter, *The Competitive Advantage of Nations* (London: Macmillan, 1990), pp. 241-242; D. J. Oddy "From Roast Beef to Chicken Nuggets" in *The Food Industries of Europe in the Nineteenth and Twentieth Centuries*, ed. A. Drouard and D. J. Oddy (London: Routledge, 2013), p. 239.

With executive governance dispersed throughout Britain's meat supply chain, legislative governance determining the conditions of market participation assumed high importance, with local authorities responsible for maintaining hygiene standards at the abattoir, in transit and at the retailer.⁶⁴⁴ Similarly, animal welfare legislation precipitated changes in livestock handling, with the Ministry of Agriculture providing statutory guidance on best-practice in activities such as transit and slaughter.⁶⁴⁵ However, direct government intervention in the supply chain occurred during the Second World War when the Ministry of Food, in conjunction with the Ministry of Agriculture, assumed control to manage and rationalise the trade to save scarce labour and production resources.⁶⁴⁶ An approximation of the wartime organisation of meat transport in Britain is illustrated above in **Figure 7**, which reflects the restructuring undertaken to control wartime demand, which in turn established a basis for further changes in peacetime.

It is possible to note that the government took control of the meat trade by licensing marketing and wholesale organisations to operate as executive agents on its behalf, with the former designated collecting centres and the latter amalgamated into Wholesale Meat Supply Associations (WMSA).⁶⁴⁷ With the Ministry of Agriculture controlling the production of domestic livestock inputs, the Ministry of Food exercised control over the point of sale.⁶⁴⁸ Retail buying committees were formed under government direction to purchase and distribute meat to registered retail customers, whilst the customer's meat consumption was controlled through rationing.⁶⁴⁹ Similar controls were implemented for the import trade, although frozen meat assisted with mitigating shortfalls in domestic supply as a result of animal feed shortages and seasonality.

The third visible shift in the character of the meat supply chain reflects a common theme within this thesis; that post-war socio-economic change drove a restructure of the food supply chain that promoted retailer control, as **Figure 8** illustrates below. Despite rising consumer affluence, food price reductions and convenience became key as other activities assumed importance within family budgets.⁶⁵⁰ As large retail chains provided a

⁶⁴⁴ R. Kaplinsky, "Globalisation and Unequalisation: What can be Learned from Value Chain Analysis?," *The Journal of Development Studies*, 37 (2000), p. 125; M. French and J. Phillips, *Cheated not Poisoned?: Food Regulation in the United Kingdom, 1875-1938* (Manchester: Manchester University Press, 2009), p. 87.

⁶⁴⁵ An example being: TNA: MT 6/2982, Board of Agriculture and Fisheries, Animals (Transit and General) Order of 1912 (London: HMSO, 1912).

⁶⁴⁶ Blagburn, *Lessons of War-Time Control of Meat & Livestock*, pp. 1-6.

⁶⁴⁷ Walworth, *Feeding the Nation in Peace and War*, p. 552.

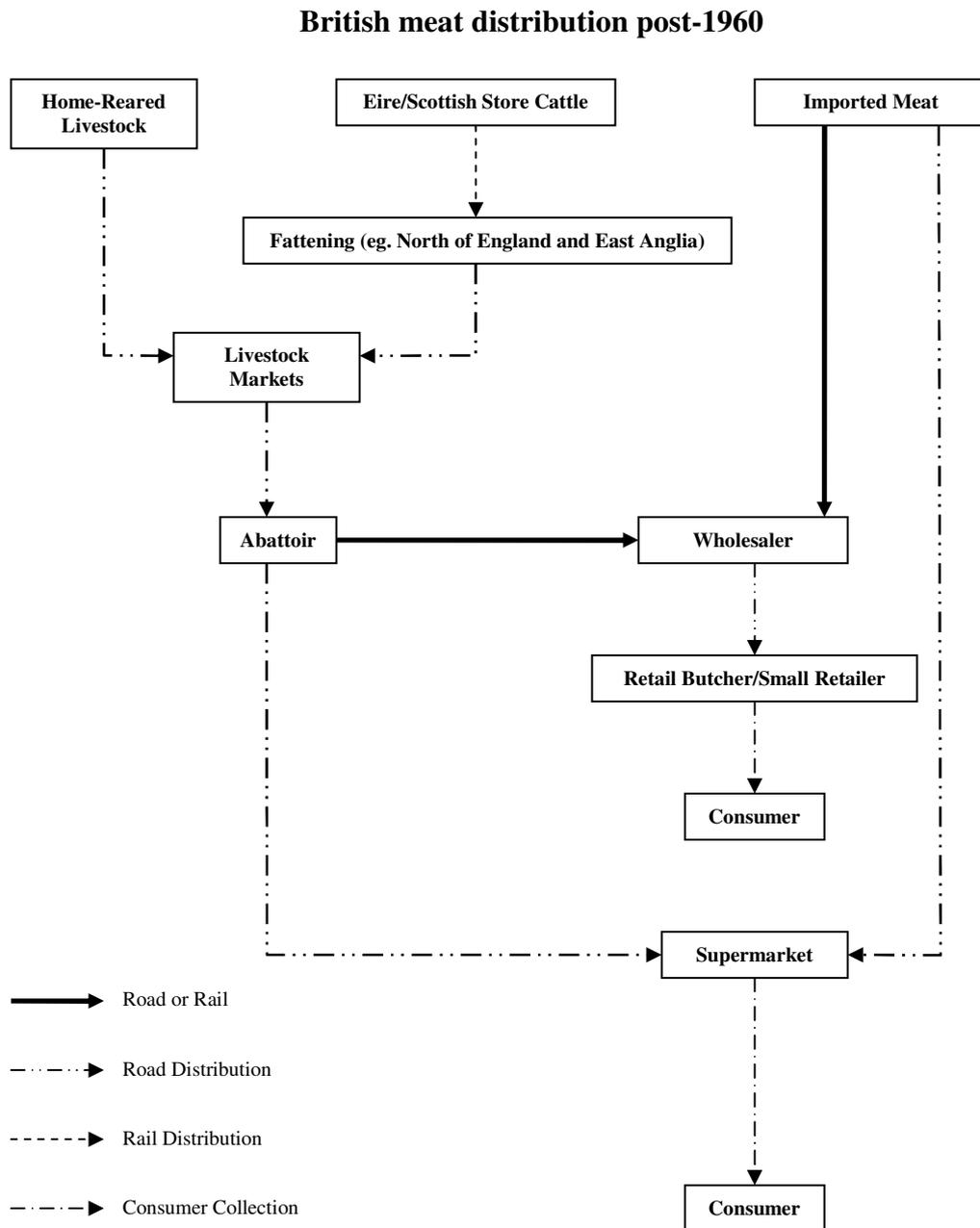
⁶⁴⁸ See Hammond, *Food vols. I-III*; K. A. H. Murray, *History of the Second World War: Agriculture* (London: HMSO, 1955), pp. 62-64.

⁶⁴⁹ Walworth, *Feeding the Nation in Peace and War*, p. 552; I. Zweiniger-Bargielowska, *Austerity in Britain: Rationing, Controls, and Consumption, 1939-1955* (Oxford: Oxford University Press, 2000), pp. 16-17.

⁶⁵⁰ L. R. Gofton, "Machines for the Suppression of Time: Meaning and Explanations of Food Change," *British Food Journal*, 7 (1992), p. 36; J. L. Rogers and R. Binstead, *Quick-Frozen Foods, 2nd Edition* (London: Food Trade Press Ltd., 1972), p. 3; K. Humphery, *Shelf-Life: Supermarkets and the Changing Cultures of Consumption* (Cambridge: Cambridge University Press, 1998), p. 21, p. 24.

concentrated market for meat suppliers, they played an active role in the supply chain by extending their influence over inbound logistics towards their primary suppliers.⁶⁵¹ How changes in executive governance within Britain's meat supply chain impacted upon transport operations in practice will form the basis of the following sections.

Figure 8



⁶⁵¹ Oddy "From Roast Beef to Chicken Nuggets," p. 239; D. A. Quarmby, "Developments in the Retail Market and their Effect on Freight Distribution," *Journal of Transport Economics and Policy*, 23 (1989), p. 76.

4.3 Livestock and meat distribution by rail: service quality, rates and regulation

Britain's population growth after the First World War did not coincide with a commensurate increase in domestic agriculture's contribution to the meat supply, as **Table 9** indicates. The table compares Britain's pre-First World War domestic meat supply with that of the inter-war period in relation to population, and shows that whilst domestic supplies accounted for 61 per cent of tons consumed per thousands of population in 1901, a sharp post-war decline in the cattle population is highlighted in **Graph 13** (p. 150), and coincides with a reduction to 46 per cent in 1921. The balance was met by imported meat, which increased market share from 39 to 59 per cent between 1901 and 1931; its post-war cheapness as global production was wound-down precipitated a slump in domestic meat prices in 1921.⁶⁵² With Britain's agricultural sector both geographically and organisationally fragmented amongst a mixture of arable and livestock farming, farmers were unable to internalise transport costs easily nor exercise firm supply chain governance, yet they were under pressure to minimise mismatches between production costs and marketing receipts.⁶⁵³ This section therefore hypothesises that as transport provided the essential link between farm and market, as described in section 4.2, Britain's railways, as principal means of securing long-distance livestock distribution, came under scrutiny from farmers and representative bodies aiming to secure cost efficiencies during the slump.

Table 9

Estimated British meat supply and consumption in census years, 1901-1931

	Population of Great Britain (thousands)	Domestic meat (tons)	Imported meat (tons)	Tons of domestic meat consumed per thousand population	Tons of imported meat consumed per thousand population
1901	37,000	1,452,000	938,000	39.2	25.3
1911	40,831	1,442,000	1,079,050	35.3	26.4
1921	42,769	1,169,000	1,362,050	27.3	31.8
1931	44,795	1,019,000	1,477,450	22.7	32.9

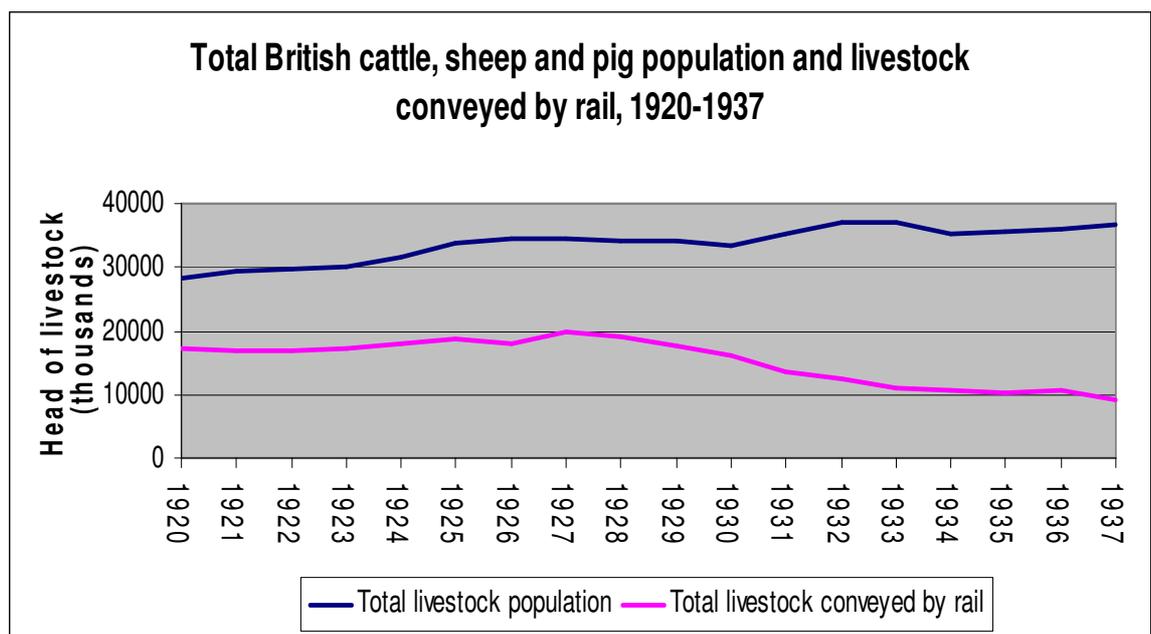
Sources: B. R. Mitchell, *Abstract of British Historical Statistics* (Cambridge: Cambridge University Press, 1988), p. 210; B. R. Mitchell, *Second Abstract of British Historical Statistics* (Cambridge: Cambridge University Press, 1971), p. 63.

⁶⁵² J. Brown, *Agriculture in England: A Survey of Farming, 1870-1947* (Manchester: Manchester University Press, 1987), pp. 76-77; G. Cox, P. Lowe and M. Winter, "The Origins and Early Development of the National Farmers' Union," *The Agricultural History Review*, 39 (1991), p. 47.

⁶⁵³ M. W. Heaton, "English interwar farming: a study of the financial outcomes of individual farms, 1919-1939," (PhD thesis, University of Reading, 2015), p. 97; G. Walworth, *Feeding the Nation in Peace and War* (London: George Allen and Unwin, 1940), p. 484.

This was because of the railway industry’s traffic monopoly resulting from the dearth of alternative transport modes capable of effecting timely conveyance to destinations nationwide.⁶⁵⁴ Whilst **Graph 15** indicates that livestock dispatches by rail increased slightly between 1920 and 1927 in line with the rising total livestock population, transport costs were closely associated with service quality; although the railways were handicapped by post-war wagon shortages and maintenance arrears, farmers were revealed to be ‘...[wasting] time and money ...in sending in their loads to the station only to find no trucks available’ during a Parliamentary sitting in December 1919.⁶⁵⁵ The issue continued into 1920, as *The Times* editorial included ‘...strong complaints of the difficulties farmers are meeting with in regard to the transit of cattle’.⁶⁵⁶ One farmer in Northamptonshire was forced to ‘...leave 72 beasts on someone else’s land because the railway trucks were not forthcoming, although the trucks were ordered six days previously’, a reminder sent three days later indicating the strain which sometimes emerged in the relationship between Britain’s domestic livestock and railway industries.⁶⁵⁷

Graph 15



Sources: See Appendix 2, Table 15 (p. 306).

This supports the hypothesis that scrutiny stemmed from a perception that service quality failed to justify the rates charged by the railways, although the difficulty in obtaining comprehensive statistical data precludes comment on individual cases. Another example

⁶⁵⁴ “Transport in Rural Districts: Roads and Light Railways,” *Modern Transport*, VII (March 9, 1922), p. 9.

⁶⁵⁵ HC Deb 18 December 1919, vol 123, col 642.

⁶⁵⁶ “Dearth of Cattle Trucks,” *The Times* October 11, 1920, p. 7.

⁶⁵⁷ “Dearth of Cattle Trucks,” p. 7; K. Hill, “Farming’s Line of Vision,” *Backtrack*, 18 (2004), p. 228.

of the domestic farmer's rates-service grievance was the perception that preferential rates were being offered by railway companies to livestock importers which dispatched animals by rail from ports including Birkenhead and Holyhead; indeed, P. J. Cain's article on the relationship between agriculture and the railways prior to the First World War clearly demonstrates that this was a long-standing issue.⁶⁵⁸ The railway industry robustly defended its position, for example, at the final Annual General Meeting of the London and South Western Railway in 1923, with the efficiency of the port and better loadings cited as reasons for the cheaper rates, emphasising that costs varied according to the quantity and type of livestock forwarded, distance travelled and the handling required.⁶⁵⁹ However, this also implies that the lack of supply chain governance caused by the fragmentation of Britain's domestic livestock trade amongst numerous producers ensured that such economies of scale were difficult to obtain.

The claims about service quality also suggests a failure of the farming community to acknowledge that livestock rates were expensive due to the finesse required in handling the traffic, which was strictly governed by the Ministry of Agriculture and Fisheries' statutory Animals (Transit and General) Orders.⁶⁶⁰ These established basic vehicle construction standards to maintain the condition of live animals during transit, and imposed a requirement to apply for licences from the receiving local authority to effect disease control. This posed a further challenge for long-distance traffic passing through diseased areas of the country, as strict guidelines prohibited the unloading of animals for feeding or watering, despite having to take place every twenty-four hours.⁶⁶¹ Furthermore, the implementation of the Ministry of Agriculture and Fisheries' disease control regulations required considerable manual labour.⁶⁶²

To ensure that wagons, such as that illustrated below in **Image 9**, and related infrastructure were suitable, a strict regime of thoroughly scraping wagon floors and walls before washing, scrubbing and applying disinfectant was imposed, which meant the unremunerative empty-running of vehicles to dedicated stabling points after each use.⁶⁶³

⁶⁵⁸ See P. J. Cain, "Railways and Price Discrimination: The Case of Agriculture, 1880-1914," *Business History*, 18 (1976), pp. 190-191; Hill, "Farming's Line of Vision," pp. 234-235.

⁶⁵⁹ "London & South Western Rly. Co.," *Southern Railway Magazine*, I (1923), p. 51; G. Walker, *Road and Rail: An Enquiry into the Economics of Competition and State Control* (London: George Allen and Unwin, 1942), p. 47.

⁶⁶⁰ For example, TNA: MT 6/2982, Board of Agriculture and Fisheries, Animals (Transit and General) Order of 1912 (London: HMSO, 1912). See also: Diseases of Animals Act, 1894, 57 & 58 Vict., c. 57.

⁶⁶¹ TNA: MT 6/2982, Board of Agriculture and Fisheries, Animals (Transit and General) Order of 1912, p. 2.

⁶⁶² TNA: MT 6/2982, Great Western Railway, *Diseases of Animals Acts* (London: Great Western Railway, 1916), pp. 9-13.

⁶⁶³ TNA: MT 6/2982, Board of Agriculture and Fisheries, Animals (Transit and General) Order of 1912, p. 2. The disinfectant used before 1924 was limewash, although complaints of skin-burn on some animals because of a chemical reaction between urine and the resulted in a change in government policy. By 1926, the approved disinfectant was a 5 per cent phenol (carbolic acid) solution. For more details, see: TNA: MAF 35/390, Ministry of Agriculture and Fisheries, Diseases of Animals (Disinfection) Order, 1926.

Consequently, it is possible to hypothesise that the Orders are an example of the attempt to assert legislative governance over the supply chain by setting the terms for the involvement of transport in the market. However, this placed the provider at a disadvantage, as any lapse harboured the threat of costly legal proceedings, whether genuine or malicious, as demonstrated by a test-case lodged against the Southern Railway in 1925 regarding the cleanliness of the goods yard at Petersfield railway station, Hampshire.

Image 9



The basic features of the British Railways 8-ton cattle wagon, such as this example at the North Yorkshire Moors Railway had changed little from the standard Railway Clearing House design. Each wagon could be split into compartments with dividers. Note the apertures for draining effluent and the outside structural members on the wagon ends, so-designed to prevent injury to animals. Author’s collection.

The complainant alleged that the yard was in breach of the Animals Order, which stipulated that the “railway company on whose premises any pen ...is situated shall keep the floor ...in such a condition as to enable them to be properly disinfected and cleansed”, a practice actively enforced since the passing of the Contagious Diseases (Animals) Act (1866).⁶⁶⁴ The defence asserted that as all goods traffic had to pass through the yard, the Order only applied to livestock pens; although the jury found in favour of the railway, the case highlights the potential for penalties and rectification costs.⁶⁶⁵ Similarly, the statutory

⁶⁶⁴ “Animals (Transit and General) Amendment Order, 1924,” *Southern Railway Magazine*, III (1925), p. 160.

⁶⁶⁵ “Animals (Transit and General) Amendment Order, 1924,” p. 161.

guidelines for disease prevention also had implications for the Irish livestock import trade, as a mandatory ten-hour minimum quarantine period was imposed before movement licences could be issued, regardless of whether the animals were scheduled for immediate slaughter or onward transit.⁶⁶⁶ This obliged port authorities licensed to receive cattle to provide suitable lairage, fodder and independent veterinary supervision. The attendant costs were thus incorporated into ‘through’ rates from port of origin charged to the consigner, again highlighting the more stringent governance of the traffic.

The issues raised by the farmers regarding the rail distribution of livestock were echoed by the domestic meat trade, and again confirms the hypothesis that the railway industry’s monopoly over long-distance inland transport ensured that it was the subject of scrutiny over quality of service and cost. Although a 1921 report into meat handling published by the Ministry of Health commended the railway companies for their desire ‘...to afford the utmost facilities for [meat] traffic’, it also highlighted complaints about delays, wagon cleanliness, high charges and allegations of pilferage during transit between slaughterhouse, processor and retailer.⁶⁶⁷ For instance, Marsh & Baxter, a Shropshire meat processing firm, listed 53 occasions between October and December 1920 when products dispatched via the GWR and LNWR were damaged or failed to arrive at their destination.⁶⁶⁸ Although the GWR cited problems during the busy Christmas period, the Ministry of Health concluded that ‘...the existence of so many complaints must indicate that [the railway industry’s] good intentions ...are not always carried into effect’.⁶⁶⁹

The report commented upon the condition of the meat wagons, which were refrigerated, insulated or ventilated depending upon whether meat was frozen, chilled or fresh, with the former stacked on wagon floors in muslin sacks, and the latter hung manually from hooks.⁶⁷⁰ The existence of three individual wagon types ostensibly associated with a single commodity raises the hypothesis that the railway industry’s continuous search for new traffic flows resulted in piecemeal vehicle development to account for advances in meat preservation technology since refrigeration was adopted in shipping after 1875.⁶⁷¹ Equally, few meat wholesaling organisations were large enough to exercise executive governance over Britain’s meat supply chain and drive service

⁶⁶⁶ “Some Important LMS Passenger Stations: No. 7- Holyhead Station and Harbour,” *LMS Railway Magazine*, VI (1929), p. 328.

⁶⁶⁷ TNA: MT 6/2982, Committee on Meat Inspection, Report of the Departmental Committee, p. 23.

⁶⁶⁸ TNA: MT 6/2982, 10 February 1921 Marsh & Baxter Ltd., Brierley Hill, Particulars of Claims against Railway Companies, in respect of pilferage, non-delivery or delay of goods consigned by rail.

⁶⁶⁹ TNA: MT 6/2982, Committee on Meat Inspection, Report of the Departmental Committee, p. 23.

⁶⁷⁰ TNA: MT 6/2982, 3 January 1921 Memorandum prepared by Mr Elias Ford, Assistant Goods Manager, Great Western Railway, Paddington: Meat Conveyed by Railway, p. 2.

⁶⁷¹ R. J. Essery, D. P. Rowland and W. O. Steel, *British Goods Wagons From 1887 to the Present Day* (New York: Augustus M Kelley Publishers, 1970), p. 81.

improvement through unilateral investment in the manner of United Dairies in 1927.⁶⁷² Consequently, the trade relied upon the railway companies to provide the necessary rolling stock, although the path-dependency of railway infrastructure gave the railways little incentive to invest in new technology for existing traffic.⁶⁷³

Complaints were also received about the state of repair of railway vehicles, which was influenced by a lack of standard construction practice amongst the pre-1923 railway companies. Referring to an investigation by the Department of Scientific and Industrial Research (DSIR) in 1919, the Ministry of Health report indicated that meat was spoiled by damaged seals and doors on insulated wagons allowing the ingress of warming air, although the plethora of run-down rolling stock inherited by the ‘Big Four’ railway companies at the 1923 grouping meant little prospect of improvement in the short term.⁶⁷⁴ The 1919 railway strike demonstrated the traffic’s vulnerability to disruption; whilst initial meat shortages were curbed by stockpiles at various wholesalers’ cold storage sites, fresh meat from Scotland and elsewhere experienced prolonged curtailment and dislocation as congestion was eased, which in turn demanded patience and understanding from traders dispatching further traffic.⁶⁷⁵ Consequently, military and civilian lorries were used by ‘...local committees [which] had been formed to direct the use of these lorries’ to effect distribution during the strike and clear subsequent congestion.⁶⁷⁶ The strike and its aftermath thus demonstrated the lorry’s potential, and symbolised the beginning of a shift in the monopoly held by the railways over long-distance meat transport, which was challenged further as rate increases implemented in 1920 coincided with rising public concern about the cost of living in Britain.

4.4 Domestic meat distribution and the cost of living debate: accusation, response and the logistical challenge, 1920-1925

The previous section has highlighted the challenges posed by regulation and the quality of railway service for the domestic livestock and meat trades. With both fragmented amongst numerous concerns, the lack of executive governance being exercised by one or more parties within the supply chain through investment hindered demand-side pressure for the

⁶⁷² A. Chadwick et al., *The Meat Trade Vol. I*, (London: Gresham Publishing Co., 1935), pp. 285-302.

⁶⁷³ J. Simmons, *The Railways of Britain, 3rd Edition* (London: Macmillan, 1986), p. 186.

⁶⁷⁴ TNA: MT 6/2982, Committee on Meat Inspection, Report of the Departmental Committee, p. 23; TNA: MT 6/2525/8, Department of Scientific and Industrial Research, *Food Investigation Board on the Design of Railway Wagons for the Carriage of Perishable Foods* (London: HMSO, 1919).

⁶⁷⁵ “Food During the Strike: The Controller’s View,” *The Times* (October 9, 1919), p. 7; *The Railway Gazette*, XXXI (October 10, 1919), p. 439.

⁶⁷⁶ HC Deb 22 October 1919, vol 120, col 22.

development of cost-effective rail transport at a time of high food costs and falling real wages.⁶⁷⁷ With the 1921 cost of living index 41 per cent above 1913, the Liberal-led coalition government commissioned a Departmental Committee on Distribution and Prices of Agricultural Produce to investigate the difference in prices received by producers and those paid by the consumer.⁶⁷⁸ The Committee, chaired by Viscount Linlithgow, published an Interim Report in 1923, concluding that the natural monopoly enjoyed by the railways over long-distance traffic was injurious to British agriculture's competitive position.⁶⁷⁹

In response, pamphlets published by the RCH implied that such a conclusion was disingenuous, as rates were raised by the Ministry of Transport during the period of government control following the First World War.⁶⁸⁰ The railway companies were also at pains to highlight that rates were 'voluntarily reduced by the railways from 75 per cent. to 50 per cent. above the pre-war rates' after decontrol, and that perishable traffic, including meat, benefited from being conveyed at passenger train speeds, and at cheaper 'owner's risk' rates.⁶⁸¹ The implication was that the problem lay elsewhere, as aside from the costs accrued in rearing, fattening and marketing the live animal, domestically-produced meat prices also reflected the cost of slaughter, processing, wholesaling and retailing.

This was confirmed by a Royal Commission on Food Prices chaired by Sir Auckland Geddes, which analysed food distribution in greater detail.⁶⁸² The Geddes Report of 1925 concluded that whilst railway rates were 50 per cent higher than in 1913, this was less than the average increase in food prices, suggesting that they assisted with reducing the final retail price of meat.⁶⁸³ In the case of livestock distribution, the GWR went further by suggesting that rate reductions provided a *de-facto* agricultural subsidy, particularly

⁶⁷⁷ Jefferys, *Retail Trading in Britain, 1850-1950*, p. 183; Walworth, *Feeding the Nation in Peace and War*, p. 91.

⁶⁷⁸ P. Self and H. J. Storing, *The State and the Farmer* (London: George Allen and Unwin, 1962), p. 86.

⁶⁷⁹ "The Cost of Living," *Great Western Railway Magazine*, XXXIII (1921), p. 167; TNA: RAIL 1124/213, Ministry of Agriculture, Departmental Committee on Distribution and Prices of Agricultural Produce: Interim Report on Meat, Poultry and Eggs, Cmd. 1971 (1923), pp. 35-36. Victor Alexander John Hope, second Marquess of Linlithgow served in the Territorial Army during the First World War and was appointed Civil Lord of the Admiralty between 1922 and 1924. This was undertaken in tandem with his role on the Committee investigating the distribution and prices of agricultural produce, a position which reflected his interest in agriculture. He was appointed Viceroy of India in 1935. R. J. Moore, "Hope, Victor Alexander John, second marquess of Linlithgow (1887-1952)," *Oxford Dictionary of National Biography*, Oxford University Press, 2004; online edn, January 2011, accessed 12 September 2016 <http://www.oxforddnb.com/view/article/33974>.

⁶⁸⁰ See: Railway Clearing House, *Railway Rates: How They Affect the Cost of Living* (London: Railway Clearing House, 1923).

⁶⁸¹ F. P. Larkin, "The Conveyance of Meat, Poultry and Eggs," *Great Western Railway Magazine*, XXXV (1923), p. 453.

⁶⁸² Auckland Campbell Geddes was the brother of Eric Geddes, the first Minister of Transport. Geddes was elected a Unionist Member of Parliament for Basingstoke in 1917. After a spell as President of the Board of Trade from 1919, he later became Chairman of the Royal Commission on Food Prices and joined the board of the Rio Tinto mineral company in 1924. K. Grieves, "Geddes, Auckland Campbell, first Baron Geddes (1879-1954)," *Oxford Dictionary of National Biography*, Oxford University Press, 2004; online edn, January 2008, accessed 12 September 2016, <http://www.oxforddnb.com/view/article/33359>.

⁶⁸³ D. Hawkwood, "Railway Rates and Food Prices: A Comparison and a Contrast," *Great Western Railway Magazine*, XXXVII (1925), p. 224.

when considering that as ‘statutory carriers’ with no effective long-distance road competition, the railways were obliged to offer ‘reasonable facilities’ and accept the logistical challenges associated with the traffic.⁶⁸⁴

As previously suggested, the domestic livestock industry’s relationship with the railways was influenced by its fragmentation; it is possible to hypothesise that conflicting priorities within the sector had constrained its political influence, and hence its ability to hold the railways to account as a collective.⁶⁸⁵ This is exemplified by the individualistic nature of livestock farming; the size of farm and the seasonality of the trade meant the quantity of domestic livestock requiring transport to market fluctuated, whilst their relatively short length of haul contrasted with imported livestock. This created tension between the farmer and railways on two counts. Firstly, fragmentation prevented the efficient distribution and loading of cattle wagons. This prompted complaints of wagon shortages in a Gloucestershire newspaper, to which the railway company responded that “...it is not reasonable to expect us to supply trucks for consignments that would not even half fill them.”⁶⁸⁶ Secondly, inefficient loading meant that rail rates were expensive, prompting the accusation that ‘preferential treatment’ was being given to import merchants enjoying lower rates at the expense of domestic agriculture.⁶⁸⁷ However, these favourable rates were obtained by the importers for dispatching full wagons of animals requiring long-distance transit from port to pasture on a regular basis.⁶⁸⁸

As with livestock, the long-distance conveyance of domestically-produced meat by rail to more lucrative markets depended upon its dispatch in sufficient quantities and at sufficient distances to obtain cheaper rates.⁶⁸⁹ Profitable long-distance traffic was therefore confined to the London trade from regions where supply far outweighed local demand, such as Scotland and the west of England; for example, traffic from Aberdeen had been conveyed by rail since 1855.⁶⁹⁰ It is also possible to assume that the domestic trade was predominantly localised, as an estimated 20,000 slaughtering establishments operated nationwide in 1922.⁶⁹¹ However, seasonal variation presented a challenge for Britain’s domestic meat trade, as prices varied according to availability; consequently, high prices

⁶⁸⁴ Walker, *Road and Rail*, p. 175; F. Allen et al., *The Meat Trade Vol. II*, (London: Gresham Publishing Co., 1935), pp. 241-244.

⁶⁸⁵ Moore, “The Real ‘Great Betrayal?’,” p. 155.

⁶⁸⁶ “Conveyance of cattle,” *Gloucestershire Chronicle* (June 19, 1920), p. 3.

⁶⁸⁷ Herbert Matthews, “Cost of Railway Transport: Rates on Imported Produce,” *The Times* (July 24, 1924), p. 10.

⁶⁸⁸ Hill, “Farming’s Line of Vision,” p. 229.

⁶⁸⁹ Rixson, *The History of Meat Trading*, p. 213.

⁶⁹⁰ Rixson, *The History of Meat Trading*, p. 314.

⁶⁹¹ Walworth, *Feeding the Nation in Peace and War*, p. 98; TNA: RAIL 1124/213, Ministry of Agriculture, Interim Report on Meat, Poultry and Eggs, p. 43.

meant rising demand for cheap and reliable supplies, thereby sustaining and growing the market for imported meat between 1920 and 1931, as indicated in **Table 9** (p. 158).⁶⁹²

4.5 The benefits of road haulage

It is possible to hypothesise that the disadvantages associated with rail transport, namely the excessive cost of short-distance distribution and the risk of disruption during strikes, had prompted a fresh examination of road haulage. Despite initial misgivings by the Ministry of Health's over the hygiene of horse-drawn and sheeted lorry transport, the development of fully-enclosed, insulated motor transport by 1922 allowed hauliers and wholesalers alike to market their businesses on principles of cleanliness and convenience.⁶⁹³ Firms such as Lancashire Cold Storage Ltd. of Canada Dock, Liverpool specialised in the direct distribution of frozen meat from port to retailer by road, thus minimising the risk of spoilage and mishandling.⁶⁹⁴ The insulated lorry was also flexible; it was possible to schedule multiple stops, with Lancashire Cold Storage noting that 'as many as thirty calls ...[could be] made to discharge the load of meat', thus making longer-distance door-to-door conveyance direct to the customer's premises possible.⁶⁹⁵

The firm regularly conveyed meat 80 miles from Liverpool to Sheffield with lorries loaded after 6pm for dispatch at 10am the following day. The delivery was scheduled to arrive at Sheffield at 5:30pm, with the lorry garaged overnight before unloading.⁶⁹⁶ Pilferage was prevented by the padlocking of doors, which contrasted with the vulnerability of rail consignments during intermediate handling and transshipment operations. As such, the firm was distributing 11,000 tons of meat per annum by February 1923.⁶⁹⁷ Aside from offering secure, reliable transport, the lorry also offered economy of scope for the meat trade; whilst larger importer-wholesalers amassed vehicle fleets, smaller firms employed specialist haulage contractors to overcome the barriers of maintenance and infrastructure costs. However, the lack of suitable return loads for insulated vehicles meant unremunerative return journeys, a handicap in common with the railways.⁶⁹⁸

⁶⁹² Burnett, *Plenty and Want*, p. 286; Rixson, *The History of Meat Trading*, p. 298; Walworth, *Feeding the Nation in Peace and War*, 105; R. Grant et al., *The Meat Trade Vol. III*, p. 205.

⁶⁹³ TNA: MT 6/2982, Committee on Meat Inspection, Report of the Departmental Committee, p. 24.

⁶⁹⁴ "Efficient Meat Transport," *The Meat Trades Journal and Cattle Salesman's Gazette*, LVII (February 1, 1923), p. 198.

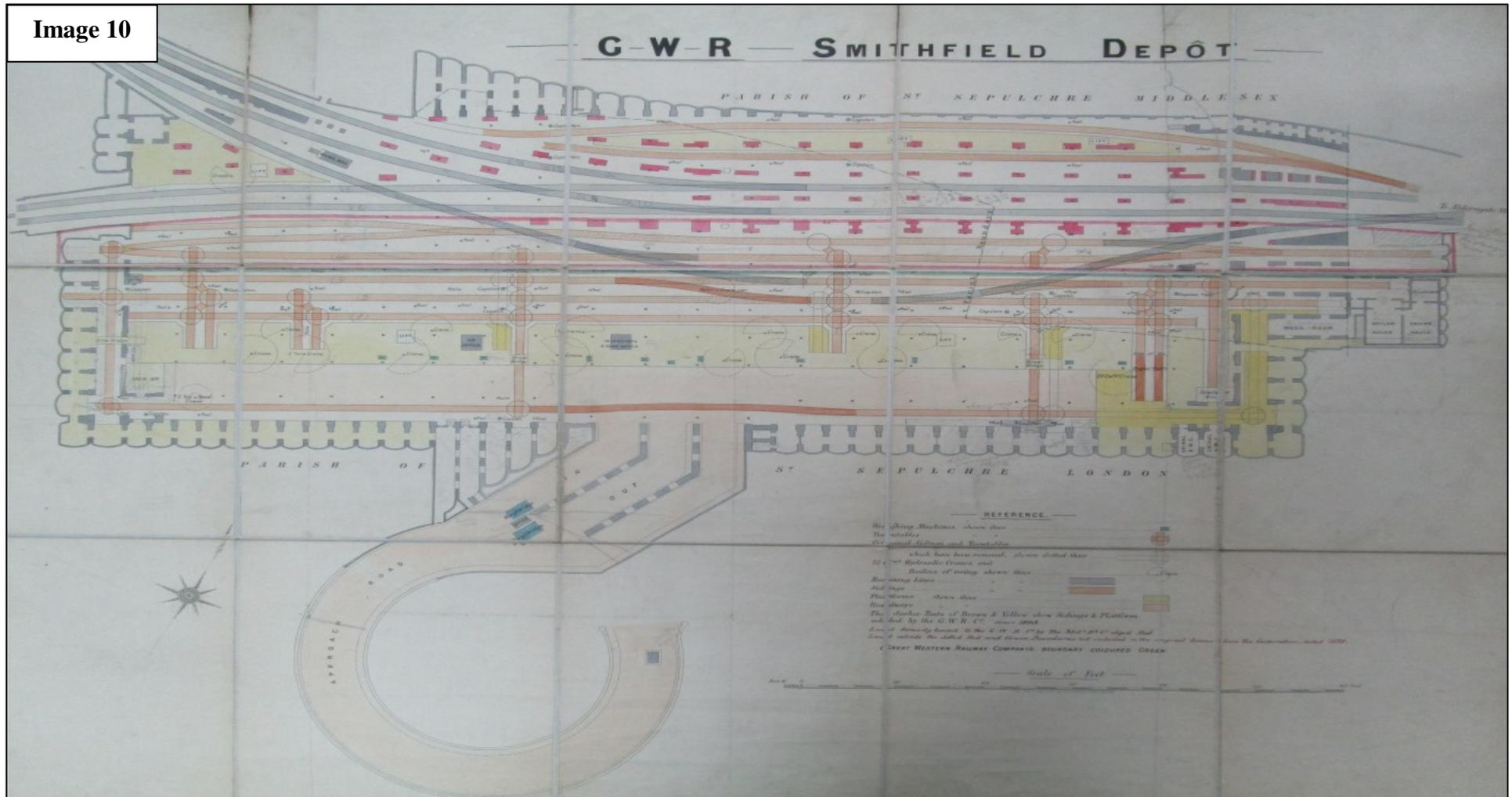
⁶⁹⁵ "Efficient Meat Transport," p. 198.

⁶⁹⁶ "Efficient Meat Transport," p. 198.

⁶⁹⁷ "Efficient Meat Transport," p. 198.

⁶⁹⁸ "Efficient Meat Transport," p. 198.

Image 10



A 1912 colour plan of the GWR goods depot beneath Smithfield Market, central London with proposed alterations. Note the curved road ramp and the circles denoting turntables for shunting wagons in the confined space. Two lifts allowed meat to be directly conveyed to the market floor above.
Source: TNA: RAIL 1030/213, 1912 Great Western way, 'Smithfield Station: C.G.M.O.'

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The insulated lorry's utility and overall flexibility in crowded streets was an advantage exploited by firms engaged in transporting traffic to Smithfield market by horse, the latter location supplying London's expanding population with 40 per cent of Britain's meat imports.⁶⁹⁹ Although quantities of rail-borne meat arrived from goods depots at Nine Elms, Broad Street and Somerstown, fresh and frozen meat arriving from Aberdeen, Birkenhead and Southampton was more than matched by the supplies arriving by road direct from the Port of London.⁷⁰⁰ Meat of British or Irish origin represented 16 per cent of that sold at Smithfield in 1922 whilst the 1938 estimate remained 15-20 per cent.⁷⁰¹ With imports accounting for over 84 per cent of London's supply, it is possible to hypothesise that a substantial proportion came from the local docks due to convenience of location, and that the role of the railways in the trade was generally peripheral.⁷⁰²

This is further substantiated by an article published in *The Meat Trades Journal and Stockbreeder's Gazette* in 1920 which suggests that despite possessing a depot directly beneath the market, as illustrated above in **Image 10**, only 2.5 per cent of the total tonnage arriving at Smithfield was conveyed by the GWR in 1913.⁷⁰³ However, the import trade was also vulnerable to fluctuations in demand, which determined whether imported meat was forwarded straight to wholesale or cold storage; an article in *Modern Transport* indicated that cold storage establishments at Smithfield and Royal Albert Dock had the capacity to balance the meat supply locally.⁷⁰⁴ This had implications for the regularity of meat arriving by rail from ports outside London, and highlighted the necessity for road vehicles to convey meat over the eight miles between Royal Albert Dock and Smithfield, sometimes at short notice to meet the changing tides.

The proximity of meat import merchants to demand centres at London, Liverpool, Glasgow and other sea-connected cities implies that rail distribution assisted with balancing periodic supply shortfalls at these locations.⁷⁰⁵ In contrast, livestock imports still required rail distribution to grassland areas for fattening. However, *The Commercial Motor* reported in 1924 that the domestic trade was already benefiting from specialist lorries constructed for livestock contractors and farmers' cooperatives, which permitted

⁶⁹⁹ TNA: RAIL 1124/213, Ministry of Agriculture, Interim Report on Meat, Poultry and Eggs, p. 85.

⁷⁰⁰ "London Central Meat Market, Smithfield, Part 2," p. 924.

⁷⁰¹ J. B. Jefferys, M. Maccoll and G. L. Levett, *The Distribution of Consumer Goods: A Factual Study of Methods and Costs in the United Kingdom in 1938* (Cambridge: Cambridge University Press, 1950), p. 180.

⁷⁰² "London Central Meat Market, Smithfield, Part 2," p. 924; TNA: RAIL 1124/213, Ministry of Agriculture, Interim Report on Meat, Poultry and Eggs, p. 84.

⁷⁰³ "London Central Meat Market, Smithfield, Part 2," *The Meat Trades Journal and Cattle Salesman's Gazette*, LI (June 17, 1920), p. 924.

⁷⁰⁴ "Handling Frozen Produce: Labour-saving Methods at the Port of London," *Modern Transport*, VII (March 4, 1922), p. 9.

⁷⁰⁵ Jefferys, *Retail Trading in Britain, 1850-1950*, p. 190.

direct transit between farm and market.⁷⁰⁶ Other benefits included more efficient use of capacity. Whilst the average capacity of the eight-ton cattle wagon was seven head of cattle, the two-ton capacity of the average contractor's lorry permitted the conveyance of four head of cattle per journey based upon a live-weight of 1000lbs per animal.⁷⁰⁷ Therefore, the combination of flexibility, convenience and loading efficiency made the lorry suitable for Britain's fragmented and geographically diverse livestock trade, and provided a means for the domestic trade to compete against the importer without a representative organisation asserting executive governance over the supply chain

4.6 The 1926 General Strike

In contrast with import merchants, which were capable of stockpiling chilled and frozen meat at port warehouses, wholesalers specialising in the long-distance distribution of domestically-produced fresh meat faced the prospect of severe disruption when railway services were suspended during the General Strike of 1926. *The Times* described how a voluntary transport organisation consisting of 3-ton lorries was consequently established by the authorities at Smithfield Market, and *The Meat Trades Journal* noted that fresh meat bound for London from the west of England was conveyed by road with a police escort.⁷⁰⁸ A similar operation was undertaken by Hay's Wharf Cartage, which dispatched lorries to meet ships docked at Harwich and Folkestone, whilst an Emergency Committee of Smithfield consignees used market employees to operate the LMS and LNER goods terminals at Broad Street and Farringdon Street. The operation entailed the unloading and distribution of 2,000 tons of Scottish beef and mutton in six hours.⁷⁰⁹

The author has been unable to gauge the speed at which road haulage was adopted by the livestock trade after the General Strike, as the NFU's Committee minutes are surprisingly silent about its effects.⁷¹⁰ However, its impact can be ascertained through an analysis of the head of livestock carried on Britain's railways over the period. **Graph 16** below reveals that the strike had caused a brief decline in livestock conveyed by rail in 1926, presaging a prolonged reduction after 1927. Whilst this may be attributed to the wider economic depression experienced from 1929 and its impact upon consumer demand,

⁷⁰⁶ "Transporting Livestock in Numbers," *The Commercial Motor*, XL (October 28, 1924), p. 329.

⁷⁰⁷ A Chadwick et al., *The Meat Trade Vol. I*, (London: Gresham Publishing Co., 1935), p. 128.

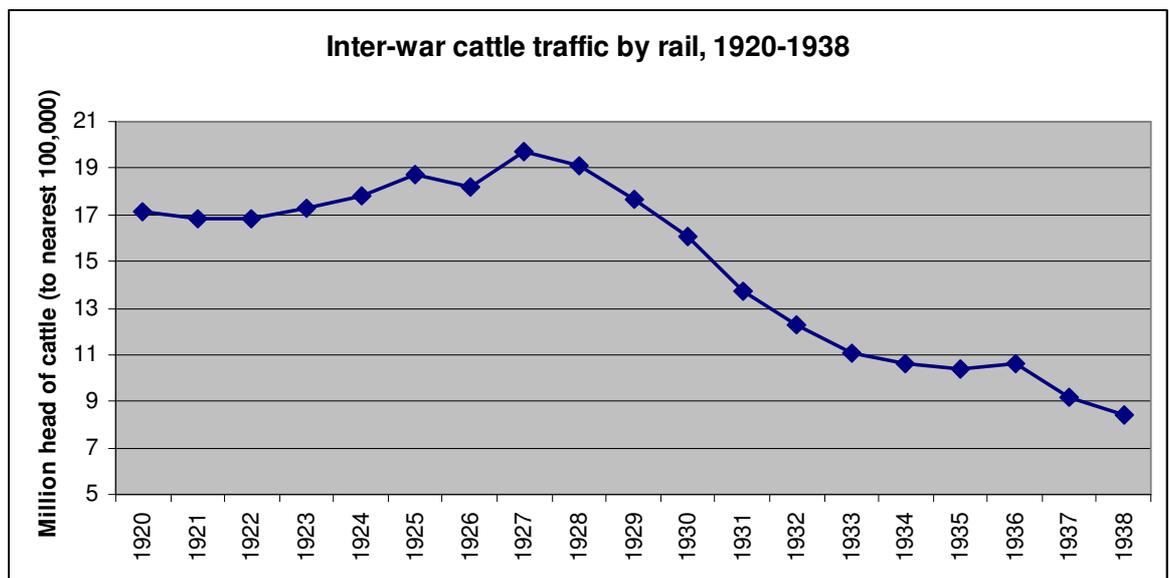
⁷⁰⁸ "The General Strike: How Smithfield Overcame the Difficulty," *The Meat Trades Journal and Cattle Salesman's Gazette*, LXII (May 20, 1926), p. 930.

⁷⁰⁹ "The General Strike," p. 930.

⁷¹⁰ MERL: SR NFU AD1/23, NFU Cyclo B. 74/25, Minutes of General Purposes Committee, 20.2.1926.

it is also possible to speculate that a proportion of this decline was caused by a transfer to road transport. The strike's effect upon meat distribution is also difficult to gauge, although it is possible to hypothesise that it reinforced lessons learned in 1919 regarding the reliability of the railways and the capabilities of road haulage, as wholesalers appeared more willing to employ insulated lorries on the longer-distance London import traffic. Whilst precise figures are unavailable, a sense of this shift is gained from the annual revenue received by the 'Big Four' railways from meat distribution, which decreased by £48,000 between 1925 and 1926 to £178,000, and a further £30,000 by 1927.⁷¹¹

Graph 16



Source: See Appendix 2, Table 16 (p. 307)

The decline might therefore be consistent with domestic traffic undergoing a modal shift from rail, a situation exemplified by the Southern Railway's service conveying imported meat from Southampton docks to Nine Elms goods. The reason for this was that the road operation offered a door-to-door service without transshipment for the 'final mile' to Smithfield, a process that rendered meat vulnerable to spoilage and pilferage.⁷¹² However, the competition prompted a shift from the railway industry's previous inertia; in 1928, the Southern developed an insulated demountable railway container, which could be sealed by the consigner and was less susceptible to damage caused by shock during shunting, a

⁷¹¹ Ministry of Transport, *Railway Returns* (London: HMSO, 1925-1927).

⁷¹² "New 'Containers' for Perishable Traffic," *Southern Railway Magazine*, VI (1928), p. 343.

problem which contributed to the failure of door seals on fixed-body wagons.⁷¹³ The scheme was detailed within the *Southern Railway Magazine*, which reported that the containers allowed higher prices to be realised for meat conveyed by rail, and reportedly allowed the company to claw back the traffic by 1929.⁷¹⁴ Whilst the benefits of the container are considered in detail by Keith Harcourt, specialist meat hauliers still attracted traffic at premium charges, implying that Britain's railway companies continued to face service-based competition from road transport for existing meat traffic.⁷¹⁵

Another change with the potential to improve the railway industry's position in livestock traffic came from the Conservative-led government. The government sanctioned local authority rebates in a scheme designed to support Britain's struggling staple industries and direct traffic to the railways. The scheme entitled the 'Big Four' companies to 25 per cent relief from local authority rates, of which part was being used to fund road construction and maintenance.⁷¹⁶ The concession was granted on the proviso that money was pooled into a fund from which certain traffics received a rebate on the standard rates charged by the railways; the Ministry of Agriculture and Fisheries reported that rates for nominated domestic traffics, including livestock, could be reduced by ten per cent.⁷¹⁷

The fact that **Graph 16** has already demonstrated a decline in livestock traffic between 1928 and 1929 suggests that the scheme's effect was limited; indeed, the traffic was vulnerable to market fluctuation, with the numbers carried declining between 1928 and 1934. Another reason for the decline may have been the logistical difficulty caused by the seasonality of the traffic, as highlighted in a *London and North Eastern Railway (LNER) Magazine* article published in 1929. Despite possessing 7,183 cattle wagons, cleaning meant that a round trip on the LNER could take six days, with the full complement of wagons rarely available to meet spikes in demand between August and October.⁷¹⁸ The article summarised that '...the heavy live-stock season tests the efficiency of our district stock control offices', and it is possible to surmise that the difficulty in meeting orders for wagons might have been another factor in the modal shift to road.⁷¹⁹

⁷¹³ K. Harcourt, "Railway Containers in the United Kingdom and Europe During the 1920s and 1930s" in *From Rails to Roads and Back Again? A Century of Transport Competition and Interdependency*, ed. R. Roth and C. Divall (Aldershot: Ashgate, 2015), p. 115.

⁷¹⁴ See "New Containers for Perishable Traffic," *Southern Railway Magazine*, VII (1929), pp. 50-51.

⁷¹⁵ See Harcourt, "Railway Containers in the United Kingdom and Europe During the 1920s and 1930s," pp. 109-132; "New 'Containers' for Perishable Traffic," p. 343; "Transporting Beef by Road," *The Meat Trades Journal and Cattle Salesman's Gazette*, LXIII, (May 27, 1926), p. 932.

⁷¹⁶ MERL: SR NFU AD1/23, 31 May 1928 Dobson to NFU.

⁷¹⁷ MERL: SR NFU AD1/23, 31 May 1928 Dobson to NFU.

⁷¹⁸ "Wagon Supply," *London and North Eastern Railway Magazine*, 18 (1928), p. 49.

⁷¹⁹ "Wagon Supply," p. 50.

Whilst wagon shortages provided grounds for complaint from consigners, it is possible to hypothesise that the railway industry's livestock policy was ultimately shaped by the economic challenges facing British agriculture after 1930. This is confirmed by an article produced by the LNER, which noted that cheaper imported beef offered '...serious competition in the higher grade home markets to prime English beef', which provides some indication of where the 'Big Four's traffic priorities lay and adds some credence to the farming community's suggestion that the railways were complicit in the domestic meat market's difficulties.⁷²⁰ However, another key spur for growth in the meat import trade by 1930 was the government's long-standing commitment to 'free trade', which became a major political issue throughout the economic depression.⁷²¹

4.7 Macro-economic policy and domestic livestock distribution

The challenging conditions facing Britain's livestock farmers during the early 1930s were exacerbated by the government's adherence to 'free trade', which suggests that legislative governance within the supply chain in relation to trade tariffs to protect the domestic trade was not necessarily benign. This is borne-out by the rising tonnage of imported meat since 1901, and its relative parity with domestic production by 1931, as already demonstrated in **Table 9** (p. 158). Whilst this indicates that the domestic industry was unable to produce enough meat to render Britain self-sufficient, the government's inclusion of the commodity in the Import Duties Act (1932) only partially eased the situation.⁷²² Although the Act imposed a ten per cent tariff upon most imported consumer goods, including beef and bacon, in the interests of protecting British industry from 'dumping', subsequent trade negotiations served to undermine its effectiveness.⁷²³

The fragmentation of Britain's agricultural industry and the lack of large domestic trading organisations capable of driving the governance of the domestic meat supply chain was thrown into relief at the Imperial trade conference at Ottawa between July and August 1932. Despite the NFU pressing for negotiated import quotas, the resultant trade agreement granted preferential tariffs for specific foodstuffs from Imperial sources.⁷²⁴ This provided scant protection for the domestic trade, as any supply deficit could be met by

⁷²⁰ J. G. Peters, "Imported Meat," p. 79.

⁷²¹ A. F. Cooper, *British Agricultural Policy, 1912-36: A Study in Conservative Politics* (Manchester: Manchester University Press, 1989), pp. 145-146.

⁷²² B. Short, *The Battle of the Fields: Rural Community and Authority in Britain during the Second World War* (Woodbridge: Boydell & Brewer, 2014), p. 17; Cooper, *British Agricultural Policy, 1912-36*, p. 144.

⁷²³ Import Duties Act, 22 & 23 Geo. V, 1932, c. 8; Cooper, *British Agricultural Policy, 1912-36*, pp. 45-47; R. Perren, *Agriculture in Depression, 1870-1940* (Cambridge: Cambridge University Press, 1995), pp. 31-40.

⁷²⁴ Short, *The Battle of the Fields*, p. 17.

meat from Australia and New Zealand; indeed, between 1932 and 1933 beef supplies from Empire sources increased by 35 per cent from 78,650 to 106,250 tons as supplies from elsewhere contracted by eight per cent from 489,750 to 449,800 tons.⁷²⁵ In consequence, the NFU complained that the concerns of British agriculture were ignored as the Ottawa Agreement gave ‘...Dominion producers an advantage in the British market over their foreign competitors’ and denied the home farmer ‘first place in his own market’.⁷²⁶

The railway industry also expressed concern about the performance of British agriculture, allowing one to assume that an impact upon traffic levels was being felt. An *LNER Magazine* article published in 1930 noted that whilst a depression in arable farming had precipitated a shrinkage in acreage under crop in favour of permanent grassland, this did not coincide with a proportionate increase in cattle numbers, reporting that a reduction in domestic cattle prices between 1927 and 1930 in line with global prices was affecting the sector because of its persistently high production costs.⁷²⁷ This had ramifications for Britain’s railways, as the NFU’s efforts to improve the livestock farmer’s position turned to the subject of rate reductions in May 1932, although the continuing downward slide in the traffic highlighted in **Graph 16** (p. 171) implies that this did little to arrest the decline in loadings.⁷²⁸

4.8 Railway and user investment in imported livestock and Palethorpe’s sausage traffic

With Britain’s fragmented livestock industry unable to employ effective supply chain governance and drive railway service enhancements for domestic traffic, it is possible to discern a shift in the railway industry’s focus towards import traffic, despite the challenges posed by varying shipping times, trading conditions and consumer preferences. This is evidenced by investment in port facilities, an example of which was the GWR’s improvement of its facilities at Cardiff Bute Docks in 1932 to cater for Canadian cattle.⁷²⁹ This included the construction of lairage, an auction mart, provision for weighing, chill room and abattoirs for cattle to be immediately slaughtered at the port, along with facilities

⁷²⁵ Short, *The Battle of the Fields*, p. 17; Cooper, *British Agricultural Policy, 1912-36*, p. 144. Data from Walworth, *Feeding the Nation in Peace and War*, p. 462.

⁷²⁶ MERL: SR NFU AD1/75, NFU Cyclo H. 135/2, “Agricultural Policy,” 21.10.1932.

⁷²⁷ J. C. Christie, “Agricultural Transport,” *London and North Eastern Railway Magazine*, 20 (1930), pp. 277-281.

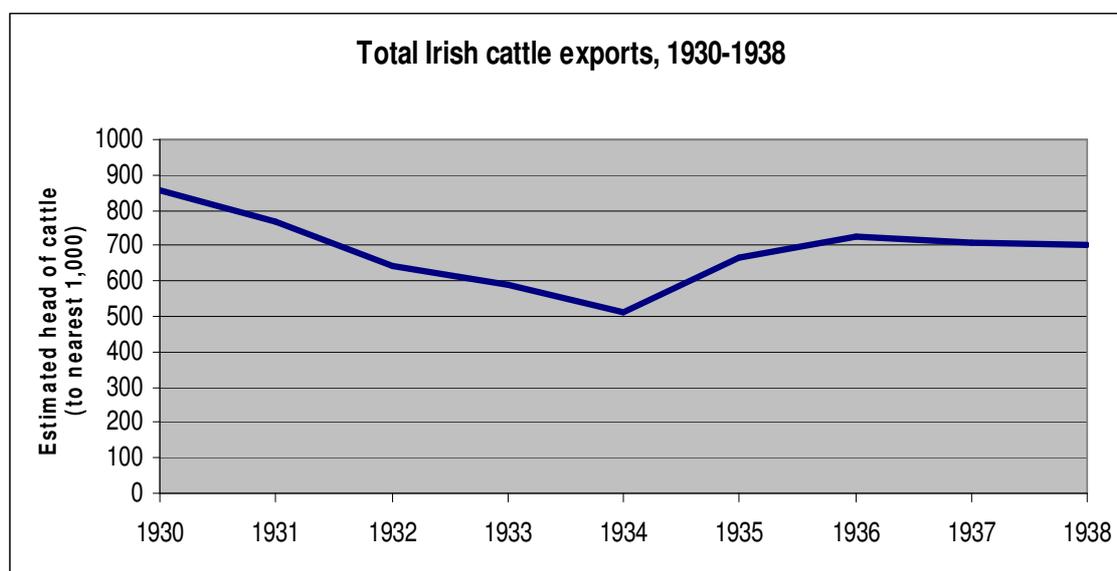
⁷²⁸ MERL: SR NFU AD1/80, NFU Cyclo J. 59/4, Minutes of Transport Committee, 16.5.1932.

⁷²⁹ “Development of the Cattle Facilities at Cardiff Bute Docks,” *Great Western Railway Magazine*, XLIV (1932), pp. 259-260.

for livestock and carcasses to be loaded directly into wagons for dispatch to the West Midlands, London and the South West.

Another example was an LMS-funded project to expand Dublin North Wall Dock cattle yard, completed in March 1935 and demonstrating how Britain's railway companies provided a coordinated sea and rail operation for its customers.⁷³⁰ However, despite its ability to house 1,170 cattle before transit across the Irish Sea, the financial viability of the project might be questioned in the light of a trade suffering the effects of the Irish Free State (Special Duties) Act (1932), which was the product of an economic dispute between Britain and southern Ireland.⁷³¹ Punitive duties of up to 40 per cent were imposed upon imports, which contracted from 835,000 head of cattle in 1930 to 641,000 in 1937, the effect being demonstrated above by the 1934 Irish export figures in **Graph 17**.⁷³²

Graph 17



Source: See Appendix 2, Table 17 (p. 308).

This investment contrasted with the railway industry's treatment of domestic meat processors. Although the potential for a regular flow of inputs for processing and the subsequent distribution of the finished products nationwide initially prompted the railways to attract traffic with the offer of permanently-allocated rolling stock, the 'locking-in' of the firm to railway distribution provided little incentive for further investment in developing the original service. Consequently, any development depended upon the firm's

⁷³⁰ "New Livestock Market at North Wall," *LMS Railway Magazine*, XII (1935), p. 258.

⁷³¹ Irish Free State (Special Duties Act), 1932, 22 & 23 Geo. V, c. 8. See also E. B. McGuire, *The British Tariff System* (London: Methuen & Co., 1939), p. 244.

⁷³² Walworth, *Feeding the Nation in Peace and War*, p. 460.

ability to negotiate and commit its own financial resources to obtain bespoke services, a comparable situation to that experienced by the milk trade. It is possible to hypothesise that such relationships were confined to large businesses in full control of a well-developed trade; their market position bestowing the necessary executive governance over their individual supply chains to leverage favourable terms for their logistical requirements.⁷³³

This is confirmed by a long-standing example of a ‘locked-in’ food processing firm, Palethorpes’ Sausages, which possessed a rail-connected factory at Dudley Port in the West Midlands with ready access to both the GWR and LMS networks. The history of its ‘perishable and urgent’ traffic is detailed in popular literature, which records that Palethorpe’s had made the decision to capitalise upon the logistical opportunities provided by the railways in 1852; consequently, the firm was able to receive live pigs from Ireland and expand the reach of its finished products to establish markets in London and the North East.⁷³⁴ Despite establishing a nationwide demand for its sausages, Palethorpe’s had to unilaterally seek any changes to its logistical operation that matched the strenuous efforts expended upon marketing its meat products in 1933.⁷³⁵

A lack of evidence makes it necessary to assume that Palethorpe’s negotiations with the GWR and LMS was underpinned by the threat of a modal shift to road haulage, thus prompting the railway companies to undertake steps to ensure the traffic remained rail-borne. Further negotiations in 1934 resulted in the creation of a flat-rate ‘agreed charge’ for Palethorpe’s consignments under a clause contained within the Road and Rail Traffic Act (1933) and described in chapter 2.⁷³⁶ The measure was administered by the Railway Rates Tribunal, which was granted the power to sanction or reject applications under the 1933 Act.⁷³⁷ Alongside exceptional rates, agreed charges thus provided a platform for competing with road transport by tying firms to rail distribution; in the case of Palethorpes, the scheme paved the way for further change when the firm authorised the LMS to design, construct and maintain eight innovative ice-cooled insulated vans to the firm’s specification in 1936. This was required investment on the part of Palethorpe’s, which was obliged to forward traffic by this means and pay an additional premium of £100 per wagon per annum to the railway company for a minimum of five years.⁷³⁸

⁷³³ Walker, *Road and Rail*, p. 61.

⁷³⁴ See “Your Sausages, Madam!,” *LMS Railway Magazine*, XIV (1937), p. 481; J. Dunn, “Palethorpe’s Sausages by Rail,” *Steam Days*, 302 (October 2014), pp. 633-641.

⁷³⁵ Dunn, “Palethorpe’s Sausages by Rail,” pp. 634-636.

⁷³⁶ Dunn, “Palethorpe’s Sausages by Rail,” p. 637; “Your Sausages, Madam!,” p. 481.

⁷³⁷ Walker, *Road and Rail*, p. 80.

⁷³⁸ TNA: RAIL 418/83, LMS Traffic Committee Minute No. 5301, 28.7.37.

4.9 Road regulation and railway collaboration

The Palethorpe's case demonstrates the challenges facing traders wishing to move beyond a basic railway service. However, **Table 10** (p. 181) has already demonstrated that livestock traffic continued to decline throughout the 1930s, thus removing the incentive for improving services. Aside from the ebb and flow of international trade, the railway industry's lukewarm attitude towards embarking upon measures to retain livestock transport might also have been informed by the lorry's ability to meet the farmer's needs. However, the free-rein enjoyed by road hauliers throughout the 1920s gave way to increasing regulation after the government-commissioned Salter Report into road and rail transport was published in 1932.⁷³⁹ The report proposed increased taxation for all road vehicles, which attracted an objection from the NFU as it threatened to negate any financial savings farmers had accrued from mechanization.⁷⁴⁰

The NFU's response to the Salter Report's conclusions in 1933 was unequivocal, and a letter to the Minister of Transport argued that British agriculture was 'vitaly dependent upon having ...the best and cheapest possible means of conveyance'.⁷⁴¹ The letter drew attention to the fact that by setting the terms for participation in road distribution, the Report's proposals risked making the agricultural sector a heavy tax contributor due to vehicle weight and load, which by extension affected price competition with imported produce. Whilst the NFU acknowledged the essential service provided by the railways, the existence of private hauliers would force them '...to provide the best facilities [at] the lowest charges they can afford to offer'.⁷⁴² These representations successful, as the Road and Rail Transport Act (1933) safeguarded the agricultural interest by retaining licensing discounts for agricultural road vehicles.⁷⁴³

Whilst road haulage consistently demonstrated its ability to overcome the challenges posed by Britain's fragmentary agricultural sector, the threat from road encouraged the railway industry to focus upon improving facilities for the meat trade. The 'Big Four' railway companies collaborated to develop efficient 'Common User' insulated wagons, handling equipment and expertise via the establishment of a joint Low

⁷³⁹ The implications of the Salter Report for transport are detailed in chapter 2.

⁷⁴⁰ See: TNA: RAIL 1124/239, Ministry of Transport Report on the Conference 29 Jul 1932, p. 8, p. 34; MERL: SR NFU AD1/75, NFU Cyclo H. 50/8, "Report of the Conference on Road and Rail Transport," 29.9.1932.

⁷⁴¹ MERL: SR NFU AD1/75, NFU Cyclo H. 50/8, "Report of the Conference on Road and Rail Transport," 29.9.1932.

⁷⁴² MERL: SR NFU AD1/75, NFU Cyclo H. 50/8, "Report of the Conference on Road and Rail Transport," 29.9.1932.

⁷⁴³ Road and Rail Traffic Act, 1933, 23 & 24 Geo. 5, c. 53.

Temperature Transport Committee (LTTC) in February 1936.⁷⁴⁴ The Committee was a clear example of the companies observing wider market developments; they recognised that ‘the modern treatment of perishable commodities ...indicated the growing necessity of the Railway Companies being in a position to afford a low temperature transport service when required’, with ‘the transit time ...in many cases the only interval remaining between producer and consumer when goods are not refrigerated’.⁷⁴⁵ The LMS had investigated the traffic since 1934, and became convinced that such facilities were essential for ‘retaining [the] traffic to rail’.⁷⁴⁶ The provision of a unified service was therefore essential in the promotion of bulk and long-distance meat transport.

Image 11



An LMS demountable insulated container being manually unloaded at Smithfield Market in 1938. The expansion of demountable insulated container use was one of the initiatives discussed by the inter-railway Low Temperature Transport Committee. Note the wholesaler’s lorry in the background. Source: National Railway Museum 1997-7409_LMS_8495.

The railways observed that specialist road hauliers were charging railway rates for the traffic, suggesting that users were willing to pay more for services that maintained product

⁷⁴⁴ National Railway Museum (NRM): C&W/MISC./7/Committee Minutes, Minutes of the Low Temperature Transport Committee, 19.3.1936.

⁷⁴⁵ NRM: C&W/MISC./7/Committee Minutes, Low Temperature Transport Committee, 19.3.1936.

⁷⁴⁶ NRM: C&W/MISC./7/Committee Minutes, Low Temperature Transport Committee, 19.3.1936.

quality; Palethorpe's paid £30 per week for ice refrigerant between May and September 1935.⁷⁴⁷ However, the railways remained hamstrung by the inconvenience of transshipment for the 'final mile' to the destination, whilst the potential solution offered by the demountable refrigerated container was hampered by the fact that it accounted for only ten per cent of total refrigerated rolling stock in 1936.⁷⁴⁸ Furthermore, one can speculate that a long-term relationship with firms such as Palethorpe's had placed the railways at a disadvantage, as operations were path-dependant with technology generally 'locked-in' to unloading in private sidings or public goods yards.

The 'Big Four' railways were therefore at a disadvantage when firms without a direct rail connection demanded a door-to-door service, with the work of the LTTC in 1936 appearing a belated response to the railway industry's need to adapt and compete. Although insulated containers such as that illustrated in **Image 11** above were available, a lack of figures relating to the specific container types in circulation before 1939 underlines the continued dependence upon the fixed-body wagon, and that little progress had been made in the years after the 1919 DSIR report into the meat operation called for greater cooperation between Britain's railway companies.⁷⁴⁹ Furthermore, the varying size and scale of meat importers meant that collaborative ventures with the railway companies were difficult to develop in comparison with processors. However, the German invasion of the Rhineland in March 1936 prompted concern for the nation's reliance upon imported food in the event of conflict and intense political interest was directed towards the resilience of the meat supply chain, which prompted the drafting of legislation to stimulate domestic production through subsidies and improvements in efficiency.

4.10 Rail in decline: the Livestock Industry Act (1937)

The Livestock Industry Act (1937) legislated for the creation of a Livestock Advisory Committee with powers to fix cattle prices, regulate imports and subsidise domestic production costs, thus providing a degree of much-needed stability for the cattle farmer.⁷⁵⁰ However, the Act went beyond the promotion of domestic agriculture, and included legislation for the holistic reorganisation, regulation and coordination of the meat

⁷⁴⁷ NRM: C&W/MISC./7/Committee Minutes, Low Temperature Transport Committee, 19.3.1936.

⁷⁴⁸ NRM: C&W/MISC./7/Committee Minutes, Low Temperature Transport Committee, 19.3.1936; "Handling Britain's Meat Supply," *LMS Railway Magazine*, XII (1935), pp. 6-7; Harcourt, "Railway Containers in the United Kingdom and Europe During the 1920s and 1930s," pp. 112-113.

⁷⁴⁹ See TNA: MT 6/2525/8, Department of Scientific and Industrial Research, *Food Investigation Board on the Design of Railway Wagons for the Carriage of Perishable Foods*; Harcourt, "Railway Containers in the United Kingdom and Europe During the 1920s and 1930s," p. 113, pp. 117-120.

⁷⁵⁰ Walworth, *Feeding the Nation in Peace and War*, pp. 479-480.

distribution network. This was to be achieved by establishing legislative governance over Britain's numerous and hitherto unregulated abattoirs, which were to fall under a uniform inspection regime, incorporate standardised meat-handling procedures and become concentrated into fewer, central locations.⁷⁵¹ The Act thus formalised a 1934 analysis of the American 'factory abattoir' by Lord de la Warr, which had experienced a profound change in the method of slaughter and the subsequent handling of meat following public outcry over insanitary conditions in 1906.⁷⁵²

With Britain's abattoirs similarly afflicted, and domestic meat being sold to a public increasingly 'divorced from the production of food', it was deemed necessary to follow the American example and reconfigure the supply chain to obtain the 'advantages of single control ...[and] uniform condition ...of the finished products'.⁷⁵³ This approach to distribution was intended to set the terms of market participation, and promote greater self-sufficiency by generating consumer demand for a quality domestic product.⁷⁵⁴ The Act also attempted to place hygiene at the heart of the meat trade, thus meeting the consumer's demand for product consistency and efficient marketing, and meeting the producer's desire to maximise income.

In the latter regard, road haulage, with its cost-plus pricing and flexibility to quickly adapt to changing situations, demonstrated a core advantage over the railway industry, whilst its flexibility as a unit of transport, whether used as part of a fleet or as a single unit, could be used to advantage despite the agricultural sector's lack of an organisation that exercised executive governance over the wider supply chain. The Act's goal of rebalancing the market in favour of domestic agriculture also cast uncertainty upon the future requirements for imported livestock and meat, which was better-suited to rail distribution than the localised and seasonal home trade.⁷⁵⁵ However, whilst immediate traffic loss was averted by the piecemeal implementation of the 1937 Act, it is possible to hypothesise that a general five per cent railway rate increase appears to have been decisive in determining modal shift in livestock transport.

This is confirmed by **Graph 4.4** (p. 171), which has indicated that the head of livestock carried by rail in 1938 had reduced by an estimated 810,726 since 1937. Whilst this reduction might be considered a response to the rate increase, the graph also shows a

⁷⁵¹ Livestock Industry Act, 1937, 1 Edw. 8 & 1 Geo. 6., c. 50; Walworth, *Feeding the Nation in Peace and War*, pp. 481-482.

⁷⁵² French and Phillips, *Cheated not Poisoned?* pp. 83-84.

⁷⁵³ French and Phillips, *Cheated not Poisoned?*, p. 83; Walworth, *Feeding the Nation in Peace and War*, p. 473.

⁷⁵⁴ Walworth, *Feeding the Nation in Peace and War*, p. 473.

⁷⁵⁵ Walworth, *Feeding the Nation in Peace and War*, p. 480.

longer-term decline of 39 per cent in the head of livestock conveyed between 1931 and 1938. Despite operating under a statutory obligation to provide ‘reasonable facilities’ for goods traffic, **Table 10** shows that the decline in livestock consignments prompted the ‘Big Four’ to adjust their facilities by taking 17 per cent of cattle wagons out of use.⁷⁵⁶ The conclusion that this was a traffic in decline is further supported by the fact that there was no contemporary enlargement of the wagon design, and the GWR made the decision to withdraw 300 cattle wagons standing idle in sidings for conversion into fruit vans.⁷⁵⁷ When coupled with the traffic’s logistical complexity, it is possible to conclude that the railways may have been willing to concede domestic livestock traffic to road haulage.

Table 10

Railway livestock traffic in decline: cattle wagon census, 1931-1938

Year	Number of cattle wagons
1931	19,484
1932	18,692
1933	18,525
1934	17,974
1935	17,354
1936	16,550
1937	16,757
1938	16,154*

Source: Ministry of Transport, *Railway Returns* (London: HMSO, 1932-1938)

(* = Estimated Figure)

The 1937 Act therefore had mixed implications for transport; the concentration of abattoirs might have achieved economies of scale through the bulking of livestock and meat before and after slaughter to ensure the dispatch of full loads. However, the Act also had ramifications for road and rail by attempting to govern the terms of market participation; hygiene in transport needed to be consistent with anticipated changes at the abattoir.⁷⁵⁸ The issue was complicated by the lack of cooperation between road and rail due to competition, as well as the ‘lock-in’ effect of previous railway investments, in which changes within the meat trade were not matched by design innovation. This was demonstrated by the endurance of equipment such as the ventilated container illustrated in **Image 12** below

⁷⁵⁶ Allen et al., *The Meat Trade Vol. II*, pp. 241-244.

⁷⁵⁷ “Demand and Supply: The Conversion of Special Traffic Vehicles,” *Great Western Railway Magazine*, XXI (1939), p. 345.

⁷⁵⁸ “Handling Britain’s Meat Supply,” p. 7.

when insulated versions were more flexible in reducing contamination during transit.⁷⁵⁹ In the event, the outbreak of the Second World War interrupted progress towards reorganising the trade and improving meat hygiene and quality standards.⁷⁶⁰

Image 12



Beef loaded in an LMS "M-type" ventilated container, 1936. The carcasses are protected by cloth sacking; also note the arrangement of carcasses on the floor, a practice which allowed full utilisation of wagon capacity, yet shows little consideration for hygiene beyond straw bedding. Source: National Railway Museum 1997-7409_LMS_7990.

4.11 War preparations and government control, 1938-1940

By improving the resilience of the domestic meat trade, the 1937 Act may be construed as an attempt to shore-up Britain's domestic livestock sector and encourage greater self-sufficiency in supplies. However, the German annexation of Austria in March 1938 diverted the government's attention away from domestic affairs towards meeting the rising threat of Nazism.⁷⁶¹ The implications of this was two-fold; firstly, the diplomatic situation

⁷⁵⁹ 'STR', "A 'Square Deal' - The Railways will get it if they Give it," *The Commercial Motor*, LXVIII (December 9, 1938), 580; "An Appeal from the Railways," *Modern Transport*, XL (November 26, 1938), p. 1.

⁷⁶⁰ "The Railway Demand: Conditional Support from Road Interests," *Modern Transport*, XL (December 3, 1938), p. 13.

⁷⁶¹ A. F. Wilt, *Food for War: Agriculture and Rearmament in Britain before the Second World War* (Oxford: Oxford University Press, 2001), p. 51, p. 87.

prompted a postponement of the Act's full implementation, particularly the reconfiguration of the slaughter industry. Secondly, emphasis had shifted towards defence planning, with government departments, including the Food (Defence Plans) Committee, adopting the railway network as the principal means of long-distance distribution in anticipation of fuel shortages affecting the availability of road haulage.⁷⁶² By 1938 the Committee was heavily engaged in effecting coordination between different government departments, and therefore delegated the detailed planning of short-distance distance meat distribution in wartime to the industry itself.⁷⁶³

The principal meat wholesaling firms were invited to devise emergency road haulage schemes for the bulk transfer of meat from ships to cold stores, emergency depots and, in the case of the London area, retailers.⁷⁶⁴ Provision was made for all '...movements which might prove necessary under war conditions', which demanded the flexibility '...to cope with any alterations at short notice in ports of arrival'.⁷⁶⁵ The scheme's secondary objective was 'to conserve petrol supplies and reduce transport costs to an irreducible minimum by economy in operation'.⁷⁶⁶ The meat wholesalers consequently developed a plan which entailed the voluntary pooling and central control of 1,241 lorries owned by the 200 firms involved. The plan was to create a Wholesale Meat & Provisions Transport (Defence) Association (WMPTA), which provided centralised control of operations, finance and remuneration, and liaison with other supply chain partners.⁷⁶⁷ Although the operational elements of the scheme were in place by March 1939, official government recognition of the Association was not confirmed until 11 August, whilst the process of payment to members was not in place when the scheme was implemented upon the outbreak of war on 3 September. However, the regulation of meat and livestock transport was to become more stringent as the government exercised greater control over the supply chain for the duration of the conflict.

The Ministry of Food's attention was initially focused upon asserting centralised control over the domestic trade and balancing meat supplies, with legislation passed to ensure that the market no longer determined demand. Executive governance over the supply chain was established by the Ministry, which became sole purchaser of livestock

⁷⁶² C. I. Savage, *History of the Second World War: Inland Transport* (London: HMSO, 1957), p. 63, p. 115, p. 378.

⁷⁶³ Wilt, *Food for War*, pp. 75-76, p. 103.

⁷⁶⁴ TNA: MAF 72/305, 20 October 1939 Wholesale Meat and Provisions Transport (Defence) Association Memorandum on the Present Position of the Meat Transport Pool and its Relations with the Ministry of Food, p. 2.

⁷⁶⁵ TNA: MAF 72/305, 20 October 1939 Memorandum on the Present Position, p. 1.

⁷⁶⁶ TNA: MAF 72/305, 20 October 1939 Memorandum on the Present Position, p. 1.

⁷⁶⁷ TNA: MAF 72/305, 20 October 1939 Memorandum on the Present Position, p. 2.

and devised a distribution system that could keep track of what was available for slaughter at any one time.⁷⁶⁸ The system entailed the appointment of existing livestock markets as government collecting centres, with farmers requested to select their preferred market for the duration of the war and to notify auctioneers of their intention to deliver fatstock twelve days in advance of sale.⁷⁶⁹ Furthermore, generous maximum prices were introduced to reduce price speculation, incentivise production and cover primary distribution costs, and were adjusted by the Ministry of Food to account for inflated production costs.

Following sale, livestock traffic was directed by Area Meat and Livestock Forwarding Officers (AMLFO) employed to determine whether rail or road offered the best means of transport to demand locations. To assist, the direct sale of animals to butchers was prohibited, whilst the slaughtering industry in England and Wales endured a forced contraction from 16,000 to 400 establishments as the terms of trade participation in wartime came under government control.⁷⁷⁰ This simplified meat allocation to abattoirs and processors and reduced pilferage, and the task of distributing the processed meat was administered by regional Wholesale Meat Supply Associations (WMSA), which issued permits to Retail Buying Committees. The latter were tied to the local WMSA, and meat supplies were allocated to butchers in proportion to registered customer ration cards.⁷⁷¹

4.12 Meat transport: adaptation and rationalisation, 1940-1943

Whilst the wartime road operation was being organised on a voluntary basis, another plan devised by the meat trade for supplying London had serious ramifications for the railways, as it was based upon the general assumption that Britain's railways would provide the backbone of wartime distribution due to its use of indigenous fuel. The scheme entailed the decentralisation of Smithfield market to depots at Ealing, Croydon, Romford and elsewhere to reduce disruption caused by aerial bombardment.⁷⁷² However, it revealed the railway industry's inflexibility when placed under strain, as it had hitherto worked with well-defined flows to long-term railheads such as Somerstown and Broad Street.⁷⁷³

⁷⁶⁸ Blagburn, *Lessons of War-Time Control*, pp. 5-6.

⁷⁶⁹ Blagburn, *Lessons of War-Time Control*, p. 5.

⁷⁷⁰ Blagburn, *Lessons of War-Time Control*, 8; Walworth, *Feeding the Nation in Peace and War*, p. 522.

⁷⁷¹ Walworth, *Feeding the Nation in Peace and War*, p. 552; TNA: MAF 88/165, 28 November 1941 Report on Economy Effected in the Use of Transport, p. 5.

⁷⁷² Savage, *Inland Transport*, p. 40, p. 44; R. Bell, *History of Britain's Railways During the War, 1939-1945* (London: *The Railway Gazette*, 1946), p. 97.

⁷⁷³ R. J. Hammond, *History of the Second World War- Food Vol. III* (London: HMSO, 1962), pp. 187-188.

Handling facilities and railway cartage services in the vicinity of the new depots were consequently overwhelmed by the autumn glut of Scottish meat.⁷⁷⁴

The logistical challenge was compounded by meat shortage in the winter of 1940-1941. The result was increased reliance upon imported meat, which depended upon the railway industry's ability to successfully adapt to the peaks and troughs in supplies caused by the arrival of ships in port at irregular intervals.⁷⁷⁵ Furthermore, shipping had been transferred to ports deemed less vulnerable to bombing on the west coast in September 1940, which caused severe dislocation and delay in shipping turnaround due to 'serious periodical shortages of insulated rail vehicles and containers'.⁷⁷⁶ With petrol rationing in place, the transfer of meat consignments normally arriving at the Port of London to Liverpool and elsewhere posed a serious challenge for Britain's railways.

Details of the challenge are confirmed within a Ministry of Food report, which highlighted that London required 5,000 tons of meat weekly to meet the ration when the railways handled only 1,000 tons under normal conditions; this meant that capacity for an extra 4,000 tons of meat needed to be found.⁷⁷⁷ The Railway Executive Committee (REC) was granted permission to supplement its combined fleet of 2,774 insulated wagons with 5,897 insulated containers and banana vans with steam heat equipment removed.⁷⁷⁸ Another challenge was the railways' limited ability to assist with distributing meat from the railhead, which had been undertaken by sheeted lorries under normal conditions. The time spent allocating meat to customers prolonged vehicle standing times, with assistance provided by the Wholesale Meat Transport Association (WMTA) to provide suitable insulated vehicles.⁷⁷⁹

The challenges facing meat distribution therefore presented an opportunity for rationalising rail and road haulage to create the wartime distribution network detailed in section 4.2. This is exemplified by the pooling of all insulated vehicles under 'Common User' principles to facilitate comprehensive national coverage, thus permitting the establishment of executive governance over all meat transport operations. Control of the pool at the ports was undertaken by the Meat Importer's National Defence Association

⁷⁷⁴ Hammond, *Food Vol. III*, p. 188.

⁷⁷⁵ Savage, *Inland Transport*, p. 40, p. 44; Bell, *History of Britain's Railways During the War*, p. 97.

⁷⁷⁶ TNA: AN 2/614, Undated (c. October 1940) Report by the Ministries of Food, Transport and Shipping, p. 1; Bell, *History of Britain's Railways During the War*, p. 97; R. J. Hammond, *History of the Second World War- Food Vol. I* (London: HMSO, 1951), p. 208.

⁷⁷⁷ Hammond, *Food Vol. I*, p. 136; TNA: AN 2/152/18, 3 November 1939 Memorandum of Meeting of Representatives of Operating and Goods Manager's Committees, p. 1.

⁷⁷⁸ Bell, *History of Britain's Railways During the War*, p. 97.

⁷⁷⁹ Formerly the WMPTA. TNA: MAF 74/160, Ministry of Food Notes of a Meeting Held on the 3rd May, 1940 to Consider the Provision by Railway Companies of Suitable Transport for the Conveyance of Frozen Meat from Inland Railway Stations to WMSA Depots and Cold Stores, p. 1.

Limited (MINDAL), an agency combining representatives from the Ministry of Food with the WMTA and the railways to allocate meat for transport by rail or road, once again demonstrating that market forces no longer determined demand.⁷⁸⁰ However, the voluntary organisation of transport ceased in April 1941 when the government pressed for further controls over long-distance road haulage. The WMTA was consequently absorbed by the Ministry of War Transport, the latter becoming the Ministry of Food's sole transport agent.⁷⁸¹

The Ministry of War Transport also introduced the 'zoning' of meat distribution to reduce cross-haulage, a process which caused further upheaval for meat conveyed from wholesaler to retailer and from retailer to consumer. The policy entrenched the localisation of supply, and Major Gwilym Lloyd George, Parliamentary Secretary to the Minister of Food, emphasised that '...livestock must now be consumed as near as possible to the collecting centre and imported meat as near as possible to the port of entry' to reduce cross-haulage.⁷⁸² *The Meat Trades Journal* recorded that the Ministry of Food also gave serious thought to forcing wholesalers with fewer than 25 retailer registrations to transfer their customers to another firm to concentrate resources and centralise demand; the problem was ultimately resolved through the dispatch of goods on nominated days⁷⁸³

The regulation of distribution to consumers was achieved through the pooling of retail vehicles, a complex task due to the irregularity of supplies and the need to distribute meat immediately.⁷⁸⁴ The Ministry of Food encouraged shoppers to assist by collecting their own shopping in order to limit the resources absorbed by home deliveries, with cross-haulage restricted through the voluntary demarcation of areas served by particular retailers to account for local requirements.⁷⁸⁵ However, *The Meat Trades Journal* indicated that progress was sometimes frustrated by the lack of cooperation from individual retailers; the Co-operative Wholesale Society (CWS) caused the collapse of a scheme to exclude vehicle deliveries within a two-mile radius of the centre of an unspecified Cheshire town in

⁷⁸⁰ Hammond, *Food Vol. I*, p. 208; TNA: AN 2/614, 13 November 1940 Discharge of Refrigerated Vessels, pp. 1-2; Bell, *History of Britain's Railways During the War*, p. 98.

⁷⁸¹ TNA: MAF 88/165, 28 November 1941 Report on Economy Effected in the Use of Transport, p. 5.

⁷⁸² HC Deb 23 July 1941, vol 373, col 885. Major Gwilym Lloyd George (1894-1967) was a son of David Lloyd George and served during the First World War before entering politics as Liberal Member of Parliament for Pembrokeshire in 1922. After serving on the Board of Trade, Lloyd George was appointed to several posts during the Second World War, including Minister of Fuel and Power. As Minister of Food in the post-war Churchill administration, Lloyd George oversaw the decontrol of food rationing. He was raised to the peerage as Viscount Tenby in 1957. "TENBY," *Who Was Who*, A & C Black, an imprint of Bloomsbury Publishing plc, 1920-2016; online edn, Oxford University Press, accessed 12 September 2016, <http://www.ukwhoswho.com/view/article/oupww/whowaswho/U51743>.

⁷⁸³ "Control Notes: Retail Deliveries," *The Meat Trades Journal and Cattle Salesman's Gazette*, CXVIII (January 8, 1942), p. 25.

⁷⁸⁴ "Control Notes: Retail Deliveries," p. 25.

⁷⁸⁵ "Control Notes- Rationing: Economy in Food Distribution," p. 25.

November 1942 by ignoring it, thus indicating the limit to which the diverse stakeholders within the meat supply chain could be governed, even in wartime.⁷⁸⁶

4.13 Crises in rail and road distribution, 1944-1947

Despite difficulties at the retail end of the supply chain, government intervention meant that an approximation of the transport coordination recommended by the Salter Report of 1932 had been achieved by 1944.⁷⁸⁷ However, it is also possible to hypothesise that the success of road haulage provided a catalyst for a post-war modal shift. This is confirmed by the challenges facing livestock distribution, as the prioritisation of military traffic during Allied offensives meant that tonnages of meat arriving at port declined.⁷⁸⁸ Consequently, domestic livestock was released for slaughter at an earlier age and after less fattening to maintain supplies and ease seasonal variation.⁷⁸⁹ Although the railways maintained an important role in conveying animals from Scotland for fattening in northern England throughout the conflict, the quicker turnaround in cattle breeding and slaughter made REC assurances that the railways could convey the traffic untenable.⁷⁹⁰ A meeting at the Ministry of War Transport on 16 March 1944 revealed that the railways lacked spare capacity because of the preparations for the Allied invasion of Northern Europe.⁷⁹¹

Crew and locomotive shortages reduced the circulation of cattle wagons, and forced the REC to request a diversion of traffic to road to ease the pressure upon railway resources; the result was the transfer of 80 per cent of livestock traffic to road transport by August 1944.⁷⁹² The ability of road haulage to shore-up livestock distribution might therefore explain reports that a request made by the Ministry of War Transport to return the traffic to the railways was not enthusiastically received by participants.⁷⁹³ Consequently, road hauliers associated with livestock and meat transport emerged from the Second World War in an advantageous position when compared with the railways. Despite operating

⁷⁸⁶ "Retail Delivery Schemes," *The Meat Trades Journal and Cattle Salesman's Gazette*, CXXI (November 5, 1942), p. 180.

⁷⁸⁷ TNA: RAIL 1124/239, Ministry of Transport Report on the Conference on Rail and Road Transport, 29 July 1932, p. 34.

⁷⁸⁸ L. Collingham, *The Taste of War: World War Two and the Battle for Food* (London: Penguin, 2012), pp. 110-111.

⁷⁸⁹ Martin, *The Development of Modern Agriculture*, p. 52.

⁷⁹⁰ TNA: MT 35/5, 21 March 1944 Fatstock from Scotland into Northern England.

⁷⁹¹ TNA: MT 35/5, 21 March 1944 Fatstock from Scotland into Northern England.

⁷⁹² TNA: MT 35/5, 2 August 1944 Booth to Thresh, p. 1.

⁷⁹³ TNA: MT 35/5, 12 September 1944 Movement of Livestock; TNA: MT 35/5, 2 June 1945 Livestock - Road Via - Rail.

under exceptional circumstances in relation to disruption caused by bombing, the railways had struggled to meet the expectations set by the pre-war planners from the outset.

However, the immediate post-war period presented challenges for road haulage, the first being a debate about the decontrol of meat transport after the election of the Labour government in July 1945. Although control through the Ministry of War Transport continued until 31 December 1946 to facilitate an orderly transition to peacetime operation, the government's plans for nationalising transport were not finalised.⁷⁹⁴ The continuation of meat rationing provided a reason for maintaining control until at least mid-1948, although the formation of a coherent policy was complicated by agitation from members of the pool of haulage operators that had been working under the auspices of the Ministry of War Transport since the dissolution of the WMTA in 1941.⁷⁹⁵

Although the Ministry of Transport wished to divest its controlling interest in livestock and meat transport, suggesting that the Ministry of Food should administer its own transport requirements, the latter insisted that the former should remain a party to any new contract because of its prior experience.⁷⁹⁶ The impasse continued until November 1946, when it was decided that the Ministry of Transport would remain the Ministry of Food's agent for negotiating contracts with the Meat Transport Organisation, Ltd. (MTOL), a new company established to '[coordinate] the activities of all Meat Transport Operators in London and the Home Counties, and certain other Operators whose main business is bulk movement with insulated transport throughout the country'.⁷⁹⁷ To minimise and resistance from hauliers, MTOL was exempted from absorption into the Road Transport Executive (RTE) under the Transport Act (1947) on grounds that that the RTE 'ought not to hamper itself with [controlling] the Meat Pool' whilst firms engaged in general long-distance goods haulage were being nationalised.⁷⁹⁸

Whilst disruption was averted, MTOL's operation was interrupted when 250 van drivers at Smithfield Market went on unofficial strike in January 1947. *The Commercial Motor* indicated that the Smithfield branch of the Transport and General Workers' Union was 'dissatisfied with a proposed award increasing their annual holidays from six days to nine days' when they had requested 14 days.⁷⁹⁹ Furthermore, the drivers disputed a

⁷⁹⁴ TNA: MT 35/73, 1 August 1946 Note of Meeting Held in Room 7045, Berkeley Square House, p. 1.

⁷⁹⁵ TNA: MT 35/73, 1 August 1946 Note of Meeting, pp. 2-3.

⁷⁹⁶ TNA: MT 35/73, 8 August 1946 Transport of Meat and Livestock, pp. 1-2.

⁷⁹⁷ TNA: MT 35/73, 28 May 1948 Meat Transport Organisation, Limited, p. 1.

⁷⁹⁸ Transport Act, 1947, 10&11 Geo. 6, c. 49, s. 52(1a); "More on the Meat Transport Pool," *The Commercial Motor Magazine*, LXXXIV (January 10, 1947), 558; TNA: MT 35/73, 2 July 1948 Untitled Memorandum, p. 2.

⁷⁹⁹ "News of the Week: Big Haulage Strike," *The Commercial Motor Magazine*, LXXXIV (January 10, 1947), p. 557.

recommendation made by the Road Haulage Central Wages Board, an organisation established in 1940 under the Road Haulage Wages Act (1938) to set pay levels, for employers to reject a reduction in the working week from 48 to 44 hours without loss of pay.⁸⁰⁰ The government responded by employing troops in a skeleton distribution service, which resulted in 28,000 market, dock and haulage personnel joining the stoppage nationwide in protest against the use of substitute labour.⁸⁰¹

Although the strike's immediate impact was reported to be the loss of around 50 tons of food, its scale paralleled the 1926 General Strike.⁸⁰² In the case of London, the stoppage meant that 103 ships were held for up to three days each as they were unloaded by troops.⁸⁰³ The situation therefore inevitably '[interfered] with the equitable distribution of the meat ration', with 80 per cent of London's meat ration allocation not honoured; it also demonstrated the extent to which Britain relied upon road transport for its food supply.⁸⁰⁴ It was also emblematic of the state of Britain's post-war economy as a whole, as the Labour government was using existing powers to regulate the economy and control production, demand and encourage wage restraint to overcome a balance of payments crisis, and presaged the passing of another example of legislation with ramifications for the transport of livestock and meat by rail and road haulage: the Agriculture Act (1947).

4.14 The post-war causes of modal shift: legislation, decontrol and the ASLEF rail strike, 1947-1955.

The Agriculture Act (1947) was a crucial factor governing the modal shift of livestock distribution from rail to road. Firstly, the legislation was designed to improve Britain's balance of payments by providing minimum price guarantees to stimulate domestic agricultural production, thereby threatening the volume of meat and livestock imports carried by rail.⁸⁰⁵ This appears to be confirmed by government statistics, as beef and veal imports as a proportion of total supplies declined by 7 per cent between 1946 and 1950,

⁸⁰⁰ P. Smith, "The Road Haulage Industry 1918-1940: The Process of Unionization, Employers' Control and Statutory Regulation," *Historical Studies in Industrial Relations*, 3 (March 1997), pp. 73-74.

⁸⁰¹ "London's Meatless Week," *The Meat Trades Journal and Cattle Salesman's Gazette*, CXXX (January 16, 1947), p. 198.

⁸⁰² HC Deb 29 January 1947, vol 432, c199W.

⁸⁰³ See P. Smith, *Unionization and Union Leadership: The Road Haulage Industry* (London: Continuum, 2001) and Smith, "The Road Haulage Industry 1918-1940," p. 50.

⁸⁰⁴ HC Deb 27 January 1947, vol 432, c129W; "London's Meatless Week," p. 47.

⁸⁰⁵ Agriculture Act, 1947, 10 & 11 Geo. 6, c. 48; Martin, *The Development of Modern Agriculture*, p. 70, p. 75.

indicating that meat imports were in decline as domestic output rose.⁸⁰⁶ Secondly, the Agriculture Act (1947) appears to have encouraged the newly-nationalised British Railways (BR) to invest in new cattle wagons between 1948 and 1952, as **Table 11** demonstrates. However, and more importantly for the shift from rail to road, the price guarantees enabled farmers to invest in agricultural machinery, which resulted in a 56 per cent rise in agricultural lorries in England and Wales between 1946 and 1950.⁸⁰⁷

Table 11

Abstract of livestock conveyed by rail, ventilated and refrigerated containers and agricultural lorries, 1946-1962

	Head of Livestock Conveyed by Rail	Livestock Wagons	Ventilated Containers	Insulated Containers	Agricultural Lorries (2 Tons and Over)
1946	-	12,206	-	-	17,410
1948	1,391,822	11,809	531	2,459	30,243
1950	1,868,918	12,623	578	2,908	34,013
1952	2,262,882	13,108	584	3,420	33,397
1954	2,479,605	12,946	796	3,652	30,557
1956	1,488,135	11,519	820	4,292	29,090
1958	1,431,509	6,680	1,243	4,878	29,230
1960	1,019,978	5,138	1,286	4,453	27,095
1962	-	4,409	-	-	28,480

Sources: British Transport Commission, *Reports and Accounts* (London: HMSO, 1948-1962); Ministry of Agriculture, Fisheries and Food & Department of Agriculture and Fisheries for Scotland, *A Century of Agricultural Statistics: Great Britain, 1866-1966* (London: HMSO, 1968).

The post-war peak in the number of livestock conveyed by the railways was 2,729,147 in 1953.⁸⁰⁸ Although **Table 11** implies that this occurred during a period of high lorry availability, the number conveyed by rail decreased by 9 per cent between 1953 and 1954 as Britain's total livestock population rose by approximately 2.5 per cent from 25,891,000 in 1953 to 26,531,000 in 1954.⁸⁰⁹ This appears to confirm that a modal shift was taking place in favour of road haulage, as the number of agricultural lorries increased by 67 per

⁸⁰⁶ H. F. Marks and D. K. Britton, *A Hundred Years of British Food and Farming: A Statistical Survey* (London: Taylor & Francis, 1989), p. 205; Perren, *Taste, Trade and Technology*, p. 159.

⁸⁰⁷ B. A. Holderness, *British Agriculture Since 1945* (Manchester: Manchester University Press, 1985), pp. 14-15; Martin, *The Development of Modern Agriculture*, p. 73.

⁸⁰⁸ British Transport Commission, *Reports and Accounts* (London: HMSO, 1954).

⁸⁰⁹ See: Ministry of Agriculture, Fisheries and Food & Department of Agriculture and Fisheries for Scotland, *A Century of Agricultural Statistics: Great Britain, 1866-1966* (London: HMSO, 1968).

cent between 1946 and 1956, although the author has found no evidence about the specific use of these vehicles. The head of cattle conveyed by rail failed to increase with the decontrol of meat rationing in 1954, which was accompanied by the disbandment of MTOL and the creation of United Carriers Ltd., a co-operative haulage organisation comprised of former MTOL members.⁸¹⁰ A rough indicator of BR's performance in the meat trade is gained from the insulated and ventilated container fleet; **Table 11** indicates that the former experienced a 46 per cent expansion. However, this percentage may have been distorted by containers intended for other traffics such as ice-cream, another commodity benefitting from the suspension of rationing.⁸¹¹

The expansion and consolidation of livestock and meat haulage by road allowed the distribution of Britain's meat supply to continue uninterrupted when the Associated Society of Locomotive Engineers and Firemen (ASLEF) called for strike action in May 1955, as described in chapter 2.⁸¹² Trade reportage on the strike also appears to confirm that the railway operation was considered a liability, as *The Meat Trades Journal* noted that the 'rail strike ...does not appear to have affected Smithfield to any appreciable extent', and warned that as 'road transport has filled the breach, ...[it] will mean a direct loss to the railways even when the strike is over'.⁸¹³ The strike also restricted the Irish store cattle trade to port areas only; the resumption of a normal service was dependant upon BR's priorities, particularly as the disruption to passenger traffic received media attention.⁸¹⁴

It is possible to hypothesise that the 1955 strike was a decisive factor in the modal shift of livestock from rail to road, with the number of cattle wagons declining by 11 per cent between 1954 and 1956; indeed, BR's much-publicised 'Modernisation Plan' contained little evidence of investment in livestock traffic.⁸¹⁵ Whilst no official explanation has been found by the author, the lack of promotion may have been deliberate, as the wide geographical spread of domestic livestock traffic fell foul of the railway management's desire to concentrate freight operations at fewer terminals to cut operating costs.⁸¹⁶ The modernisation of freight services also presented the railway management with an opportunity to experiment with 'management accounting' on specific traffic flows which

⁸¹⁰ "New Meat Haulage Company," *The Commercial Motor Magazine*, XCIX (7 May 1954), p. 421.

⁸¹¹ I. Zweiniger-Bargielowska, *Austerity in Britain*, pp. 29-31.

⁸¹² "London Notes," *The Meat Trades Journal and Cattle Salesman's Gazette*, CLVIII (June 2, 1955), p. 712; T. Gourvish, *British Railways: A Business History, 1948-1973*, pp. 214-225.

⁸¹³ "London Notes," p. 712; "The Strike and Smithfield," *The Meat Trades Journal and Cattle Salesman's Gazette*, CLVIII (June 9, 1955), p. 779.

⁸¹⁴ "Irish Cattle Trade Affected by Rail Strike," *The Meat Trades Journal and Cattle Salesman's Gazette*, CLVIII (June 2, 1955), p. 718.

⁸¹⁵ British Transport Commission, *Modernisation and Re-equipment of British Railways* (London: Curwen Press, 1955), p. 26; D. N. Clough, *The Modernisation Plan: British Railways' Blueprint for the Future* (London: Ian Allan, 2014), pp. 149-151.

⁸¹⁶ British Transport Commission, *Modernisation and Re-equipment of British Railways*, pp. 21-23.

incorporated traffic-level budget and account techniques, with traders charged rates that better reflected the overall cost of service provision.⁸¹⁷

4.15 The decline of domestic livestock and meat by rail, 1955-1968

John Quail argues that BR's attempts to implement management accounting had resulted in a 'collision between [its] desirability and the intractable practical reality of railway practice' following nationalisation in 1948, which stemmed from the railway industry's entrenched sense of obligation towards assisting traders in times of economic crisis.⁸¹⁸ However, the improved outlook for British agriculture in the years following the Agriculture Act (1947) removed the pressure to subsidise the sector by maintaining cheap rates, and allowed BR to adopt a more businesslike approach towards livestock traffic. The Transport Act (1953) made general rates increases easier to facilitate, a series of which were implemented between 1955 and 1962.⁸¹⁹ This coincided with a 62 per cent reduction in the livestock wagon fleet highlighted above in **Table 11** (p. 190), and suggests that BR had little desire to make concessions for retaining the domestic traffic.

The reconstitution of BR into the British Railways Board (BRB) under the Transport Act (1962) was accompanied by the repeal of nineteenth-century legislation determining the railway industry's statutory obligation to provide 'reasonable facilities' for conveying traffic submitted.⁸²⁰ In consequence, the BRB informed the NFU that it was minded to concentrate upon the import traffic from Holyhead, Fleetwood and Heysham; the official downgrading of the traffic is evidenced by the fact that the quantity of livestock conveyed by rail was no longer reported in official statistics after 1963.⁸²¹ Furthermore, Dr. Richard Beeching's recommendation to close rural railway stations and goods facilities in his *Reshaping of the Railways* report in 1963 merely sealed the terminal decline of domestic livestock traffic.⁸²² Despite protests from local authorities, 90 per cent of locations equipped for handling livestock were closed by the BRB throughout 1963.⁸²³

⁸¹⁷ J. Quail, "Accounting's Motive Power- The Vision and Reality for Management Accounting on the Nationalised Railways to 1959," *Accounting, Business & Financial History*, 16 (2006), pp. 425-426.

⁸¹⁸ Quail, "Accounting's Motive Power," p. 426.

⁸¹⁹ Gourvish, *British Railways*, p. 184.

⁸²⁰ See Transport Act, 1962, 10 & 11 Eliz. 2, c. 46, s. 43(3); Gourvish, *British Railways*, p. 330.

⁸²¹ "Rail to Cut Livestock Stations to 50," *The Commercial Motor Magazine*, 119 (July 3, 1964), p. 76; British Railways Board, *Report and Accounts: 1963* (London: HMSO, 1964), p. 52.

⁸²² Gourvish, *British Railways*, p. 336.

⁸²³ "Rail-to-Road Switch is Vast," *The Commercial Motor Magazine*, 119 (February 28, 1964), p. 23.

However, whilst this attempted to rationalise the service in the light of the continuing diversion of traffic to road as a result of the increasing range, speed and quantity of vehicles, the BRB was also facing a contraction of its fresh and frozen meat traffic in 1964, which had reportedly declined by 206,000 tons between 1952 and 1962.⁸²⁴

This situation had emerged for several reasons, with the executive governance being exercised by the emerging supermarket over the entire supply chain and changes in consumer habits having profound implications for meat transport. Firstly, the service offered by the railways was no longer competitive with road due to excessive handling and out-dated rolling stock, with *The Commercial Motor* noting that BR was slow in ‘...[developing] a more satisfactory meat container with greater capacity than the present two tons’, particularly as mechanical refrigeration had been developed for inland transport applications in America and Europe.⁸²⁵ Secondly, changing living standards placed greater emphasis upon the deskilling of cooking, with consumer demand shifting away from unprepared ‘straight foods’.⁸²⁶ In consequence, supermarket chains horizontally integrated items previously sold by specialist retailers; in the case of meat, this encouraged the production of hygienic, pre-prepared and packaged meat near the point of slaughter, thereby removing the need for the transport of carcasses in bulk.⁸²⁷

It is also possible to hypothesise that the modal shift was in part assisted by the expanding motorway network, which created an alternative trunk network for goods carriage. Whilst it has not been possible to quantitatively establish its precise effect upon the meat trade, qualitative observations can still be made. A key concern for the supermarket and meat trade was the timing of distribution, and the opening of 80 miles of the M6 between Stafford and Preston in 1965, which traversed cattle grazing areas in Cheshire, Lancashire and Staffordshire and passed within 30 miles of Birkenhead docks, reduced journey times over the section from four hours in 1945 to 2.6 hours.⁸²⁸ The trade could therefore benefit from the improved connections between ports, agricultural and urban regions, whilst retailers could receive timely deliveries by road without the terminal costs and timetable inflexibility associated with rail transport.⁸²⁹

⁸²⁴ “Rail-to-Road Switch is Vast,” p. 23.

⁸²⁵ “Rail-to-Road Switch is Vast,” p. 23; J. L. Rogers and R. Binstead, *Quick-Frozen Foods, 2nd Edition* (London: Food Trade Press Ltd., 1972), pp. 146-148.

⁸²⁶ Rogers and Binstead, *Quick-Frozen Foods*, p. 3.

⁸²⁷ H. W. Boyd, Jr. and I. Piercy, “Retailing in Britain,” *Journal of Marketing*, 27 (1963), p. 33; “Wholesale Packaging Will Help Supermarkets,” *The Meat Trades Journal and Cattle Salesman’s Gazette*, CLXXXVI (June 28, 1962), p. 909.

⁸²⁸ Journey times estimated according to the speed limits for goods vehicles in 1945 (20mph) and 1965 (30mph).

⁸²⁹ D. A. Quarmby, “Developments in the Retail Market and their Effect on Freight Distribution,” *Journal of Transport Economics and Policy*, 23 (1989), p. 76.

This complements the second of the motorway's attributes, namely the provision of a heavily-engineered road network free from urban congestion.⁸³⁰ In achieving this, the motorway facilitated a restructuring of the meat wholesale trade away from long-established centralised markets in crowded urban districts to out-of town and retailer-owned regional warehouses, with direct links to the road network permitting door-to-door conveyance to outlets, as the post-1960s supply chain diagram indicates in section 4.2. This flexibility created further scope for retailer involvement in the distribution process, as third-party haulage firms could be employed to curb supplier-organised distribution and develop new schemes meeting the retailer's specific requirements.⁸³¹ The change was driven by the economies of scope offered by the lorry, as developments in mobile refrigeration technology allowed hauliers to readily diversify into general food haulage; it can therefore be argued that this, coupled with the BRB's inability to afford to adapt to a retailer-governed supply chain, underpinned the modal shift being experienced in meat transport by 1968.⁸³²

4.16 Conclusion

The transport challenges facing the domestic meat trade closely resemble those of other perishable food commodities such as milk, with the most obvious being the geographic locations of supply and demand, as well as the potential for contamination of freshly slaughtered meat. However, whilst the basic logistical problems of speed, distance and service are common with other food commodities, meat distribution diverged from milk in the degree of supply chain fragmentation. The lack of organisations exercising executive governance within the agricultural and wholesale sectors between 1919 and 1939 meant that notwithstanding the notable exception of firms such as Palethorpe's, the domestic meat industry depended upon the railway industry's ability to provide 'common user' vehicles whenever long-distance transport was required.

Another characteristic of the period under review was the pressure to establish plentiful supplies of cheap food when there was a disparity between retail and production costs in the domestic market. When coupled to domestic agriculture's inability to fully meet consumer demand for meat products, the latter problem was exacerbated by cheaper chilled and frozen meat imports. The situation thus prompted allegations against railway

⁸³⁰ "Rail-to-Road Switch is Vast," p. 23; "The Changing World of Meat Transport," *The Commercial Motor*, 128 (November 29, 1968), p. 56; Rogers and Binstead, *Quick-Frozen Foods*, p. 20.

⁸³¹ Quarmby, "Developments in the Retail Market and their Effect on Freight Distribution," pp. 75-76.

⁸³² "The Changing World of Meat Transport," p. 56.

companies favouring the import merchant over the domestic farmer. However, the higher volume of meat and livestock traffic generated at Britain's ports were generally better-suited to rail distribution, and permitted import merchants access to cheaper bulk rates for long-distance traffic. However, the proximity of demand with supplies of imports delivered by road from cold storage in port cities such as London supports the argument that the railways were less critical to the overall supply situation than at first glance.

The domestic livestock market was susceptible to external economic pressures driving down prices, whilst the lack of supply chain governance via an effective produce marketing board prevented the pooling of resources which could have been directed towards improving the service provided by the railways on long-distance hauls. When placed in the context of the supply chain diagrams discussed in section 4.2, the import trade merely added to the already complex flows of inputs and outputs within the meat trade. The result was the need for a fleet of railway vehicles that met seasonal variations in both domestic and imported long-distance livestock traffic, and were free from maintenance and contamination issues. Although these were covered by government legislation, the difficulty the railways experienced in delivering a basic service was a perennial source of complaint throughout the interwar period.

The evidence suggests that trade participants reassessed their relationship with the railways in the wake of disruption caused by industrial action. With strikes taking place in 1919, 1926 and 1955, livestock and meat traders increasingly looked to alternative forms of transport to obtain service quality and reliability; the ready availability of road facilities since 1919, though subject to similar design regulations to rail, offered the added benefit of door-to-door conveyance. In this respect, the overall flexibility of the lorry and its economy for short and medium-distance hauls of up to 80 miles provided a means of overcoming the fragmentation of the meat trade amongst its multiple supply and demand centres, whilst its economy of scope permitted service improvements without the inconvenience of negotiating terms with the technologically path-dependent railways.

The lorry's economy of scope whilst serving both the livestock and meat industries was demonstrated during the Second World War, which again highlighted the limitations of rail transport. The combination of service unreliability, the challenges posed by the geography of supply and demand all worked in favour of road haulage. The post-war years, with the introduction of price guarantees for agricultural produce under the Agriculture Act (1947), saw an explosion in agricultural lorry use, partly caused by the railway industry's inability or unwillingness to adapt both before and after nationalisation. Indeed, the reticence of BR to offer anything new in the 1955 Modernisation Plan and its

subsequent pricing-out of the domestic livestock trade appear decisive in hastening its transfer to road conveyance after the ASLEF strike of that year; the mass-closures of livestock-handling facilities in 1963 thus marked the conclusion of a long-term decline.

In the case of the meat trade, the rising influence of the supermarket chain in the supply chain compensated for the fragmentary nature of the meat trade by exercising executive governance over distribution operations as a corollary of the horizontal integration of previously specialist food products as part of a wider move to drive-down retailing costs, a process detailed in chapter 6. The transition from an inefficient, producer-driven supply chain to a more streamlined and cost-focused retailer-driven supply chain is an important theme in food distribution, being the product of a willingness by food retailers to take advantage of new opportunities such as the development of the motorway network. This characteristic is particularly evident within Britain's confectionery industry, and the evolution of Rowntree's distribution operation is the focus for the next chapter.

Chapter 5 - Distributing confectionery: Rowntree, 1919-1975

5.1 Introduction

Chapter 4 has indicated that the lack of oversight within the livestock and meat sectors was no barrier to a modal shift from rail to road. Factors such as the regulation of trade, frequency of dispatch and the travel-worthiness of the commodity were key to effective distribution, yet the fragmentation and economic fragility of the domestic and imported livestock and meat trades created conditions for competition between rail and road on grounds of handling costs and service reliability. The same basic themes of structure and agency can be ascertained in the British food manufacturing industry's attitude to transport, as the addition of value to raw ingredients through processing into new, individually marketable food products meant that the maintenance of quality, flexibility, coordination and cost-effectiveness in distribution was high on the agenda.

Whilst the existing literature focuses mainly upon the business and social histories of Britain's three major confectionery firms, it also tends to be Cadbury-centric. Chris Smith, John Child and Michael Rowlinson's *Reshaping Work* focuses upon the influence of individuals in organisational change, whilst John Bradley presents an overview of the firm's frequent shifts in direction in its pursuit of increasing market share; its merger with Fry, and its performance within a tough economic climate.⁸³³ Deborah Cadbury's *Chocolate Wars* is representative of the popular histories conveying a social-historical perspective of the development of Cadbury, reflecting upon how the Quaker roots of the firm's founders influenced its development and engagement with the competition.⁸³⁴

A Cadbury/Fry focus is also replicated in the transport and enthusiast literature, which in turn displays a degree of preference towards the firm's railway distribution operations.⁸³⁵ In contrast, Rowntree is little-studied, although Robert Fitzgerald's business history of the firm makes an important contribution towards rebalancing the story of

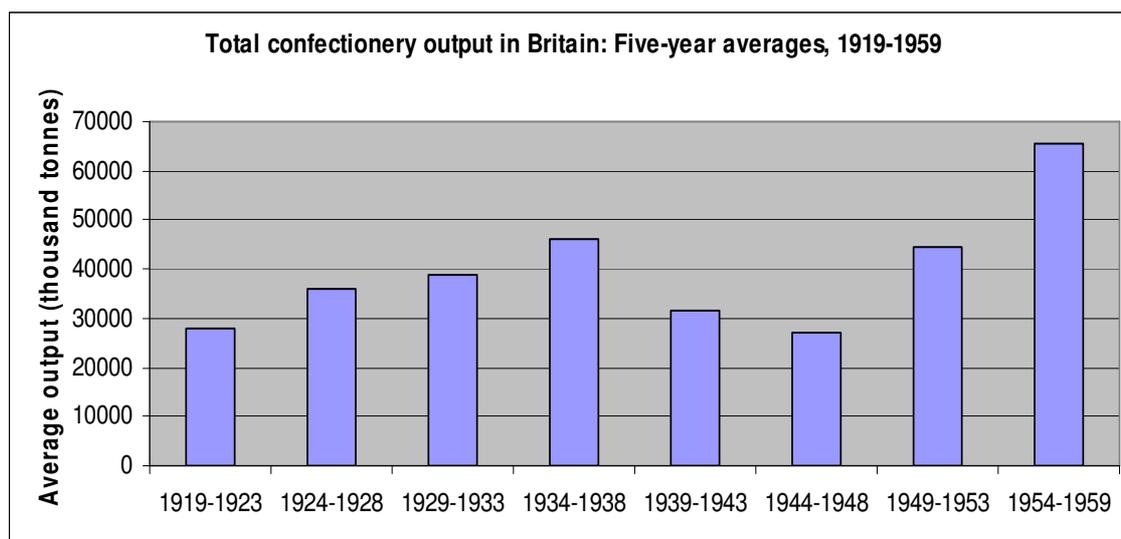
⁸³³ J. Bradley, *Cadbury's Purple Reign: The Story behind Chocolate's Best-Loved Brand* (Chichester: John Wiley, 2008); C. Smith, J. Child and M. Rowlinson, *Reshaping Work: The Cadburys Experience* (Cambridge: Cambridge University Press, 1990).

⁸³⁴ D. Cadbury, *Chocolate Wars- From Cadbury to Kraft: 200 Years of Sweet Success and Bitter Rivalry* (London: Harper Press, 2011). See also G. Wagner, *The Chocolate Conscience* (London: Chatto and Windus, 1987).

⁸³⁵ D. Sharpe, *Railways of Cadbury and Bournville: The Story of the Railway System in the Chocolate Factory and the Midland Railway Engine Shed* (Birmingham: Bournbrook Publications, 2002); R. Leitch, *The Railways of Keynsham featuring Fry's Chocolate Passenger & Freight Operations* (Long Stratton: Railway Correspondence and Travel Society, 1997).

confectionery manufacturing in Britain.⁸³⁶ However, Fitzgerald’s principal focus is upon the marketing strategies adopted to bring Rowntree’s product ranges into the public consciousness. Similarly, aside from two publications by the Industrial Railway Society, comparatively little attention has been given to the firm’s railway distribution operation, thus presenting an opportunity for the chapter to explore Rowntree’s relationship with rail and road transport.⁸³⁷

Graph 18



Source: See Appendix 2, Table 18 (p. 308).

Britain’s chocolate and sugar confectionery industries between 1919 and 1975 experienced a transition to the mass production of a branded luxury food product within a concentrated national market. Such concentration placed the larger confectioners in a position to exercise governance over their respective supply chains to drive-down costs and hence ensure lower retail prices, as described by Vaughn White in his thesis on cost accounting in the British confectionery industry.⁸³⁸ Consequently, the trade experienced broadly rising popular appeal, as evidenced by the output of Britain’s manufacturers in **Graph 18**, which, notwithstanding the Second World War, indicates growing output between 1919 and 1959. Precisely how the drive to reduce overheads influenced transport usage is a salient point of this chapter, which uses material from the Rowntree-Borthwick archive to determine the

⁸³⁶ R. Fitzgerald, *Rowntree and the Marketing Revolution, 2nd Edition* (Cambridge: Cambridge University Press, 2006); V. White, “A Historical Study of the Role of Cost Accounting on Performance in the UK Confectionery Market: The Experience of Cadbury and Rowntree, 1919-1938,” (PhD thesis, University of York, 2014), p. 1.

⁸³⁷ R. R. Darsley, “Rowntrees of York,” *Industrial Railway Record*, 43 (June 1972); R. R. Darsley, *Industrial Railways of York* (Guisborough: Industrial Railways Society, 1994).

⁸³⁸ White, “The Role of Cost Accounting on Performance in the UK Confectionery Market,” pp. 260-262.

pace of modal shift in confectionery traffic. It also examines how the long-running relationship with the railways, which had been instrumental in facilitating market expansion during the late nineteenth century, was affected by strike action, and how consequent experimentation with road haulage during the early 1920s secured a permanent place within Rowntree's distribution operation, as **Figure 9** (p. 201) demonstrates.

The Rowntree material is also supplemented by an examination of some logistical developments undertaken by Cadbury and Fry to obtain a broader perspective. Articles from *The Commercial Motor* also provide insights into the development of road distribution in confectionery, whilst the effect of rising railway rates, fuel costs and market fluctuation during the inter-war period are considered. As with milk and meat, the effects of the wartime government's assertion of legislative governance over the confectionery supply chain upon transport is explored, particularly as it set the terms of trade participation for the duration of the conflict.⁸³⁹ Finally, the chapter will also consider how transport nationalisation, the retail multiple's rising influence within the supply chain and the concurrent growth of the British motorway network drove change within Rowntree's distribution operation between 1945 and 1975.

5.2 Rowntree's confectionery supply chain analysis

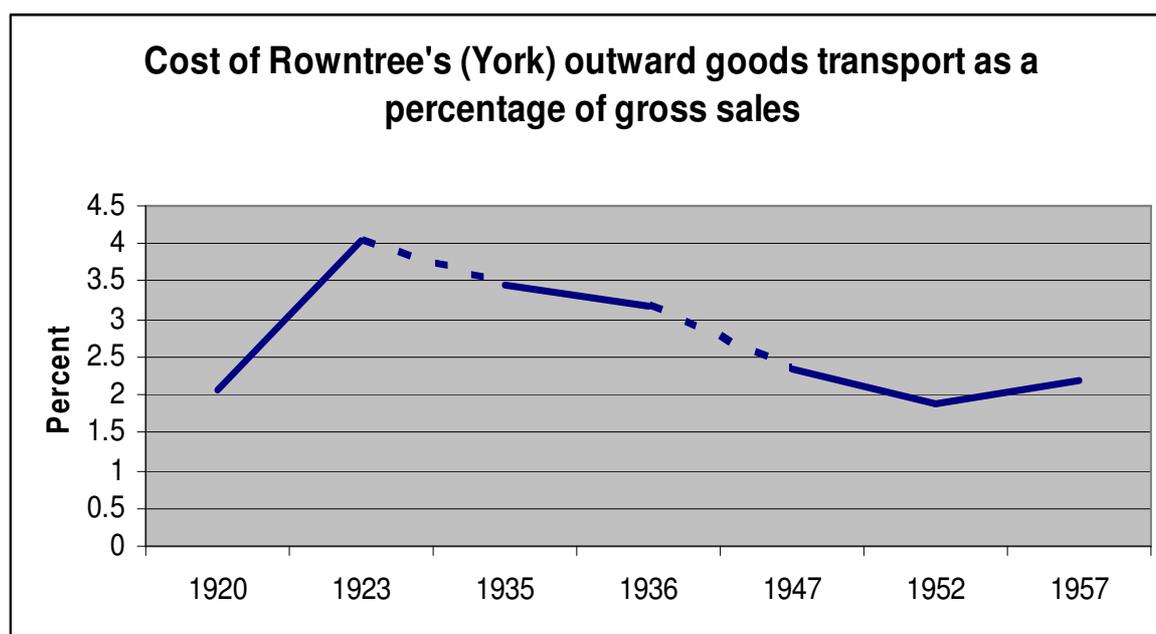
The British confectionery industry was predominantly concentrated amongst large firms such as Cadbury and Rowntree, and was also characterised by consumer demand being created by advertising that developed the brand as product differentiator.⁸⁴⁰ Consequently, the large confectioners also possessed the resources and prominence required to organise and maintain a national distribution operation. The following supply chain analysis of Rowntree's confectionery distribution operation will provide a means of establishing the principal changes facing Rowntree after 1919, thereby placing the confectioner's use of rail and road transport into a wider context, whilst exploring the internal debates concerning a large manufacturer's use of internal or contract road haulage. However, in using the archival material available at the Borthwick Institute for Archives, York, the research has revealed the limitations of surviving statistical data, as it has proved impossible to differentiate between rail and road transport costs, or provide a consistent account of regional depot costs.

⁸³⁹ R. J. Hammond, *History of the Second World War- Food Vol. III: Studies in Administration and Control* (London: HMSO, 1962).

⁸⁴⁰ Bradley, *Cadbury's Purple Reign*, pp. 117-121; Fitzgerald, *Rowntree and the Marketing Revolution*, 277; Smith, Child and Rowlinson, *Reshaping Work*, p. 10.

Despite this, the available sales and aggregate transport cost data for outward goods from York have been combined in **Graph 19**, which hints at the economies and efficiencies achieved in Rowntree's confectionery distribution operation. An initial rise in carriage costs can be observed, with the cost of transport from its York factory increasing from 2.05 per cent in 1920 to 4.03 per cent in 1923, which appears consistent with railway rates increases prior to grouping and negligible sales growth during the period, as shown in **Graph 20** (p. 207). By 1935, this had reduced to 3.45 per cent, which corresponds with rising sales following a major step-change in Rowntree's production strategy.⁸⁴¹ The reduction to 1.89 per cent in 1952 occurs in the aftermath of wartime rationalisation, before returning to 2.18 per cent of sales in 1957. **Figure 10** (p. 202) sets out the confectionery value chain's structure between 1919 and 1960, thus providing a heuristic analysis of the linkages between the confectioner and the rest of the chain in which Michael Porter's input-operations-outbound logistics system can be identified.⁸⁴²

Graph 19



Source: See Appendix 2, Table 19 (p. 309).

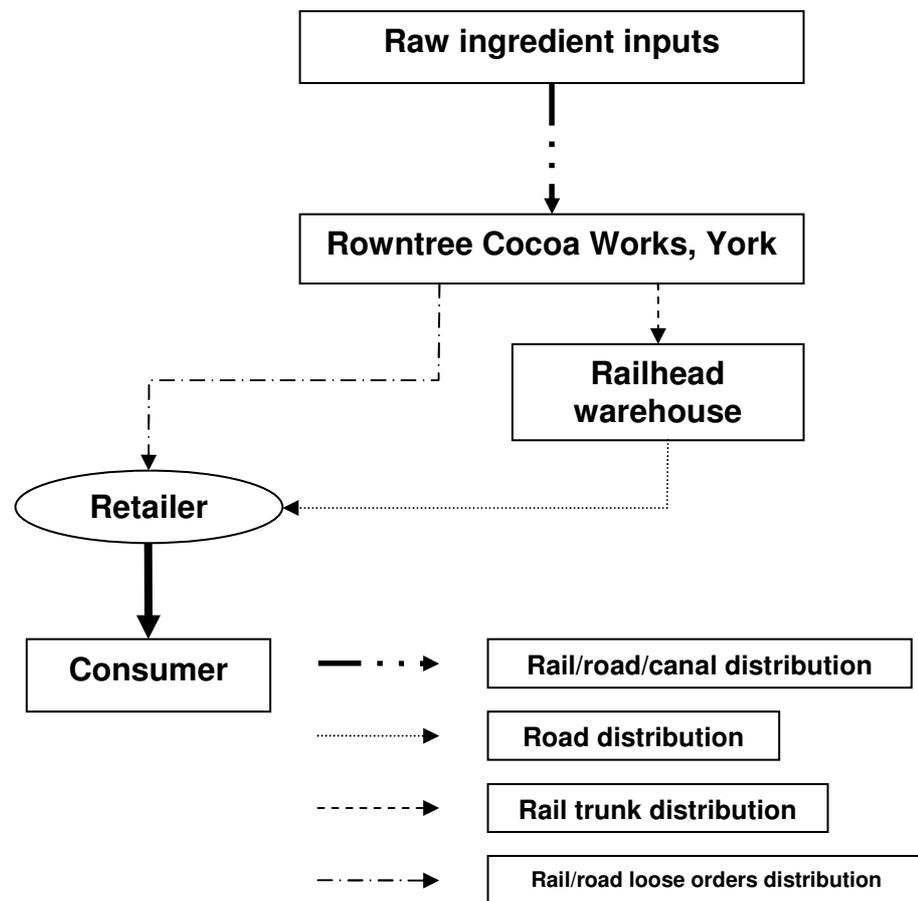
Note: No data is available for the periods 1923-1935 and 1936-1947; data between 1947-1957 presented at five-year intervals.

⁸⁴¹ Fitzgerald, *Rowntree and the Marketing Revolution*, pp. 114-329.

⁸⁴² M. Porter, *The Competitive Advantage of Nations* (London: Macmillan, 1990), p. 40.

Figure 9

Confectionery transport operations and distribution, 1919-c.1960



The system encompasses broad scope for innovation at all stages; those adopted by the confectioners in processing and distribution created both tangible and intangible product value for its customers in terms of the quality, quantity and novelty of output, to increase product desirability and gain competitive advantage over rivals.⁸⁴³ The confectioner thus formed the heart of the supply chain, being able to directly negotiate with suppliers of raw materials, and subsequently ‘push’ their output into the retail sector, which is consistent with the principle that executive governance, when defined as the ability to drive change within the chain, rested with the individual firms.⁸⁴⁴ Furthermore, the confectionery supply chain was noted for the use of resale price maintenance (RPM) to control retail prices, ensuring that the confectioner received a minimum price for processing the raw ingredients and organising outbound logistics, whilst providing sufficient margin for the

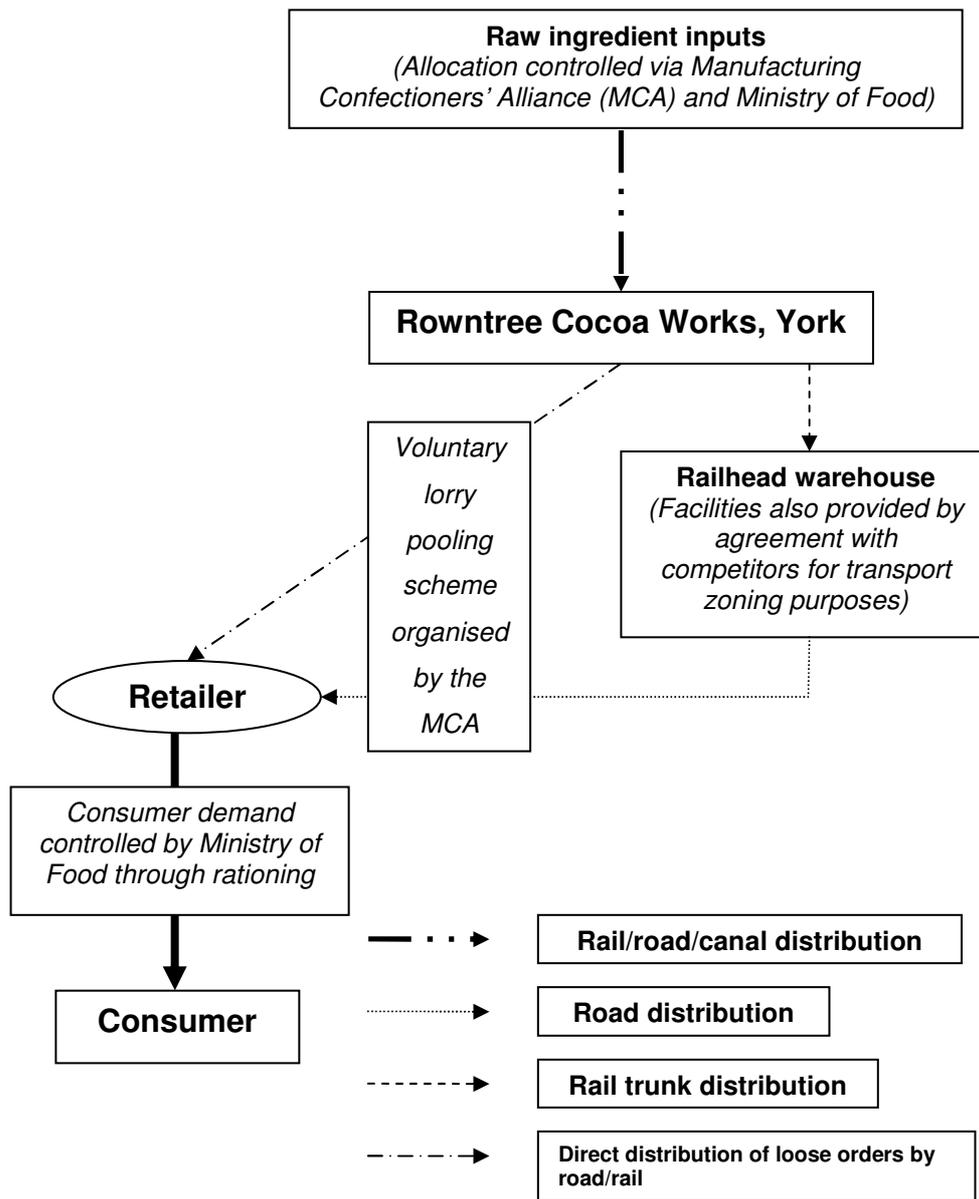
⁸⁴³ Porter, *The Competitive Advantage of Nations*, p. 40; R. Kaplinsky, “Globalisation and Unequalisation: What can be Learned from Value Chain Analysis?,” *The Journal of Development Studies*, 37 (2000), pp. 124-125.

⁸⁴⁴ Smith, Child and Rowlinson, *Reshaping Work*, p. 11.

retailer to stock and promote the product; the consequence for transport was that the constant pressure to save money, yet maintain a reliable national distribution network ensured that the confectioner constantly reviewed its rail and road operations, and kept informed of new innovation in transport technology.⁸⁴⁵

Figure 10

Confectionery transport operations and distribution, 1939-1945



⁸⁴⁵ Smith, Child and Rowlinson, *Reshaping Work*, p. 74; P. Maunder, "Food Processing," in *The Structure of British Industry*, ed. P. Johnson, (London: Unwin and Hyman, 1988), pp. 192-193.

Governance over the confectionery supply chain remained predominantly unchanged until the Second World War, when shortages of raw ingredients such as sugar caused by a lack of shipping space during the German U-boat offensive necessitated regulation.⁸⁴⁶ Consequently, the industry initially self-regulated its consumption of ingredients through the Manufacturing Confectioners' Alliance (MCA) before legislative governance of the chain was imposed through rationing from 1942.⁸⁴⁷ Furthermore the confectionery industry was the subject of enforced rationalisation to assist with the war effort by limiting waste of resources through duplication.⁸⁴⁸ Competition between confectioners was contained for the duration of the conflict, with product lines simplified to minimise labour demand and the complexity of distribution.⁸⁴⁹ Descriptions of the wartime changes are found in **Figure 10** above, which, in the absence of data, may have produced the decline in Rowntree's transport costs in **Graph 18** (p. 198) by 1947. However, a longer-term impact of government control was the nationalisation of Rowntree's haulage contractor in 1951; denationalisation under the Conservative government in 1953 prompted the confectioner to prevent future interference by purchasing the assets of its former contractor.

The end of food rationing in 1954 marked the commencement of another long-term shift in the configuration of the confectionery supply chain, namely the rising influence of the retailer in determining how the products were distributed.⁸⁵⁰ Although already under government review, pressure from large regional and national retail chains to abolish resale price maintenance (RPM) had been increasing since decontrol as it restricted price competition.⁸⁵¹ This prompted a shift in the rules of market participation, or what Raphael Kaplinsky terms 'legislative governance', as the passing of Parliamentary Acts outlawing collective and individual RPM between 1956 and 1964 also removed the confectioner from its prominent position within the supply chain.⁸⁵² This post-war decline in influence is consistent with that witnessed amongst the other food commodities studied, and the transfer of power to the retail sector, which pressed for greater control over distribution to achieve cost efficiencies, favoured modal shift to road haulage at all stages

⁸⁴⁶ Hammond, *Food Vol. III*, p. 520.

⁸⁴⁷ Fitzgerald, *Rowntree and the Marketing Revolution*, pp. 353-354; Kaplinsky, "Globalisation and Unequalisation," p. 125.

⁸⁴⁸ Smith, Child and Rowlinson, *Reshaping Work*, p. 76.

⁸⁴⁹ Fitzgerald, *Rowntree and the Marketing Revolution*, p. 374.

⁸⁵⁰ D. A. Quarmby, "Developments in the Retail Market and their Effect on Freight Distribution," *Journal of Transport Economics and Policy*, 23 (1989), p. 75; Smith, Child and Rowlinson, *Reshaping Work*, p. 11; see also chapter 6.

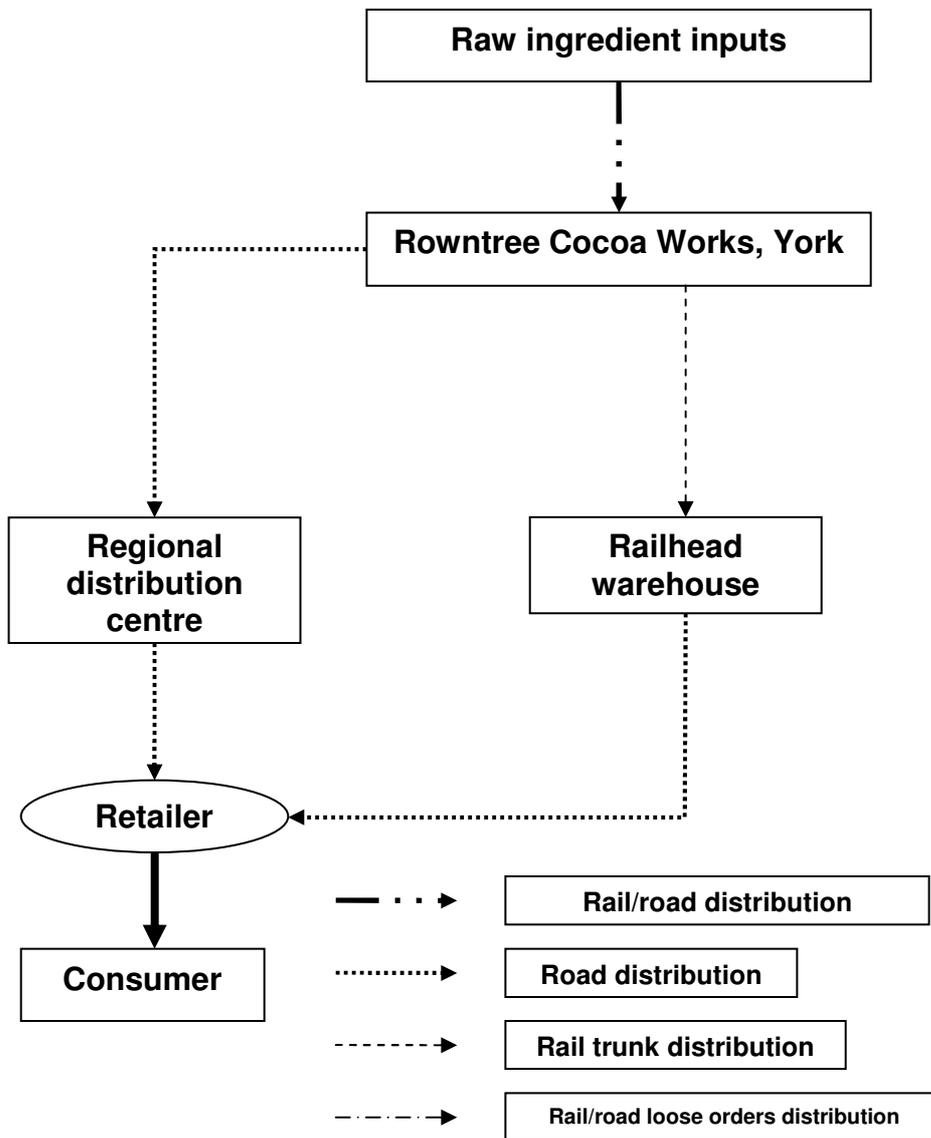
⁸⁵¹ Bradley, *Cadbury's Purple Reign*, p. 184.

⁸⁵² Kaplinsky, "Globalisation and Unequalisation," p. 125.

of the supply chain. In doing so, the regional road distribution centre would therefore displace the railhead warehouse, as highlighted in **Figure 11**.⁸⁵³

Figure 11

Confectionery transport operations and distribution from c.1960



⁸⁵³ Quarmby, “Developments in the Retail Market and their Effect on Freight Distribution,” pp. 76-77.

5.3 The character of Britain's confectionery industry

The production of confectionery requires a consistent supply of sugar and cocoa butter, the latter produced from processed cocoa beans grown in South America and West Africa.⁸⁵⁴ The wide geographical spread of the raw ingredients makes the chocolate and sugar confectionery industry logistically intensive, with considerable food miles accumulated before being processed into the final product. This complexity had implications for Britain's chocolate confectionery industry before 1919; the value added to cocoa incorporated import duties and sea transport, resulting in a finished product which commanded a retail price that befitted a luxury food product.⁸⁵⁵ Distribution of the finished product to retailers was therefore the final stage in a long supply chain, albeit one that could be directly controlled by the cost-conscious confectionery manufacturer.

The development of the British chocolate and sugar confectionery market during the nineteenth century was closely linked with that of long-distance inland transport, which provided the opportunity for small, urban-based confectioners to expand into new markets.⁸⁵⁶ The expansion of the railway network intensified the industry's growth by providing a means for creating new centres of demand nationwide and meeting it expeditiously. However whilst the basic infrastructure for market expansion was in place, the development of the railway rates mechanism since the Railway and Canal Traffic Act was passed in 1888 meant that the carriage of low-value, easily transported goods would be cross-subsidised by low-volume, high value luxury products such as chocolate and sugar confectionery.⁸⁵⁷ Transport rates were thus a consideration whenever Britain's confectioners priced the final product, with Resale Price Maintenance (RPM) adopted to set minimum retail prices that gave a favourable return on investments made in new mass-production methods whilst covering the cost of distribution.⁸⁵⁸

With market share concentrated amongst a few large concerns and RPM in force, competition between Cadbury, Fry, Rowntree and Terry was therefore restricted to product differentiation; the principal source of supply chain governance lay in the tight control of overheads.⁸⁵⁹ This is evidenced by the fact that whilst the railways provided the principal

⁸⁵⁴ See White, "The Role of Cost Accounting on Performance in the UK Confectionery Market," pp. 60-64.

⁸⁵⁵ White, "The Role of Cost Accounting on Performance in the UK Confectionery Market," p. 64.

⁸⁵⁶ Bradley, *Cadbury's Purple Reign*, pp. 51-52; Fitzgerald, *Rowntree and the Marketing Revolution*, p. 18; White, "The Role of Cost Accounting on Performance in the UK Confectionery Market," p. 35.

⁸⁵⁷ See chapter 2; Smith, Child and Rowlinson, *Reshaping Work*, p. 18; G. Walker, *Road and Rail: An Enquiry into the Economics of Competition and State Control* (London: George Allen and Unwin, 1942), pp. 37-38.

⁸⁵⁸ P. Maunder, "Food Processing," pp. 192-193.

⁸⁵⁹ Bradley, *Cadbury's Purple Reign*, pp. 74-75, p. 81.

means of transporting finished products in bulk to distant markets, the canals retained their importance for transporting raw ingredients from port to factory; indeed, Rowntree and Terry used barges to transfer supplies to their bonded warehouses situated alongside the River Ouse in York, which provided cost-effective transport for high-value ingredients from Goole, Humberside.⁸⁶⁰ Location was therefore important; transport connectivity informed Cadbury's decision to move production to Bournville in 1879 to obtain direct access to the canal and railway networks and space for expansion.⁸⁶¹ Similarly, Rowntree's move from a cramped, but well-connected site at Tanner's Moat in the centre of York to Haxby Road in the north of the city in 1895 was undertaken to retain its transport links and permit future expansion.

At Haxby Road, Rowntree entered into an agreement with the North Eastern Railway (NER) for the construction of a private siding off the York to Scarborough line, thus permitting the inward conveyance of coal for the factory boilers and the outward transit of finished confectionery products to stations around the country.⁸⁶² The consequent saving in terminal costs was obtained through rebates paid by the railway company, and a similar arrangement was undertaken by Cadbury's. In contrast, Fry, which struggled to modernise production at its cramped, poorly connected city-centre site in Bristol, was not directly connected to the rail and canal networks, thus relying heavily upon cartage operations between the Port of Bristol and the Great Western Railway (GWR) until a new factory was eventually established at Somerdale, Keynsham in 1923.⁸⁶³ However, the result was that all were 'locked-in' to rail haulage for the long term, a situation which created the distribution network described in section 5.2; the balancing of cost-efficiency and national reach with care in handling a fragile product was thus placed firmly in the hands of the railway companies.

⁸⁶⁰ Dispatch by passenger train was commonplace in 1903, and an article in Rowntree's *Cocoa Works Magazine* noted that the staff of the Railway Department were 'working after midnight on Christmas Eve despatching passenger train goods'. See "Christmas Transport Methods- Old & New," *Cocoa Works Magazine* (Christmas 1936), p. 4; Sharpe, *Railways of Cadbury*, p. 10. Rowntree's transport files contain details of costs and navigation regulations for canal traffic. For example, The Borthwick Insitute: Rowntree-Mackintosh Archive (RMA): Rowntree (R)/DD/TR/7, 31 December 1919 Exceptional Rates Noted for Cocoa Chocolate or Confectionery, Fruit and Sugar from Rowntree's Siding (Cocoa Works); R/DD/TR/7, 16 July 1921 Ouse and Foss Navigation Dues.

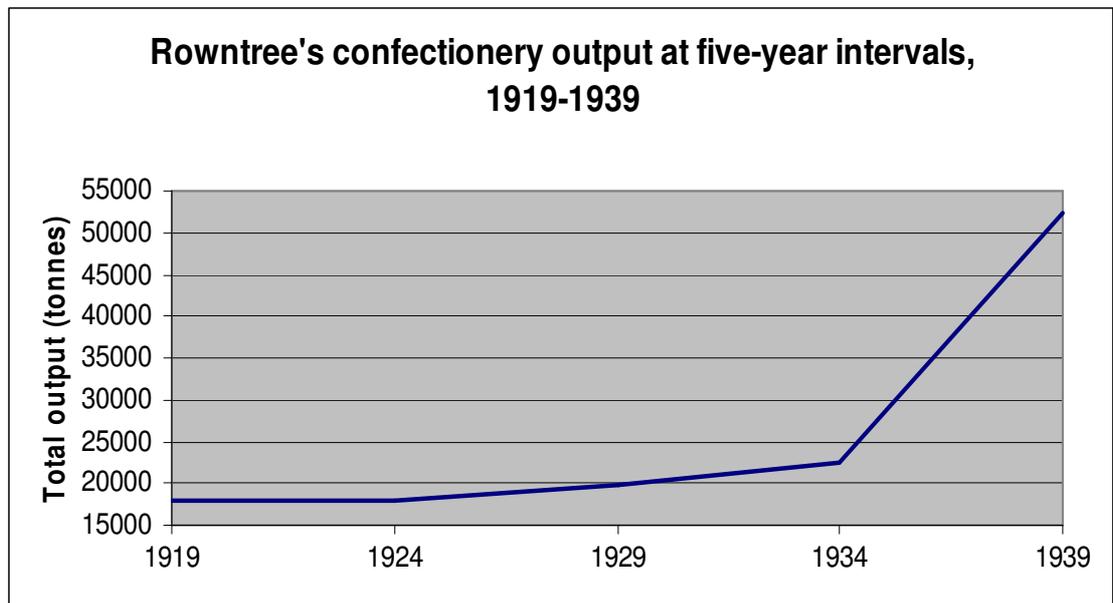
⁸⁶¹ Bradley, *Cadbury's Purple Reign*, pp. 51-53; Leitch, *The Railways of Keynsham*, p. 67; Darsley, *Industrial Railways of York*, p. 380.

⁸⁶² Darsley, "Rowntrees of York," p. 236. Cadbury's own siding at Bournville opened in 1885, and the confectioner offered an annual premium on the cost of connection to the Midland Railway because of its desire for efficient transport. Sharpe, *Railways of Cadbury and Bournville*, p. 7.

⁸⁶³ Although merged with Cadbury's, Fry's remained a semi-independent concern within the portfolio, with the former continuing to undermine the Bristol firm through direct competition. However, a member of the Cadbury family, Egbert Cadbury, was instrumental in orchestrating Fry's move to Somerdale. For accounts of Cadbury's takeover of Fry's, see Bradley, *Cadbury's Purple Reign*, p. 109; Cadbury, *Chocolate Wars*, pp. 240-243.

The confectionery trade in 1919 was characterised by its susceptibility to the economic cycle and trading conditions, as Rowntree’s post-First World War production output shows in **Graph 20**, which indicates that output between 1919 and 1924 was static. Fitzgerald notes that post-war inflation had initially driven-up the price of raw ingredients, whilst the 1921 economic slump prompted industry-wide agreements for price reductions that left Rowntree with a lower turnover and higher costs, and therefore unable to maintain its share of a market dominated by Cadbury.⁸⁶⁴ This contrasts with the sharp rise from 1934, when Rowntree switched to high demand lines such as Dairy Box. Low turnover also called for an interventionist approach to transport; although the confectionery industry was heavily reliant upon the railways for long-distance transport, the need to win retail customers and facilitate the speedy fulfilment of orders demanded an efficient distribution network that maximised contact with clients and promoted supply-chain resilience.⁸⁶⁵ In this regard, the disruption caused by the railway strike of September 1919 was an important watershed that demonstrated that road haulage could combine reliability and resilience with direct deliveries to customers.⁸⁶⁶

Graph 20



Source: See Appendix 2, Table 20 (p. 309).

⁸⁶⁴ Fitzgerald, *Rowntree and the Marketing Revolution*, pp. 150-151.

⁸⁶⁵ Bradley, *Cadbury’s Purple Reign*, p. 103.

⁸⁶⁶ P. Scott, “British Railways and the Challenge from Road Haulage, 1919-1939,” *Twentieth Century British History*, 13 (2002), p. 103; RMA: R/DD/TR/8, 2 December 1919 RE Delivery by Motors from York, p. 1.

5.4 Road trials and rail tribulations in confectionery distribution, 1919-1923

Although little evidence survives concerning Rowntree's experience during the strike, the confectioner's immediate response to the strike was to expand its use of road haulage when conveying goods from York. Although a limited road haulage service was in operation before the First World War, it is possible to hypothesise that the strike provided an opportunity for Rowntree to overcome its inertia and embark upon a trial to analyse the cost of rail and road conveyance to selected towns and establish best-practice.⁸⁶⁷ This is because Rowntree subsequently approached 'hire and reward' contractor Northern Motor Services (NMS) of York to commence trials in 1920.⁸⁶⁸ Confectionery was forwarded by road to Leeds, Huddersfield, Dewsbury, Sheffield, Doncaster and Norwich for sorting and distribution by local company agents. The consignments comprised 'loose' goods, which in railway terms were expensive less-than-wagonload traffic for smaller business customers, and were thus well-suited to smaller-volume, door-to-door road haulage.

Table 12

Abstract from 'Goods sent out loose to Depôts during February and March 1920'

Monthly Totals:	Weight				Road Charges	Rail Charges (including packaging)	Rail and Road Cost Difference (per cent)
	T	CWT	LBS	OZ	£ sterling	£ sterling	
February	177	8	1	7	331.18	492.80	
March	196	7	-	15	357.50	530.57	
Total Cost					688.69	1023.37	33

Source: RMA: R/DD/TR/8, Undated Report (c. April 1920) Goods sent out loose to Depôts during February and March 1920.

Note: The data refers to confectionery transported to Bradford, Manchester, Liverpool and Nottingham. All monetary values are at current values and have been decimalised to the nearest new pence.

⁸⁶⁷ RMA: R/DD/TR/8, 2 December 1919 Delivery by Motors, pp. 1-3.

⁸⁶⁸ RMA: R/DD/TR/8, 30 March 1920 Report on Motor Traffic Experiment, p. 1. Rowntree's records suggest that two York firms were used to supply lorries and drivers, namely Northern Motor Services (NMS) and Northern Motor Utilities (NMU). As the latter enjoyed a virtual monopoly over Rowntree's road haulage, it is possible that the two companies were the same concern.

Initial runs were undertaken between York, Leeds and Sheffield throughout 1920, with 61 loads of confectionery conveyed to Leeds by two private haulage firms and nine by Rowntree's own motors.⁸⁶⁹ When compared with the conveyance of loose goods between by rail, the experiment achieved a saving; **Table 12** highlights that road haulage to Bradford, Manchester, Liverpool and Nottingham produced savings of 33 per cent over the equivalent railway rate because of the haulier's ability to quote on a 'cost plus' basis regardless of commodity value and packaging type, which were reflected in railway rates.⁸⁷⁰ However, the trial was not without challenges, and it was evident that railway crates were too large to fit in the rear of the lorries, thus preventing easy interchange between road and rail as the situation dictated.

Internal correspondence also noted that the savings accrued when using road haulage were sometimes negligible wherever high volumes of traffic were dispatched to a single destination, with the conveyance of packaged goods to Leeds favouring rail haulage.⁸⁷¹ As such, Rowntree's Packing Department responded with the suggestion that efficient use of the road vehicle on such routes was only be possible with a reduction in outer packaging. The Department suggested that the use of road transport had to be weighed against the cost of obtaining the requisite casing, as the bulk-purchase of reusable packaging for the trial would eliminate '...any saving [when] sending goods made up in packages by motor', whilst further penalties might have been incurred if the railway companies refused to convey the new cases.⁸⁷²

Rowntree was therefore experiencing some of the technical challenges associated with the transfer of traffic to road distribution, and actively sought solutions to reduce both the packaging bulk and costs associated with a confectionery consignment. The Packing Department therefore concluded that 'if it could be arranged to send goods loose direct to customers without the use of packing cases, we may effect a saving', something which could not be contemplated with rail transport due to the risk of damage.⁸⁷³ The confectioner thus adopted the expedient of dispatching loose goods to '...save the carriage on the cases both ways' and increase van capacity, whilst NMS had offered Rowntree a sweetener in March 1920 to undertake the haulage of confectionery over some long-distance routes at existing railway rates on a trial basis to permit the calculation of costs.⁸⁷⁴

⁸⁶⁹ RMA: R/DD/TR/8, 11 February 1921 Unsigned Letter to Appleton.

⁸⁷⁰ RMA: R/DD/TR/8, 11 February 1921 Unsigned Letter to Appleton. See also RMA: R/DD/TR/8, Undated Report (c. April 1920) Goods sent out loose to Depôts during February and March 1920.

⁸⁷¹ RMA: R/DD/TR/8, 13 January 1920 RE Delivery by Motors from York, pp. 1-2.

⁸⁷² RMA: R/DD/TR/8, 13 January 1920 Delivery by Motors, pp. 1-2.

⁸⁷³ RMA: R/DD/TR/8, 13 January 1920 Delivery by Motors, p. 2.

⁸⁷⁴ RMA: R/DD/TR/8, 30 March 1920 Report on Motor Traffic Experiment, p. 1.

The road trials were completed ‘...very satisfactorily, with the exception of one or two boxes which have burst open, due to falling down in the van’, an issue that was promptly resolved by ‘...having the goods packed on one level throughout the van, and also by packing the goods closer together’.⁸⁷⁵ Despite this, the limitations of using a contractor for short-notice work was evident, as NMS admitted that it did not always have the vehicles to spare, and that ‘...it does not pay to carry at Rail Rates on longer runs to Liverpool, Manchester and Nottingham’.⁸⁷⁶ The final report thus considered the potential for Rowntree to expand its own motor fleet, which could be quickly pressed into service ‘when there was a shortage of wagons ...[for] urgent orders, or if it paid us to send them in preference to rail’.⁸⁷⁷

However, the report also noted that the use of own-account vehicles raised the problem of obtaining back-loads to offset costs, which could be more readily obtained by independent hauliers.⁸⁷⁸ Rowntree also displayed concern for driver workload by paying for a second employee to undertake the delivery of the goods, which was considered ‘outside the scope of a motor-man’s duties’ because they were employees of NMS during the trials.⁸⁷⁹ Consequently, the confectioner made the decision to increase its monthly payment to the haulier on the proviso that the motorman’s wage included an unloading allowance to reduce overall handling costs. Rowntree’s report concluded that the higher cost of long-distance road transport was sometimes offset by the ability to dispense with purchases of bulky outer packaging, whilst the expense of supplying and maintaining vehicles at a network of depots could be delegated to the haulage contractors.⁸⁸⁰

Other factors determining the confectionery industry’s increasing interest in road distribution were the various challenges facing Britain’s railways in the years following the strike of September 1919. Firstly, the railway companies faced concerns over service reliability due to a chronic wagon shortage, caused partly because of maintenance arrears and partly because traders could retain wagons for extra warehouse space at private sidings, whilst there was the perennial risk of pilferage by railway staff.⁸⁸¹ The latter was of particular concern to confectionery manufacturers because of the luxury nature of the product; the London and North Western Railway (LNWR) staff magazine acknowledged the problem in an editorial comment that attributed a spike in confectionery theft in 1920

⁸⁷⁵ RMA: R/DD/TR/8, 30 March 1920 Report on Experiment, p. 1.

⁸⁷⁶ RMA: R/DD/TR/8, 30 March 1920 Report on Experiment, p. 2.

⁸⁷⁷ RMA: R/DD/TR/8, 30 March 1920 Report on Experiment, pp. 2-3.

⁸⁷⁸ RMA: R/DD/TR/8, 30 March 1920 Report on Experiment, p. 5.

⁸⁷⁹ RMA: R/DD/TR/8, 30 March 1920 Report on Experiment, p. 3.

⁸⁸⁰ RMA: R/DD/TR/8, 30 March 1920 Report on Experiment, pp. 5-6.

⁸⁸¹ Walker, *Road and Rail*, p. 114.

to female porters still in railway employment after the First World War.⁸⁸² Secondly, the railways remained under government control in anticipation of comprehensive reorganisation under the Railways Act (1921), and a general rates increase sanctioned by the government in 1920 demonstrated the risk that even large customers of the railways took when relying upon a distribution network operated by monopolist organisations.

The complexity and scope of the 1921 Act required an industry-wide approach to lobby both the Ministry of Transport and the Tribunal. Britain's confectioners had established the Manufacturing Confectioner's Alliance (MCA), an organisation with broad responsibilities that included representing the industry in legal disputes with the railway companies. The MCA was also associated with the Federation of British Industries (FBI), and both established a Joint Railway Committee that would take an active role in ascertaining the implications of the proposed revision of the rates schedule.⁸⁸³ The Committee's task was to establish whether the existence of similar commodities in different classes merited a lower rate classification.⁸⁸⁴ By scrutinising the Railway Rates Tribunal's proposed revision of the Standard Classification of Charges under the 1921 Act, which included the abolition of lower grocery rates, the confectioners were attempting to exercise governance over their supply chain costs.⁸⁸⁵

Concerns about cost were expressed in October 1923 when proposals for another tranche of rates increases during the revision of the Schedule of Standard Charges raised the ire of the confectionery industry. In a letter submitted for consideration by the FBI, Rowntree asserted that the revised charges were extortionate.⁸⁸⁶ It suggested that the 'proposed charges for fruit [were] heavier than justified', implying that the revised rates failed to sufficiently reflect previous exceptional charges granted for the traffic, the latter being described in chapter 2.⁸⁸⁷ Furthermore, the letter revealed that proposed terminal rates and 'the scale of charges is too high ...for short distances', and the industry identified a pressing need for disaggregated rates that specifically detailed the cost of cartage and returning empties to assist the application for rebates from the railway companies.⁸⁸⁸

⁸⁸² RMA: R/DD/TR/2, 26 February 1920 Massey to Fry, p. 3; "Railway Robbery," *London & North Western Railway Gazette*, 9 (1920), p. 50.

⁸⁸³ For example, see RMA: R/DD/TR/2, 3 March 1920 FBI and MCA Joint Railway Committee Memorandum of Meeting. See also Chapter 2 for a description of the Railway Rates Tribunal.

⁸⁸⁴ RMA: R/DD/TR/2, 11 June 1920 Circular from Joint Railway Committee.

⁸⁸⁵ Indicated in: RMA: R/DD/TR/6 February 1920 Rowntrees- Increase in Railway Charges.

⁸⁸⁶ RMA: R/DD/TR/7, 9 October 1923 Drage to Federation of British Industries, p. 2.

⁸⁸⁷ The rate increases had local consequences for Rowntree, as the LNER proposed to increase the cost of short-distance journeys over the York Cattle Market branch line to access the Haxby factory by fifty per cent. RMA: R/DD/TR/7, 9 October 1923 Drage to Federation pp. 1-2.

⁸⁸⁸ RMA: R/DD/TR/7, 9 October 1923 Drage to Federation, p. 2.

Consequently, negotiations with the railway companies was a continuous process requiring the employment of dedicated staff.

The MCA and FBI thus provided platforms for industry-wide discussion about the challenges that railway distribution posed, and demonstrate that the problems Rowntree experienced were not unique. The universal issue of high rates permitted discussion of its rivals' experiences and their attempts to improve the cost, efficiency and flexibility of distribution. This raises the hypothesis that the confectionery industry were not passive bystanders during the inter-war years, but were active in vertically-integrating transport into their organisations. This is confirmed by a report detailing a joint meeting between the major confectioners noted that Cadbury operated its own road transport to a radius of 65 miles from Bournville, whilst Fry operated at a radius of 16 miles.⁸⁸⁹ However, a combination of being 'locked-in' to nationwide rail distribution and rising consumer demand for Cadbury's lines meant that its relationship with the railways was reinvigorated when space constraints at Bournville necessitated a constant rate of dispatch from its Birmingham factory. Consequently, the firm approached the railway companies to develop cost-effective railhead distribution in 1921.⁸⁹⁰

The negotiations secured exceptional rates for bulk train-loads from Bournville to warehouses at major freight terminals such as Camden, where the administration and distribution of customer orders could be undertaken locally.⁸⁹¹ The result was increased floor-space at Bournville for storing stock and catering for seasonal demand, whilst the scheme would eventually achieve a 57 per cent reduction in distribution costs per 100lb sales by 1936, as cited by White.⁸⁹² Furthermore, the cessation of government control over the railways in 1922 was accompanied by a general reduction in charges; the railway companies were keen to promote lower rates for regular, bulk flows of products to well-defined railhead locations to maintain a grip upon long-distance confectionery traffic.⁸⁹³ However, the scheme was undertaken at Cadbury's initiative, and provides an example of a confectioner exercising executive governance over its distribution chain.

⁸⁸⁹ Cadbury's suggested that the resultant savings in packaging effectively 'paid them' to use road haulage. RMA: R/DD/TR/2, 2 March 1920 Report of Meeting at Bournville, p. 7. Fry's road delivery radius is revealed in RMA: R/DD/TR/6, February 1920 Increase in Railway Charges.

⁸⁹⁰ Bradley, *Cadbury's Purple Reign*, pp. 79-80.

⁸⁹¹ "How London gets its Chocolate," *LMS Railway Magazine*, IX (1932), p. 128; Sharpe, *Railways of Cadbury*, p. 10.

⁸⁹² Bradley, *Cadbury's Purple Reign*, p. 80; Sharpe, *Railways of Cadbury*, p. 10; White, "The Role of Cost Accounting on Performance in the UK Confectionery Market," p. 240.

⁸⁹³ See: Railway Clearing House, *Railway Rates: How Little They Affect the Cost of Food* (London: Railway Clearing House, 1923).

5.5 Rowntree and Northern Motor Utilities

The overall success of the road haulage trials in 1920 was followed by the expansion of Rowntree's road operations at York.⁸⁹⁴ This coincided with a reduction in the use of rail transport, with **Table 13** showing a considerable modal shift to road taking place between 1921 and 1927; confectionery dispatched by rail displayed a 25.5 per cent decrease in favour of road haulage. However, this figure belies the fact that company had adopted a policy of using road haulage on routes of up to 80 miles, permitting a hypothesis that the losses sustained by rail was restricted to smaller and less economic loads which were more conducive to door-to-door conveyance.⁸⁹⁵ This once again exemplifies the confectioner's governance of the supply chain, as Rowntree coordinated its rail and road transport according to the traffic it was best suited to convey.

Rowntree also investigated options for formalising relationships with specific road hauliers, and hence obtain greater security and leverage in route planning. An internal report published in September 1923 indicated that the confectioner was actively considering direct investment in Northern Motor Utilities (NMU), which had become closely associated with Rowntree's road distribution operations.⁸⁹⁶ The report concluded that NMU had a good reputation overall, having served Rowntree 'quite well', and had consequently enjoyed a near-monopoly over its road traffic since 1919.⁸⁹⁷

Table 13

Percentage analysis of the confectionery traffic forwarded from York, 1921-1927

Mode of Transport:	1921	1922	1923	1924	1925	1926	1927
Rail %	74.5	63.5	55	48	47	45	49
Road %	25.5	36.5	42	51	52	55	51
Water %			3	1	1		
Total net tons outward:	23,586	23,924	22,876	24,625	26,725	26,108	28,236

Sources: RMA: R/DD/T/1, Transport Function Annual Reports, 1927-1928; RMA: R/DD/T/3, 11 February 1924 Traffic Department Report- Traffic by Rail, Motor and Post.

⁸⁹⁴ Bradley, *Cadbury's Purple Reign*, pp. 79-80; Fitzgerald, *Rowntree and the Marketing Revolution*, p. 149.

⁸⁹⁵ The policy of coordinating between both modes of transport was highlighted in 1928: RMA: R/DD/T/48, 16 April 1928 Transit of Goods between York and London.

⁸⁹⁶ The Managing Director of NMU was Major Dring, and the firm was established soon after the First World War. RMA: R/DD/T/3, 23 September 1923 Proposed Closer Relations with NMU- Observations, pp. 1-4.

⁸⁹⁷ RMA: R/DD/T/3, 23 September 1923 Closer Relations with NMU, p. 1.

However, the confectioner believed that NMU were ‘not by any means, model employers’, and Rowntree’s Traffic Department was particularly reticent about establishing a connection ‘...to a company well known for paying minimum rates [which] might not ...be to Rowntree & Co.’s advantage’, which can be interpreted in one of two ways.⁸⁹⁸ Firstly, Rowntree may have wished to maintain amicable employee relations in all aspects of its businesses by ensuring generous rates of pay and secondly, the haulier may have been too generous. Although the haulier’s scale of charges was not recorded, the confectioner expressed concern that NMU made little profit from its income, which contrasted with the returns obtained whenever Rowntree’s own small fleet of lorries were allocated distribution work.⁸⁹⁹

These misgivings meant that Rowntree decided against investing in NMU, although the haulier’s services were retained on routes where road haulage was more convenient or cheaper than rail.⁹⁰⁰ Rowntree thus depended upon the cooperation of another third-party transport supplier, as well as an indirect line of communication when problems needed to be addressed. The latter was highlighted when problems were encountered on the difficult trans-Pennine route to Liverpool in October and November 1923. Commenting on a delivery dispatched from York on 29 October 1923 and arriving at Liverpool on 1 November; NMU reported that the ‘...lorry was knocked off the road by a Traction Engine on the afternoon of the 30th at Ashton-under-Lyne’.⁹⁰¹ Although the company had lorries in Manchester, they were scheduled for unloading the next morning, and the driver of the stricken vehicle was forced to wait on the road-side overnight.

NMU’s report indicates that local roads were not conducive to intensive long-distance transport operations due to traffic and the 20mph speed restriction, making progress over the Pennines slow and particularly challenging during the winter months. Furthermore, indifferent road surfaces caused the canvas frames on lorries to oscillate and deface the cardboard outer boxes used to display the confectionery.⁹⁰² However, a second terse letter from the manager of Rowntree’s Liverpool depot to the Transport Manager at York complained that some deliveries were still taking up to six days by road, suggesting that a solution to the problem had yet to be found.⁹⁰³ Late arrivals hampered product

⁸⁹⁸ RMA: R/DD/T/3, 23 September 1923 Closer Relations with NMU, p. 1; Fitzgerald, *Rowntree and the Marketing Revolution*, p. 150.

⁸⁹⁹ RMA: R/DD/T/3, 23 September 1923 Closer Relations with NMU, p. 1.

⁹⁰⁰ RMA: R/DD/T/3, 23 September 1923 Closer Relations with NMU, p. 3.

⁹⁰¹ RMA: R/DD/T/3, 19 November 1923 Major Dring to Farrow.

⁹⁰² RMA: R/DD/T/3, 21 September 1923 Farrow to Gilderdale.

⁹⁰³ RMA: R/DD/T/3, 27 November 1923 Rayson to Gilderdale.

serviceability during the lucrative pre-Christmas sales period, and necessitated the expensive expedient of increased stock-holding to even-out delivery disruptions.⁹⁰⁴

The situation was unacceptable to a company whose reputation depended upon the ready availability of its products to promptly service customer orders. Whilst external haulage contractors possessed the advantages of maintenance facilities and experienced personnel, an important disadvantage was similar to that of the railways, namely the loss of control over consignments once they were dispatched.⁹⁰⁵ However, the confectioner had to rely upon NMU's own investigations, which attributed the '...constant delay of goods [to] ...motors meeting with "exceptional circumstances"' en-route.⁹⁰⁶ This suggests that Rowntree's decision not to establish a financial interest in the haulier meant that an opportunity to integrate a road haulage subsidiary and exercise its position to effect service improvements was missed.

5.6 From uncertainty to collaboration: Rowntree's relationship with the railways

Although labour disputes, wagon shortages and high rates had shaken business confidence in Britain's railways in the years immediately following the First World War, the difficulties experienced with NMU's longer-distance road operations and the retention of the requisite facilities at York encouraged Rowntree to follow Cadbury's example and maintain its link with the 'more regular and dependable railway'.⁹⁰⁷ However, the grouping of 120 railway companies in 1923 threatened further administrative upheaval, with potential implications for the confectioner's long-standing transport agreements with the NER. Whilst Rowntree's distribution operation depended upon reliability and a willingness amongst all parties to negotiate, the confectioner was concerned that the newly-formed LNER would be intent on terminating the agreement to serve the company siding because of its precarious financial position.⁹⁰⁸

⁹⁰⁴ RMA: R/DD/T/3, 27 November 1923 Rayson to Gilderdale. Planning for Christmas began in July, as revealed in E. G. Rayson and C. Cowling, "Christmas at the Depots," *Cocoa Works Magazine* (Christmas 1937), p. 4.

⁹⁰⁵ RMA: R/DD/T/3, 28 November 1923 Farrow to Gilderdale.

⁹⁰⁶ RMA: R/DD/T/3, 28 November 1923 Farrow to Gilderdale.

⁹⁰⁷ RMA: R/DD/T/3, 28 November 1923 Farrow to Liverpool Depot Manager.

⁹⁰⁸ As established in Chapters 2 and 3, the LNER's financial position was hampered by the incorporation of impoverished Scottish and East Anglian railway companies. Cross-subsidisation from the more profitable sections of the network necessitated financial efficiencies wherever possible, with improvements funded via rates increases and efficiencies which sometimes impacted upon services. RMA: R/DD/TR/7, 9 March 1923 Rowntree & Co. to Neish, Howell and Haldane.

The LNER's post-amalgamation difficulties were caused by the post-war economic downturn, and directly affected Rowntree's distribution operations when the railway company proposed to remove a goods checker at the factory sidings employed to review wagon labels and ensure that confectionery was dispatched to the correct destination.⁹⁰⁹ The LNER's proposition could also be construed as an attempt by the railway company to leverage Rowntree towards employing its own checker and dispatching goods at its own risk, thereby rendering the confectioner, rather than the railway company fully responsible in the event of loss or damage during transit.⁹¹⁰ This accentuated the advantages of road haulage, which could offer savings in '...brown paper packing and packer's time', expedite delivery and provide improved accountability for the goods during transit.⁹¹¹

Despite the foregoing issues surrounding rates and service, relations between confectioner and railway company were ameliorated by the fact that local railway management at York remained substantially unchanged after amalgamation, with Rowntree concluding that the 'railway Grouping has not materially affected our traffic'.⁹¹² A prominent feature of the relationship between Rowntree and the railway industry were collaborative projects with beneficial results for both parties, which provides another example of a food manufacturer exercising executive governance over its distribution operation. In this regard, Rowntree seized an opportunity to influence the rail distribution of its products and effect savings by developing, in conjunction with the railway company, new packaging that promoted cost-efficiency whilst preserving product condition; in return, the LNER would retain the custom of a large firm with a national market.⁹¹³

With confectionery a branded product, its condition upon arrival at the retailer was a key area for cooperation, and a joint experiment was commenced in January 1926 to test the rail-worthiness of Rowntree's own storeroom containers to ease handling when loading and unloading the 12-ton railway vans.⁹¹⁴ The bogies were used on the 211-mile journey between York and Rowntree's depot at St. Phillip's Marsh goods terminal, Bristol over a route which covered LNER and LMS territories. Feedback about their condition after transit was requested from the Bristol Depot Manager, who reported that the containers were flimsy, yet commanded high rates due to their weight, and expressed a

⁹⁰⁹ This issue was discussed between Rowntree and the solicitors charged with representing the firm at the Railway Rates Tribunal. See: RMA: R/DD/TR/7, 9 March 1923 Rowntree to Naish, Howell and Haldane.

⁹¹⁰ This reallocation of risk placed an assumption of negligence upon the trader rather than the railway company. See: "Railway Rates and Traffic," *The Railway Gazette*, XXXVIII (March 30, 1923), p. 516.

⁹¹¹ RMA: R/DD/TR/8, 2 December 1919 Delivery by Motors, p. 3.

⁹¹² RMA: R/DD/T/3, 8 February 1923 Annual Report 1922, p. 11.

⁹¹³ Fitzgerald, *Rowntree and the Marketing Revolution*, pp. 149-150.

⁹¹⁴ Cadbury, *Chocolate Wars*, p. 256; RMA: R/DD/TD/48, 16 January 1926 Rayson to Long.

preference for loose-loading.⁹¹⁵ A subsequent trial in March 1926 that entailed the loose-loading of goods between partitions erected inside a wagon was successful, whilst a further wooden packing case design was trialled on the Bristol route, with mixed success.⁹¹⁶

Rowntree's experiments were temporarily interrupted by the General Strike in May 1926, which receives little mention in the firm's surviving archival sources. However, Fitzgerald notes that various grades of factory and transport employees ceased work, making it possible to speculate that national distribution was seriously curtailed when considering the disruption experienced by other traders on Britain's railway network.⁹¹⁷ The trials had continued by 7 February 1927, when it was reported that several new cases had suffered shunt damage.⁹¹⁸ With rail transport frequently necessitating the splitting and reforming of new trains at marshalling yards, the LNER agreed to adapt van interiors to permit the securing of their contents; the first modified example was sent to Bristol on 24 March.⁹¹⁹ However, whether this development was completed on the LNER's initiative or at Rowntree's request was not recorded within the documents.

Railway bureaucracy was once again in evidence as Rowntree experienced difficulties in getting case designs accepted by more than one railway company, with the LMS proving hesitant.⁹²⁰ As the company was responsible for the St. Phillip's Marsh goods depot, it made its own suggestions for improving container unloading procedures at Bristol.⁹²¹ This confirms the hypothesis that despite wishing to retain traffic, the 'Big Four' railways were wary of straying away from long-established procedures, a trait which has already been discerned in chapter 3 in relation to the adoption of rail-mounted tanks by Britain's large milk wholesalers. Equally, the need to carefully pack consignments into containers risked employee negligence, as several cardboard outer boxes containing confectionery showed signs of scrubbing, thus spoiling the presentation of the product when put on display for sale.⁹²²

The maintenance of product quality during transit was therefore inextricably linked to the reduction of distribution costs, which represented 7.4 per cent per £100 of confectionery sales by 1926, and justified Rowntree's close attention.⁹²³ The confectionery

⁹¹⁵ See RMA: R/DD/TD/48, 12 February 1926 Lawson to Long; 8 June 1926 Lawson to Long.

⁹¹⁶ RMA: R/DD/TD/48, 22 March 1926 Long to Lawson.

⁹¹⁷ Fitzgerald, *Rowntree and the Marketing Revolution*, p. 273.

⁹¹⁸ RMA: R/DD/TD/48, 7 February 1927 Lawson to Long.

⁹¹⁹ See RMA: R/DD/TD/48, 3 March 1927 L&NER District Goods Manager NE Area to Messrs. Rowntree & Co. Ltd.; 24 March 1927 Long to Lawson.

⁹²⁰ RMA: R/DD/T/48, 8 February 1927 LNER District Goods Manager, NE Area.

⁹²¹ RMA: R/DD/TD/48, 8 February 1927 LNER District Goods Manager, NE Area.

⁹²² See RMA: R/DD/TD/48, 16 April 1928 Transit of Goods between York and London.

⁹²³ Rowntree cited that the total cost of transport represented £7.7s.11d. per £100 in sales. See: RMA: R/DD/T/1/1, 15 March 1928, Transport Function Annual Report 1927, p. 5.

industry thus maintained an interest in new rolling-stock developments, with Rowntree expressing an interest in the demountable container for deliveries to its non-rail connected depot in Birmingham.⁹²⁴ However, whilst the evidence suggests that Rowntree possessed few road vehicles for the national distribution operation, a small fleet was maintained for internal use such as goods transfer operations between the production lines and bonded warehouses located around the centre of York.⁹²⁵

5.7 Confectionery distribution by rail and road, 1926-1930

Despite road haulage's advantage of door-to-door conveyance and efficiency in short-distance journeys, government policy decisions made between 1926 and 1930 presented challenges. The rise of road haulage nationwide made essential consumables such as tyres and fuel ripe for direct taxation, whilst new vehicles were subject to annual taxation under the Roads Act (1920).⁹²⁶ This assertion of legislative governance over rising road use by the government saw money pooled into a Road Fund intended to finance road maintenance until it was subsequently raided by the Treasury in 1926.⁹²⁷ A less obvious problem was that frequent changes in tax rates also enabled road hauliers to profiteer. This is exemplified by a dispute with Carter Paterson in 1927, a contractor that transported confectionery between York and London, which began when rising tax was cited as a reason for a rate increase.⁹²⁸

Although the haulier gave Rowntree notice of an increase in charges for traffic dispatched to London after a road tax increase in January 1927, the confectioner's internal correspondence suggests that Carter-Paterson was slow to pass savings to its customers, with the Transport Department suggesting that a concurrent reduction in tyre costs should have offset the increased taxation.⁹²⁹ It is therefore possible to suggest that this dispute prompted the signing of a long-term haulage contract between Rowntree and NMU in June 1927 after seven years of spot-hiring.⁹³⁰ However, with fuel prices falling as supplies

⁹²⁴ RMA: R/DD/TD/48, 8 February 1927 LNER District Goods Manager, NE Area.

⁹²⁵ For example, see: RMA: R/DD/TD/47, 19 September 1930 Vehicle Depreciation and RMA: R/DD/TD/47, Undated (c. 1935) R. & Co.'s York Motors Costs 1934 Sugar Deliveries.

⁹²⁶ Roads Act, 10 & 11 Geo. 5, 1920 and Walker, *Road and Rail*, p. 24.

⁹²⁷ T. Gibson, *Road Haulage by Motor in Britain: The First Forty Years* (Aldershot: Ashgate Publishing, 2001), pp. 131-133; Walker, *Road and Rail*, p. 24.

⁹²⁸ See RMA: R/DD/TD/47, 10 January 1927 Carter Paterson.

⁹²⁹ RMA: R/DD/TD/47, 10 January 1927 Carter Paterson.

⁹³⁰ Rowntree's Transport Department noted that the use of contract rather than spot-hire vehicles accrued a saving of £73 12s 3d between April 1926 and 1927. RMA: R/DD/TD/47, 10 June 1927 RE Contract Vans versus Old System.

increased, the government reintroduced fuel duty at a rate of approximately 2p per gallon in 1928, although the author has been unable to trace its impact upon product retail prices.

The imposition of fuel duty in 1928 also coincides with an increase in the percentage of confectionery dispatched by rail from York at the expense of road transport, demonstrated by **Table 14**. However, it is also possible to hypothesise that the rise in road haulage accompanied the commencement of the revised Schedule of Standard Charges on 1 January, which ended uncertainty over how railway rate changes would affect the firm. Although the original scheme proposed the elimination of exceptional rates, correspondence from concerned traders about excessive costs resulted in the ‘Big Four’ railways and the Railway Clearing House (RCH) permitting the continuation of all exceptional rates obtained before 1 January 1927.⁹³¹ Rowntree noted that whilst standard rates had increased by 6.25 per cent over the pre-grouping Schedule, the cost of rail transport was not materially, and **Table 5.3** shows that the tonnage of confectionery forwarded from York by rail increased by 22 per cent between 1927 and 1928.⁹³²

Table 14

Percentage analysis of Rowntree’s rail and road transport operations, 1927-1930

Mode of Transport:	1927	1928	1929	1930
Rail %	49	71	76	77
Road %	51	29	24	23
Total net tons outward:	28,236	28,763	27,780	23,827

Source: RMA: R/DD/T/1, Transport Function Annual Report, 1930.

Fuel duty remained a concern for Rowntree, and was given specific mention in a 1930 circular prepared by the Transport Department concerning its contract with NMU.⁹³³ It highlights concerns that regular tax increases affecting fuel and vehicle consumables would place pressure upon the retail price of confectionery, particularly as the reintroduction of fuel duty was followed by an economic downturn. Bulletins circulated to Rowntree’s regional depots also highlighted the importance of keeping tight control of distribution overheads including staff packaging and the organisation of delivery rounds, with the Transport Manager suggesting that ‘...it is essential that every effort is made to

⁹³¹ See chapter 2 for a description of rates-setting. R/DD/T/1/1, 6 February 1928 Goods Manager (Rates Section), LNER, York to Messrs. Rowntree & Co. Ltd.

⁹³² R/DD/T/1/1, 15 March 1928 Transport Function Annual Report 1927, p. 6.

⁹³³ RMA: R/DD/T/47, 8 July 1930 Circular to All Depots: Cost of Delivery and Service.

keep delivery costs down'.⁹³⁴ The Transport Manager thus made recommendations for saving money by suggesting that whilst Rowntree had '...built up a reputation for quick service... customers may not ...complain if goods take three or four days in transit instead of our usual two or three days'.⁹³⁵

5.8 The impact of competition upon distribution, 1930-1939

One reason behind Rowntree's decision to rationalise its road operation in 1930 was intensifying competition with Cadbury; White and Richard Bradley's business histories indicate that the firm's sales increased as a result of the savings achieved through mechanised production and efficient distribution, whilst the consolidation of Cadbury's product range amongst fewer lines raised consumer perceptions of product quality, fostering demand and placing pressure upon competitors to produce savings in similar areas.⁹³⁶ Cadbury's had succeeded in achieving an 'overall reduction in the price of Dairy Milk between 1920 and 1934 [of] ...70%' within a difficult economic climate, albeit qualified by its '...inability to know how much additional sales revenues [would] maximise their profits'.⁹³⁷ However, one of the changes Cadbury implemented to save money in distribution is described in an article published in *The Commercial Motor* which details the firm's arrangements for collecting one of its raw ingredients.

Dairy Milk, a staple Cadbury product since 1905, required a cheap and reliable supply of fresh milk.⁹³⁸ The company established two condenseries at Frampton-on-Severn, Gloucestershire and at Knighton, Powys, with the former dispatching condensed milk to Bournville by rail from Stonehouse, Gloucestershire.⁹³⁹ Although farmers within a twelve-mile radius of Frampton were encouraged to deliver milk direct or to intermediate collecting points, fourteen external contractors collected milk from outlying farms in a daily operation requiring up to 30 lorries.⁹⁴⁰ Churns deposited at collecting points on main arterial routes fifteen miles from Frampton were collected by Cadbury's own fleet of nine lorries.⁹⁴¹ The scheme, which reduced the distances travelled by raw ingredients, is

⁹³⁴ RMA: R/DD/T/47, 8 July 1930 Circular to All Depots.

⁹³⁵ RMA: R/DD/T/47, 8 July 1930 Circular to All Depots.

⁹³⁶ Bradley, *Cadbury's Purple Reign*, pp. 81-86.

⁹³⁷ Bradley, *Cadbury's Purple Reign*, p. 81; White, "The Role of Cost Accounting on Performance in the UK Confectionery Market," p. 298.

⁹³⁸ "Collecting Five Million Gallons of Milk a Year," *The Commercial Motor*, XLVII (August 7, 1928), pp. 844-847.

⁹³⁹ "Collecting Five Million Gallons of Milk a Year," pp. 844-845.

⁹⁴⁰ "Collecting Five Million Gallons of Milk a Year," p. 845.

⁹⁴¹ "Collecting Five Million Gallons of Milk a Year," p. 846.

illustrative of the extent to which food manufacturers could determine the scale and scope of logistics, with Cadbury able to use its own fleet to regulate overall haulage costs.

Rowntree's own attempts to reduce transport costs in adverse economic circumstances comprised a review of its depot distribution operations. The proposal to delay road deliveries until full loads could be guaranteed rationalised the distribution process by eliminating the uneconomical empty working of vans and lorries on the return journey.⁹⁴² However, the challenge of meeting fluctuating demand from existing retail customers and keeping pace with the business obtained by Rowntree's travellers nationwide demanded further efficiencies in depot working. The confectioner had identified the labour-intensity of stacking loose products before and after transit, and in 1930 considered designing a lorry container to reduce vehicle loading times and hence improve labour productivity.⁹⁴³

The rationalisation scheme had other financial benefits, as savings could be accrued by laying-off vans which were superfluous to requirements, a process made easier by using third-party contractors using goods clearing houses to obtain new work for idle vehicles.⁹⁴⁴ The benefits of the relationship with NMU were first highlighted in 1926. Firstly, the haulier shielded Rowntree from the initial capital cost of purchasing vehicles; the firm's overarching desire to maintain existing retail prices meant that such costs would have to be met through other means, including a possible wage decrease for all employees.⁹⁴⁵ Secondly, any conversion of vehicles to Rowntree's specifications could be undertaken by the contractor and paid by the confectioner via a small monthly charge, thus precluding the need to establish dedicated coachwork facilities.⁹⁴⁶ The scheme therefore provides another example of a food manufacturer's ability to assert governance over its supply chain to meet the economic challenges of the early 1930s.⁹⁴⁷

Scope for continuing the long-term relationship between the confectionery and railway industries is demonstrated by the continuing effort to expand the product distribution depot network.⁹⁴⁸ In 1930, Cadbury concluded negotiations with the GWR to establish its fifteenth distribution depot on railway land north of Exeter St. David's railway station with associated local distribution provided by railway company lorries, thus

⁹⁴² RMA: R/DD/T/47, 8 July 1930 Circular to All Depots.

⁹⁴³ RMA: R/DD/T/47, 8 July 1926 Pros and Cons of Loading Method; RMA: R/DD/T/47, 8 July 1930 Circular to All Depots.

⁹⁴⁴ P. Scott, "'The White Savery of the Motor World': Opportunism in the Interwar Road Haulage Industry," *Social History*, 25 (2000), p. 304.

⁹⁴⁵ RMA: R/DD/T/47, 22 June 1926 Transport Department.

⁹⁴⁶ RMA: R/DD/T/47, 22 June 1926 Transport Department.

⁹⁴⁷ RMA: R/DD/T/47, 8 July 1930 Circular to All Depots.

⁹⁴⁸ White, "The Role of Cost Accounting on Performance in the UK Confectionery Market," p. 239.

providing a complete logistical service from factory to retailer under the terms of the Railway (Road Transport) Act (1928).⁹⁴⁹ The road fleet employed a number of bespoke Cadbury-liveried vans modified at the GWR's Swindon railway works. Whilst Peter Scott emphasises that such powers were 'a targeted weapon against road hauliers', the nature of the agreement raises the hypothesis that the confectioner, rather than the railway company, had exercised initiative in obtaining its fully-integrated road and rail distribution service.⁹⁵⁰

This hypothesis is raised by the fact that whilst the GWR was authorised to provide vehicles and construct a reception siding, the warehouse was designed by Cadbury's own architect, an arrangement which bears a close resemblance to the bulk tank schemes proposed and developed by the milk wholesalers and described in chapter 3.⁹⁵¹ Furthermore, Rowntree commenced negotiations with the GWR in 1931 for a similar scheme to augment Rowntree's existing Cardiff distribution depot operation, the railway company being contracted to provide two purposely-designed motor vans for the confectioner's exclusive use to the specification demonstrated below in **Image 13**.⁹⁵² However, the investment made by both parties in the scheme meant that the confectioner was once again locking itself into the rail distribution of its products.

⁹⁴⁹ White, "The Role of Cost Accounting on Performance in the UK Confectionery Market," p. 239. See "From the General Manager: Railways and Road Transport," *Great Western Railway Magazine*, XLII (1930), pp. 519-520.

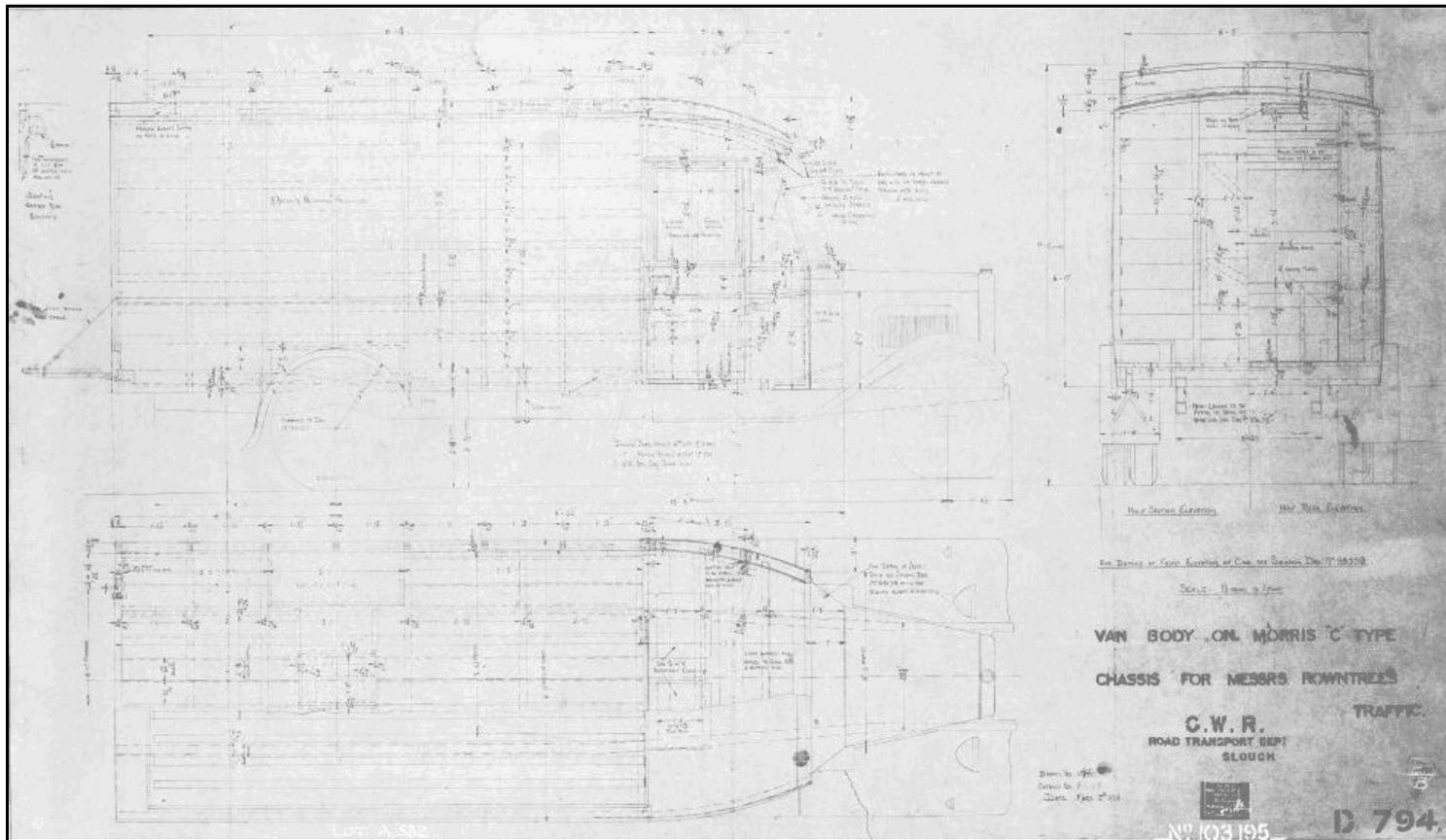
⁹⁵⁰ Scott, "British Railways and the Challenge from Road Haulage," p. 115; Gibson, *Road Haulage by Motor in Britain*, p. 180.

⁹⁵¹ "From the General Manager: Railways and Road Transport," 520; "A Joint Industrial Transport Scheme," *Modern Transport*, XLI (August 5, 1939), p. 5. "From the General Manager: Railways and Road Transport," pp. 519-520. By 1932, Cadbury operated from 16 depots nationwide.

⁹⁵² TNA: RAIL 252/2195, 1 August 1931 Agreement between Great Western Railway Company and Rowntree and Co Ltd.

Image 13

GWR Road Transport Dept., Slough: Van Body on Morris 'C' Type Chassis for Messrs. Rowntree's Traffic, 27 April 1934



Source: National Railway Museum (NRM): DS/50/D, GWR Motor Vehicle Drawings.

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Rowntree's review of distribution overheads coincided with a period of intense competition with Cadbury, which by 1934 was forcing the firm to maintain market share through product innovation.⁹⁵³ Consequently, Rowntree made a partial retreat from direct competition with Cadbury in the milk chocolate block market. Instead, the confectioner invested in reconfiguring production lines to mass-produce products developed using market and consumer research, resulting in the emergence of 'product brand'-based confectionery including Kit Kat and Aero, which provided a means of establishing product differentiation within a crowded confectionery market.⁹⁵⁴ The initiative's success meant that by 1936, Rowntree's improving business placed the firm in a position to negotiate a new permanent contract with NMU to reserve more vehicles during seasonal peaks.⁹⁵⁵ The railways also retained their role in the firm's long-distance distribution operation, although Britain's declaration of war upon Germany on 3 September 1939 presaged government intervention in the confectionery supply chain's management.

5.9 Confectionery at war: rationing and rationalisation, 1940-1945

The Second World War adversely impacted upon Britain's confectionery industry in several respects, principal of which was the establishment of the Ministry of Food's governance of the allocation of Britain's raw food supplies. This combined with legislative governance implemented through rationing to restrain consumer demand and initiate a profound reconfiguration of the sector's inland distribution networks, as described in section 5.2. R. J. Hammond's official history of the Ministry of Food during the Second World War indicates that the production of manufactured foods such as confectionery was particularly vulnerable to disruption.⁹⁵⁶ The dearth of imported raw materials such as sugar and cocoa in the winter of 1940-1941 necessitated the imposition of permits and manufacturing quotas calculated from a firm's 'arbitrary proportion of pre-war usage' and the actual availability of raw materials.⁹⁵⁷

⁹⁵³ Bradley, *Cadbury's Purple Reign*, pp. 117-121; Fitzgerald, *Rowntree and the Marketing Revolution*, p. 277; Fitzgerald, *Rowntree and the Marketing Revolution*, p. 152.

⁹⁵⁴ For an account of Rowntree's confections during the 1930s and the market research behind new products, see Fitzgerald, *Rowntree and the Marketing Revolution*, pp. 114-329; Cadbury, *Chocolate Wars*, p. 256; White, "The Role of Cost Accounting on Performance in the UK Confectionery Market," p. 260, p. 294.

⁹⁵⁵ See: Rayson and Cowling, "Christmas at the Depots," pp. 4-5 and RMA: R/DD/T/47, 4 August 1936 Casual Vans.

⁹⁵⁶ R. J. Hammond, *History of the Second World War- Food Vol. I* (London: HMSO, 1951), pp. 308-309.

⁹⁵⁷ Hammond, *Food Vol. I*, p. 308.

Table 15**Abstract from Terry's road distribution statistics, 1938-1945**

Year	1938	1939	1940	1941	1942	1943	1944	1945
Total cost of contract and own-account transport (£)	52,024	50,009	38,474	33,928	26,931	24,145	24,858	21,041

Source: The Borthwick Institute: The Terry's Archive (BTA): Box 14, Sales and Distribution Costs: Despatch Department.

The wartime government's governance of the confectionery supply chain was established in 1942 through 'points rationing', which gave the consumer a limited degree of freedom to source a desired product.⁹⁵⁸ With consumer demand was under control, a second initiative was to concentrate production amongst fewer factories to release labour for other duties.⁹⁵⁹ The impact of concentrating production upon the requirement for transport is demonstrated by **Table 15**, which indicates that the cost of Terry's contract road distribution operation during the war declined by over 60 per cent as a result of factory closure; from February 1943, the firm's individual branded lines were reduced and simplified to facilitate production and distribution under contract by the remaining manufacturers.⁹⁶⁰ The scheme ensured that national brand names, rather than their specific products, remained to provide a semblance of consumer choice in wartime. After the rationalisation of the centres of confectionery production, it became possible to undertake the more detailed process of local transport rationalisation, or 'zoning'.⁹⁶¹

The concentration of sugar and chocolate confectionery production amongst fewer factories meant that an entire zone's supply could be focused upon a single manufacturer, with Rowntree responsible for supplying confectionery for retail distribution in the north of England. This responded to two interlinked problems, the first being the nationwide demand for a confectioner's products in peacetime; the second being the resources required to distribute confectionery to retailers. The scheme thus divided Britain into four zones, with factories in each meeting local demand to eliminate the cross-haulage of related products nationwide.⁹⁶² Therefore, the government's suppression of competition thus

⁹⁵⁸ I. Zweiniger-Bargielowska, *Austerity in Britain: Rationing, Controls, and Consumption, 1939-1955* (Oxford: Oxford University Press, 2000), p. 20.

⁹⁵⁹ Bradley, *Cadbury's Purple Reign*, p. 151; Cadbury, *Chocolate Wars*, pp. 259-260.

⁹⁶⁰ Fitzgerald, *Rowntree and the Marketing Revolution*, p. 374.

⁹⁶¹ Savage, *Inland Transport*, pp. 277-278.

⁹⁶² Savage, *Inland Transport*, pp. 277-278; Fitzgerald, *Rowntree and the Marketing Revolution*, pp. 373-374; Hammond, *Food Vol. I*, p. 341.

reversed the effects of the peacetime rivalry between Cadbury and Rowntree by ensuring broad cooperation in preventing the unnecessary use of transport in the national interest.⁹⁶³

Figure 12

Rowntree Depot locations in the Second World War

England	MCA Scheme Depots	Scotland
Bath	Brighton (Cadbury/Fry)	Glasgow
Birmingham	Exeter (Cadbury/Fry)	
Bristol	Leeds (Cadbury/Fry)	
Cambridge Sub-depot	Isle of Wight (Cadbury)	
Canterbury	Northampton (Meredith & Drew)	
Cardiff	Sheffield (Cadbury/Fry)	
Carlisle Sub-depot	Somerdale (Cadbury/Fry)	
Culham	Truro (Cadbury/Fry)	
Grimsby Sub-depot		
Horncastle Sub-depot		
Launceston		
Liverpool Sub-depot		
London		
Manchester		
Newbury Sub-depot		
Newcastle		
Norwich		
Nottingham		
Salisbury		
Sheffield Sub-depot		
York		

Source: RMA: R/DD/TO/27, Undated (c1942-1943) Rowntree Depot Delivery Areas.

Whilst chapter 2 has suggested that the government relied upon voluntary, rather than coercive measures in the organisation of wartime road distribution, the railway network's role as the main artery for distributing essential commodities and war materials meant that the confectionery industry was responsible for minimising its use of rail transport.⁹⁶⁴ In May 1942, Rowntree's Transport Department published a report detailing a voluntary rationalisation scheme to supply retailers in the South Yorkshire area.⁹⁶⁵ The report indicated that the 'Cadbury Sheffield Depot and Rowntree Nottingham Depot Area overlap to a considerable extent, and because of transport restrictions, it is necessary for this overlapping to be obviated', with the affected area split equally between the two depots.⁹⁶⁶ Similar arrangements were undertaken at depots affected by German bombing, with the

⁹⁶³ "Coordinated Bulk Deliveries: One of War's Effects on Confectionery Transport," *The Commercial Motor*, LXXII (December 13, 1940), pp. 374-375; Hammond, *Food Vol. I*, p. 332.

⁹⁶⁴ See: Ministry of Transport, *Organisation of Road Transport for a Defence Emergency: Goods Vehicles* (London: HMSO, 1939), p. 5.

⁹⁶⁵ RMA: R/DD/TO/27, 26 May 1942 Transport Department.

⁹⁶⁶ RMA: R/DD/TO/27, 26 May 1942 Transport Department.

distribution operation at Rowntree's destroyed Southampton depot spread between other confectioners until a temporary premises was constructed at Salisbury.⁹⁶⁷

The wartime distribution system was also underpinned by the establishment of sub-depots at various strategic locations by the MCA for use by all manufacturers, as listed above in **Figure 12**. The joint depot system made provision for serving remoter areas of demand, with Rowntree's Cardiff depot combining products destined for remote villages such as Newgale, Solva and St. David's in West Wales, to ensure efficient use of railway wagons.⁹⁶⁸ Assessing the confectionery scheme's effectiveness, Hammond concludes that the 'appearance of economy [was] ...more important than the reality'; persistent demand rarely tallied with the available supply of transport, particularly in 1944 when military activity intensified following the Allied invasion of Europe.⁹⁶⁹ However, it is also possible to conclude that the shifting focus of supply chain governance towards the wartime government through rationing and the enforced factory closures threw a spotlight upon the industry's distribution arrangements, not simply because the wartime rationalisation programme emphasised that further efficiencies in road and rail transport use could be made, but that it also demonstrated the trade's vulnerability to further interventions by government.⁹⁷⁰

5.10 Nationalisation, integration and innovation, 1945-1959

The vulnerability highlighted in the previous section reflected the fact that any optimism within the confectionery industry for a swift relaxation of controls and a return to normal market conditions after the Second World War was misplaced on two counts. Firstly, the wartime suppression of the market economy meant that any sudden lifting of food rationing would have resulted in inflationary pressures if consumer demand outstripped the ability to meet supply.⁹⁷¹ Secondly, Britain emerged from the war with a balance of payments crisis because of the prolonged loss of export markets, which combined with a dollar shortage to increase the expense of raw material imports.⁹⁷² Whilst the transport zoning scheme was ended in 1946, the newly-elected Labour government consequently

⁹⁶⁷ C. Cowling, "Our Job.... Depot Distribution Part II," *Cocoa Works Magazine* (Summer 1953), p. 7.

⁹⁶⁸ "Coordinated Bulked Deliveries," p. 374; RMA: R/DD/TO/27, Undated (c1942-1943) Rowntree Cardiff Depot Delivery Area, p. 1.

⁹⁶⁹ Savage, *Inland Transport*, pp. 599-602; Hammond, *Food Vol. I*, p. 344.

⁹⁷⁰ Hammond, *Food Vol. I*, p. 342; *It Can Now Be Revealed: More About British Railways in Peace and War* (London: British Railways Press Office, 1945), pp. 40-42.

⁹⁷¹ Fitzgerald, *Rowntree and the Marketing Revolution*, pp. 431-433.

⁹⁷² Zweiniger-Bargielowska, *Austerity in Britain*, p. 6.

made the decision to continue with food rationing to regulate consumer demand, with points rationing retained for commodities such as confectionery until 1949.⁹⁷³

Aside from supply problems, the passing of the Transport Act (1947) had serious ramifications for traders and industries, and once again highlights the firm's vulnerability to issues affecting its transport supplier.⁹⁷⁴ The principal problem was that the vehicle fleets of 'A' licensed contractors would be nationalised; this included NMU, and the administration of all road operations was transferred to British Road Services (BRS).⁹⁷⁵ Rowntree's relationship with BRS is unknown due to a lack of documentary evidence, although it is possible to hypothesise that there was general mistrust of the nationalised organisation. The reasons for concern were highlighted by *The Commercial Motor*, which claimed that a lack of competition would foster managerial complacency and reduce the incentive for service improvement.⁹⁷⁶ Referring to BRS in 1951, the publication argued that a decline in service reliability would force traders to sink capital into storing large stocks of goods to guarantee product availability, thereby driving-up overhead costs and retail prices.⁹⁷⁷ Nationalisation therefore appeared to threaten to tie the confectioner to a state-owned monopoly where governance on rates was remote from local management.

Despite the paucity of material, the hypothesis of a challenging relationship with BRS appears to be supported by Rowntree's response to the Conservative government's denationalisation of long-distance road transport in 1952 and the subsequent reduction of its fleet. Rowntree's management took the opportunity to purchase former NMU assets for incorporation into a new subsidiary company, NMU (1953) Ltd. This action implies that nationalisation had provided an unwelcome distraction for the confectioner, and the vertical integration of road haulage gives credence to a hypothesis that Rowntree wished to secure its road haulage operation against future government intervention, and establish direct control of overhead costs.⁹⁷⁸ Conversely, there is little evidence to suggest that the relationship between Rowntree and the nationalised railways was similarly strained before the Associated Society of Locomotive Engineers and Firemen's (ASLEF) strike over pay in May 1955. The transition to British Railways (BR) was initially characterised by

⁹⁷³ Zweiniger-Bargielowska, *Austerity in Britain*, pp. 84-85.

⁹⁷⁴ See Bradley, *Cadbury's Purple Reign*, p. 80 and R/DD/T/3, 23 September 1923 Proposed Closer Relations with NMU- Observations, pp. 1-4.

⁹⁷⁵ A comparable situation was experienced by Unilever. See: W. J. Reader, *Hard Roads and Highways: SPD Limited, 1918-1968* (London: B. T. Batsford Ltd., 1969), pp. 95-96.

⁹⁷⁶ "Transport Arteriosclerosis," *Commercial Motor*, XCIII (March 16, 1951), p. 157.

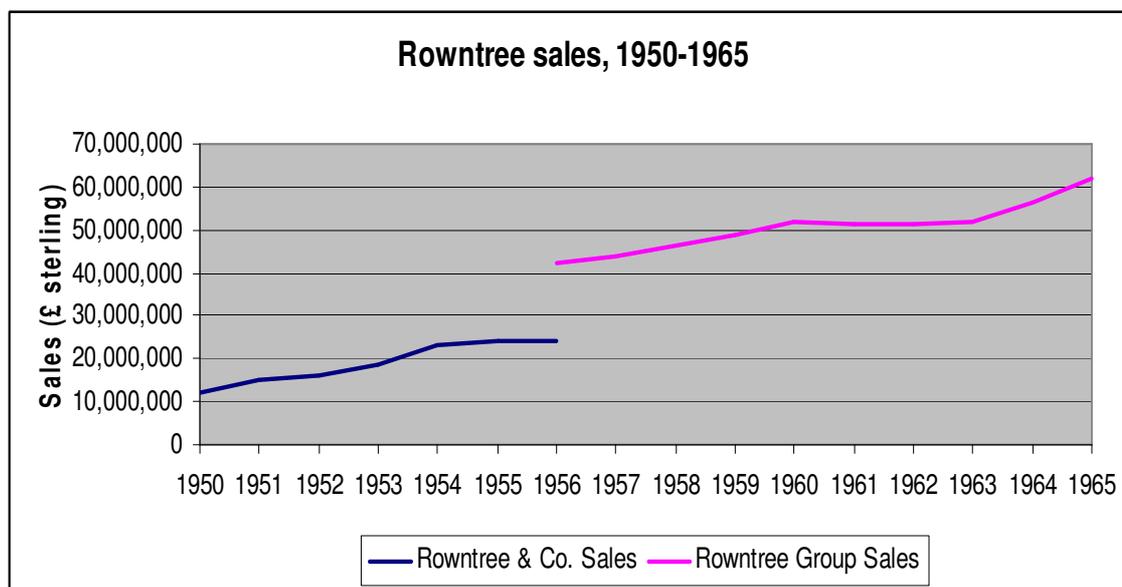
⁹⁷⁷ "Transport Arteriosclerosis," p. 157.

⁹⁷⁸ Fitzgerald, *Rowntree and the Marketing Revolution*, p. 436, p. 449.

continuities in personnel and procedures, and the railways maintained their role as the principal means of long-distance bulk transport.⁹⁷⁹

However, the integration of road haulage into Rowntree’s business portfolio proved fortuitous, as it provided the confectioner with a means of circumventing the worst effects of the strike.⁹⁸⁰ Although surviving records do not reveal the extent of the disruption faced by Rowntree, it would appear that the strike did not permanently damage the relationship.⁹⁸¹ However, a potential reason for this is the extent to which Rowntree was also ‘locked-in’ to the railway operation, as existing facilities at the Haxby Road site and the lack of a competitive national road network might have prevented any fundamental change to the status-quo. Furthermore, Rowntree’s focus may also have been directed elsewhere; sales figures recorded by Fitzgerald and reproduced in **Graph 21** suggest the firm had experienced demand ‘plateaux’ between 1954-56 and 1960-63. Although they do not provide a continuous record, the 1953-54 rise may be attributed to food decontrol, whilst later rises in sales might have been assisted by growing overseas markets and changing marketing technology via television advertising.⁹⁸²

Graph 21



Source: See Appendix 2, Table 21 (p. 310).

⁹⁷⁹ “Our Job.... Despatch Department- Traffic Section,” *Cocoa Works Magazine* (Spring 1951), p. 8.

⁹⁸⁰ See Chapter 2 and T. R. Gourvish, *British Railways: A Business History, 1948-1973* (Cambridge: Cambridge University Press, 1986), pp. 214-225.

⁹⁸¹ As noted in: A. Bulkyn-Rackowe, “Milk Traffic on the London Extension after Nationalisation,” *Forward: The Journal of the Great Central Railway Society*, 33 (1982), p. 3.

⁹⁸² Fitzgerald, *Rowntree and the Marketing Revolution*, pp. 614-615.

Technological change also features in the hypothesis that Rowntree's research into the packaging used to protect confectionery in transit was the one area where the confectioner could influence the cost of distribution in its long-term relationship with rail transport. The firm reported that wooden cases commanded a high initial purchase and empty transport cost, and therefore looked to the pallet, which had been developed during the Second World War, as a cost-effective alternative because of the minimal amount of material used and its lower tare weight.⁹⁸³ The pallet thus permitted the dispatch of loose items in bulk, thereby reducing handling when loading and unloading at York and the receiving depots. However, Rowntree's readiness to adopt the technology was hampered by BR's initial reticence to invest in and then allocate the requisite equipment; it was not until after 1955 strike that the 'PALVAN', illustrated in **Image 14**, was used for Rowntree's traffic, albeit with mixed results.⁹⁸⁴

Image 14



Two unrestored ex-BR PALVANS at Toddington on the Gloucestershire-Warwickshire Steam Railway. Introduced in 1953 as part of a rush to keep pace with advances in goods packaging, they represent a transition between the visually similar 12-ton goods van and the modern, pallet-friendly wagons introduced during the 1960s. Source: Author's collection.

⁹⁸³ "Palletisation- What it means to British Railways," *British Railways Magazine (Southern Region)*, 2 (1951), p. 131.

⁹⁸⁴ BR's apparent reticence is conveyed in the article: "Palletisation- What It Means to British Railways," p. 131.

The PALVAN emerged in 1953, and by preceding the goods rolling stock investment programme proposed under the Modernisation Plan of January 1955, demonstrates that BR was not necessarily displaying complete inertia in rolling stock investment.⁹⁸⁵ The design consisted of a modified covered van with 12-tons capacity and vacuum brakes to facilitate high-speed running. The side doors were offset to permit forklift loading, allowing BR to offer a goods service that reduced handling for a quicker wagon turnaround at goods terminals. However, initial batches were in limited circulation, with Rowntree's use of the PALVAN beginning after a fleet enlargement in 1955.⁹⁸⁶ Whilst the basic premise demonstrates BR's ability to adapt to new traffic flows, in practice the concept also encapsulates the inflexibility of the railway operation when compared with road haulage.

Whilst offering a short-term solution to the pallet problem, the PALVAN design was constrained by existing standard construction techniques, resulting in overall capacity being restricted by the small chassis. On occasions where only one side could be accessed, pallets had to be moved inside the van to obtain efficient use of internal space. Furthermore, the narrow width, dictated by the British loading gauge, prevented the stacking of standard pallets, which affected weight distribution and combined with the wagon's short wheelbase to produce a propensity to derail at high speed.⁹⁸⁷ Their instability necessitated de-rating from 75mph to 40mph, although this still compared favourably with road haulage in 1957, when the maximum speed for lorries was 30mph.⁹⁸⁸ However, the need for improvement prompted the replacement of the PALVANs with a new generation of purpose-built vans capable of reliable running at express speeds.⁹⁸⁹

⁹⁸⁵ D. Larkin, *Wagons of the Early British Railways Era: A Pictorial Study of the 1948-1954 Period* (Southampton: Kestrel Railway Books, 2006), p. 56.

⁹⁸⁶ D. Larkin, *Wagons of the Middle British Railways Era: A Pictorial Study of the 1955-1961 Period* (Southampton: Kestrel Railway Books, 2007), p. 60.

⁹⁸⁷ The problem of short wheelbase wagons is described in: "Freight Derailment Risks," *Modern Transport*, XCI (18 January 1964), p. 3. See also Larkin, *Wagons of the Middle British Railways Era*, p. 60.

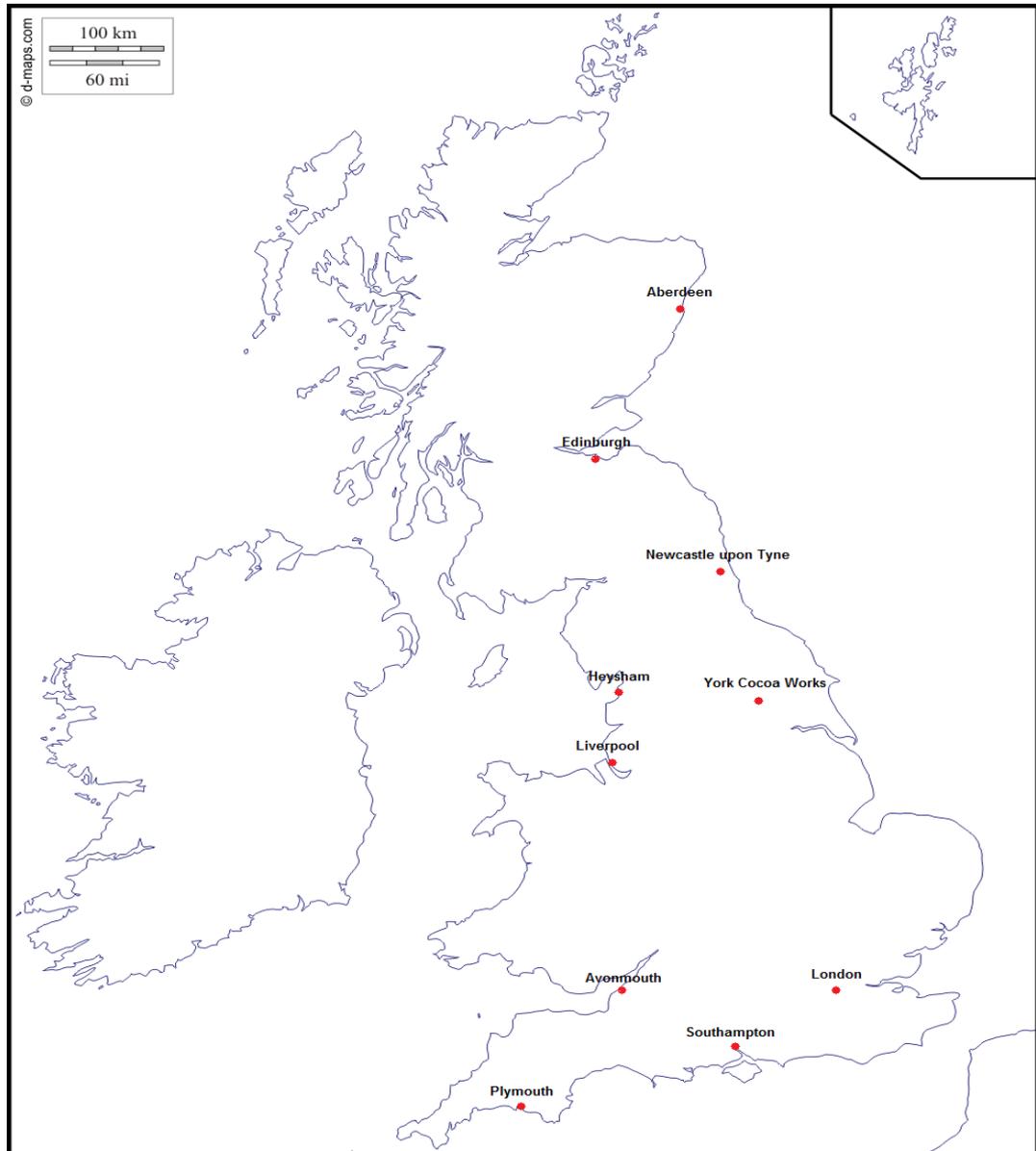
⁹⁸⁸ G. Boyes, "The British Road Haulage Industry Since 1954," *Railway and Canal Historical Society Journal*, 34 (2004), p. 516.

⁹⁸⁹ Boyes, "The British Road Haulage Industry Since 1954," p. 516.

5.11 Modal shift at last: Rowntree's rail and road operations, 1960-1975

Map 3

Rowntree Depot Locations, c.1972



Source: R. R. Darsley, "Rowntrees of York," *Industrial Railway Record*, 43 (June 1972), p. 245.

The two decades between 1950 and 1970 were marked by intense competition between the key firms for shelf-space at retailers, and the processing of orders demanded a flexible, efficient and reliable distribution system that could support a cost-controlled and demand-

driven sales environment.⁹⁹⁰ Although possession of a haulage subsidiary provided a means of meeting this challenge, it appears that Rowntree remained ‘locked-in’ to the mode years after motorway construction had created an alternative national network for trunk haulage. A reason might have been that the investment sunk into railway infrastructure over several decades had created path-dependency in distribution, confirmed by the quantity of wagons originating from the Cocoa Works in 1960 and 1972. In 1960, 75 wagonloads were dispatched in two trains per day, rising to 90 by 1972, and indicates that Rowntree’s rail operation was little-affected by the reorganisation of the railway network following the publication of *Reshaping of the Railways* in 1963, possibly because of the regularity and volume of the confectioner’s traffic.⁹⁹¹

However, the situation might also have stemmed from satisfaction with the service provided by BR, as an article in *The Commercial Motor* refers to the opening of a new London depot at Bounds Green in August 1965.⁹⁹² The new depot was the latest in a substantial network operated by the confectioner, the locations of which covered the length and breadth of Britain, as illustrated above in **Map 3**. However, this expansion took place when conditions within the food supply chain were in flux, as the emergence of self-service retail, consumer demand for choice and emphasis upon price had precipitated a shift in supply chain governance towards chain retailers such as Tesco and Sainsbury, which could use their buying power and large store networks as leverage against RPM set by the suppliers.⁹⁹³ Collective RPM, or the setting of minimum prices via the mutual agreement of a group of manufacturers producing similar products, was outlawed by government in 1956, although individual RPM agreements between manufacturers and retailing firms remained, permitting Rowntree to continue its existing distribution arrangements well beyond 1960, as **Image 15** indicates below.⁹⁹⁴

⁹⁹⁰ Bradley, *Cadbury’s Purple Reign*, pp. 186-187.

⁹⁹¹ *Reshaping of the Railways* is discussed in Chapter 2. Darsley, “Rowntrees of York,” p. 245.

⁹⁹² “New Rowntree Depot,” *Commercial Motor*, 122 (August 27, 1965), p. 21.

⁹⁹³ Maunder, “Food Processing,” p. 193; D. A. Quarmby, “Developments in the Retail Market and their Effect on Freight Distribution,” p. 75; Bradley, *Cadbury’s Purple Reign*, p. 184.

⁹⁹⁴ J. F. Pickering, *Resale Price Maintenance in Practice* (London: George Allen and Unwin, 1966), pp. 115-116.

Image 15



Ex-LNER J27 0-6-0 No. 65894 shunts BR PALVANS and coal hoppers outside Rowntree's Cocoa Works, Haxby Road, 1962. Note the works in the right background. The train is on the branch that linked the York-Scarborough line to the cattle market at Layerthorpe; the line also formed a connection with the independently-owned Derwent Valley Light Railway, the route of which served the arable district between York and Selby. Source: Kidderminster Railway Museum collection.

The practice of individual RPM continued until rendered illegal by the Resale Prices Act (1964), which marked the transfer of the initiative to the retailer by permitting price competition in branded goods.⁹⁹⁵ The rising dominance of the large national multiple retailer in the food supply chain, with their market concentration and competitive outlook also marked a shift in approach to product logistics; the retailer's desire to minimise prices and maximise product choice necessitated the acquisition of transport through direct negotiations with contractors based upon the needs to the retailer.⁹⁹⁶ In contrast, supplier RPM could be adjusted to account for transport costs, which had risked funding continuity, rather than adaptation on the part of the manufacturer. A reduction in vertically-integrated, manufacturer-led distribution would therefore, in time, permit the use of third-party road haulage specialists to produce lower engineering and transport overheads and create

⁹⁹⁵ Pickering, *Resale Price Maintenance in Practice*, pp. 115-116.

⁹⁹⁶ M. Bourlakis and P. Weightman, "Introduction to the UK Supply Chain," in *Food Supply Chain Management*, ed. M. A. Bourlakis and P. W. K. Weightman (Oxford: Blackwell Publishing, 2004), p. 1; Maunder, "Food Processing," p. 193.

savings which could be passed to the consumer, the retailer governing the process through continuous quality control assessment.⁹⁹⁷

However, the transfer to a retailer-controlled distribution network was gradual; in the interim, Rowntree focused upon maintaining best-practice and high standards in its own operations; the confectioner issued handbooks to its transport staff that stressed the lorry driver's role as the company's 'human face' in daily contact with its retail customers.⁹⁹⁸ The manual emphasised that a driver's '...job [was] to deliver to our customers, safely and with courtesy, the products of Rowntree's and their associated companies', whilst high driving standards assisted with '...[building] up and [maintaining] a reputation for courtesy', indicating that road transport helped to 'sell' the Rowntree brand and 'push' product sales.⁹⁹⁹ The professionalization of road haulage staff accompanied an expansion of NMU (1953) Ltd. as both Rowntree and Cadbury continued to develop their distribution operations between 1960 and 1972.¹⁰⁰⁰

Cadbury had ceased delivering raw ingredients to Bournville by canal barge in 1961, and had transferred to a predominantly road-based distribution operation following the construction of a new depot in 1964, a decision which might have been prompted by BR's freight policy following the 1963 *Reshaping* report, which advocated a reduction in the duplication of railway facilities such as marshalling yards, which were essential in the dispatch of wagon load traffic.¹⁰⁰¹ In contrast, Rowntree's development programme appears more measured, and implies that the confectioner was content to maintain its existing balance between rail and road. The growth of its haulier subsidiary thus stopped short of a full modal shift to road haulage, although other factors ensured that Rowntree's confectionery remained rail-borne beyond 1965.

Firstly, heavy goods vehicles were restricted to 30mph and were still evolving in terms of capacity and length.¹⁰⁰² With road vehicle regulations under continual review by the Ministry of Transport, the railways provided a level of consistency that appealed to firms such as Rowntree by offering a regular service with larger vehicle capacity and a higher speed than road haulage. Secondly, although Rowntree's *Cocoa Works Magazine* indicates that thought was being given to the eventual transfer of long-distance distribution to road haulage, government intervention in the guise of the Transport Act (1968) posed a

⁹⁹⁷ Quarmby, "Developments in the Retail Market and their Effect on Freight Distribution," p. 76.

⁹⁹⁸ RMA: R/DD/TD/62, Undated (c1962-1968) Rowntree's Drivers' Handbook, pp. 1-2.

⁹⁹⁹ RMA: R/DD/TD/62, Undated (c1962-1968) Rowntree's Drivers' Handbook, p. 2, p. 5.

¹⁰⁰⁰ NMU (1953) Ltd. was eventually renamed NMU Transport Ltd., 1970. Burg, *A Guide to the Rowntree and Mackintosh Company Archives*, p. 192.

¹⁰⁰¹ Sharpe, *Railways of Cadbury and Bournville*, p. 27.

¹⁰⁰² Boyes, "The British Road Haulage Industry Since 1954," p. 516.

challenge.¹⁰⁰³ On the one hand, the Act was beneficial, as it deregulated the quantitative controls over goods vehicle licensing; on the other, it imposed new controls based upon operator competency in an example of legislative governance setting the terms of participation in the haulage industry.¹⁰⁰⁴

This was extended to the compulsory plating of vehicles with maximum load weights, which meant that traffic taken over 100 miles in vehicles weighing over 16 tons would be diverted to services provided by a new National Freight Corporation (NFC), thus ‘[removing] freedom of choice from the user’ to ascertain the most economic and efficient mode of transport for the task at hand.¹⁰⁰⁵ However, shorter-distance hauls could provide remunerative work for Rowntree’s road haulage subsidiary. The most visible example is considered in a *Cocoa Works Magazine* article published in 1969, which records that Rowntree had undertaken to follow Cadbury’s example by transferring the 30,000 tons of raw ingredients conveyed by canal from Hull annually to road transport to provide something akin to a continuous ‘pipeline’ operation.¹⁰⁰⁶ The use of rail also encompassed two of BR’s new freight services; for the export market, Rowntree used BR’s Freightliner service for dispatching containerised consignments to the ports.¹⁰⁰⁷

Although Freightliner boasted improved productivity over the traditional wagon-load freight train, the latter remained in use for domestic distribution, with BR’s ‘Speedlink’ high-speed merchandise service used from 1973.¹⁰⁰⁸ However, improvements in road infrastructure permitted increased lorry weight and length, whilst the development of regional distribution centres by Rowntree’s customers at strategic points on the expanding motorway network precipitated a reduction in rail traffic emerging from the Cocoa Works and the closure of York Dringhouses freight yard in 1973.¹⁰⁰⁹ Similarly, the closure of yards in the Birmingham area and the inconvenient location of the remaining marshalling yard at Bescot for Cadbury’s Scottish traffic prompted a complete modal shift to road by 1977.¹⁰¹⁰ Whilst Rowntree’s rail operation lingered for another decade, the combination of changes implemented by its retail customers and improvements in the road

¹⁰⁰³ W. Fieldhouse, “Pipeline Operation Moves into a New Era,” *Cocoa Works Magazine* (Spring 1969), 20; Darsley, “Rowntrees of York,” pp. 20-21.

¹⁰⁰⁴ B. Coates, “Supply and Transport Division,” *Cocoa Works Magazine* (Summer 1969), pp. 24-25.

¹⁰⁰⁵ Coates, “Supply and Transport Division,” p. 25.

¹⁰⁰⁶ Fieldhouse, “Pipeline Operation Moves into a New Era,” p. 20; Darsley, “Rowntrees of York,” p. 235, p. 245.

¹⁰⁰⁷ B. Coates, “Supply and Transport- The Container Revolution,” *Cocoa Works Magazine* (Autumn 1969), p. 22.

¹⁰⁰⁸ Gourvish, *British Railways, 1948-73*, pp. 502-505.

¹⁰⁰⁹ Darsley, *The Industrial Railways of York*, p. 384.

¹⁰¹⁰ Sharpe, *Railways of Cadbury and Bournville*, p. 27.

network unlocked the relationship between the confectioner and the railways in long-distance distribution, creating the road-based logistical system described in section 5.2.

5.12 Conclusion

The case of Rowntree has provided an example of manufacturer-led logistics developed and organised according to the specific demands of a firm competing for market share. When considered against chapter 3, this analysis indicates that before the retail industry's assertion of executive governance over the supply chain in the 1960s, manufacturing and processing industries such as chocolate and sugar confectioners had developed complex logistical networks. Expanding consumer demand, the importance of branding and the concentration of the British market amongst a few, large manufacturers meant that speed, time and distance were crucial factors for consideration. The historiographical implication is that the structure of one industry once again provides the framework in which another operates, with the confectioner's search for a mode of transport with bulk capability and nationwide reach resulting in the adoption of rail as the principal means of distribution.

This account of Rowntree's logistical operation indicates that the firm's experience of logistics comprises of two key factors, the first being the role of the 1919 railway strike in beginning a long-term modal shift to road haulage. From a practical standpoint, the mode permitted a reduction in the ancillary packaging costs associated with dispatch by rail, as products could be packed loose in cheaper cardboard or purposely-designed outer cases. However, the second factor was the fact that the confectionery industry was 'locked-in' to rail transport by historic investment in related infrastructure, which was underpinned by the limitations of contemporary road transport such as range, urban congestion and an inability to convey bulk loads in volume. In spite of this, road transport's flexibility over shorter distances expanded once the requisite road infrastructure was in place, ensuring that it had already become indispensable by the Second World War.

Advances made by Cadbury in mass-producing low-cost chocolate of a consistent quality had laid a gauntlet for Rowntree to compete; the latter firm was forced to reduce costs through technological innovation.¹⁰¹¹ This is the reason for the importance Rowntree accorded to packaging, which not only advertised the brand but also assured its retail customers that its confectionery products would arrive in both presentable and marketable condition; an important example of the confectionery industry exercising executive governance over distribution when the supply of transport was in the hands of a third party.

¹⁰¹¹ Bradley, *Cadbury's Purple Reign*, pp. 117-121; Fitzgerald, *Rowntree and the Marketing Revolution*, p. 277.

However, competition was also tempered by the close collaboration between Britain's confectionery manufacturers between 1919 and 1923; the MCA asserted the collective will of the confectionery industry to influence railway rates, hold the railway companies to account, and provide a forum for discussing new developments in logistics.

The experiences of Rowntree and Cadbury in the field of rail and road distribution is recorded in publications such as *The Commercial Motor*, and suggest that Britain's food manufacturers were important examples of private enterprise making market-based decisions on transport matters without the need for external intervention. However, the Second World War imposed constraints upon the confectionery industry, initially due to the demands made upon increasingly scarce transport resources and subsequently points rationing, which is another example of the government attempting to implement legislative governance over the supply chain by removing normal market conditions and imposing a moratorium on competition within the confectionery industry.¹⁰¹² This shift in governance was underpinned by a policy of factory concentration to prevent demand out-pacing supply and release labour, thus creating conditions for rationalising distribution and transport use via zoning by 1945.

As chapter 2 has already suggested, the immediate post-war period was characterised by increasing government intervention in transport matters; this had direct implications for Rowntree, as its long-term contract haulier, NMU, was nationalised in 1949. Nationalisation was accompanied by the delocalisation of long-distance haulier management, which removed Rowntree's ability to freely negotiate charges and service alterations, a factor which may have informed the vertical integration of road transport into the firm's portfolio after denationalisation in 1953. In contrast, the relationship with the nationalised railway was one of continuity, although this may have been a legacy of the confectioner's historic ties with the network.

One of the fundamental problems associated with railway operation was the time taken to adapt to changes in distribution because of the constraints of existing infrastructure, as the failure of the PALVAN, BR's attempt to adapt to the rise in pallet-based logistics, exemplifies. Furthermore, the full decontrol of rationing in 1954 was not marked by a return to 'business as usual' for Britain's food manufacturers; intense growth in the consumer demand for confectionery after 1954 accompanied a shift in supply chain governance towards large, national retail chains. This was initially achieved by the undermining of the manufacturer's ability to set prices through RPM, which in turn

¹⁰¹² Savage, *Inland Transport*, p. 63, p. 115, p. 378; Hammond, *Food Vol. III*, p. 520.

affected the manufacturer's ability to fund its existing distribution operations.¹⁰¹³ One response to the demand for cheaper transport was Cadbury's and Rowntree's transfer of raw materials from canal to road between 1960 and 1969. However, the concurrent growth of the motorway network and improved lorry capacity permitted long-distance, door-to-door road haulage. Rowntree's larger retail customers responded to this by constructing new regional road distribution centres, which permitted the direct governance of transport quality and quantity and forced the confectioner to adapt by gradually cutting its historic ties with rail distribution. The detail of this seismic shift in the food supply chain's character and its role in driving the development of food distribution will be examined the next chapter, which explores the British food retail sector's use of transport.

¹⁰¹³ Pickering, *Resale Price Maintenance in Practice*, pp. 115-116.

Chapter 6 - Food retail transport, 1919-1975

6.1 Introduction

Food retailing is broadly defined as the vending of a variety of food products for final preparation and consumption off the store premises. Consequently, this chapter will explore the transport operations associated with the final phase of distribution before food products are purchased for consumption. It contrasts with the previous chapters as the industry was ‘scattered and ill-assorted [in] character’, with traders primarily focused upon the collection and delivery of small consignments from or to local destinations, thus rendering bulk, long-distance rail distribution services superfluous.¹⁰¹⁴ Consequently, the main example of modal shift was from horse to motor lorry, rather than from rail to road.¹⁰¹⁵ Between 1919 and the mid-1950s, the sector was broadly split between small, independent retailers, Co-operatives and the privately-owned retail multiple, and all were characterised by counter service, which necessitated the storage of stock either at store-owned warehouses or at wholesalers. Yet by 1975, food retailing had established itself as the dominant force within Britain’s supply chain, having laid the groundwork for the expansion of self-service supermarket chains connected by intricate distribution networks. However, the fragmentation of the industry between small and larger, commercially sensitive traders means that data relating to transport usage is equally fragmentary; this chapter consequently combines a supply chain analysis with surviving archival material and trade literature to examine the changing role of transport in a food retail context.

The existing historiography has yet to fully assess the role of transport in the evolution of British food retailing, particularly during the twentieth century. With the exception of Roger Scola’s *Feeding the Victorian City*, the literature predominantly focuses upon the consumer-retailer relationship, or attempts to measure the development of European retail against the American experience.¹⁰¹⁶ Volumes edited by John Benson and Laura Ugolini analyse the cultural and social values of consumption in Britain, thus concentrating upon consumer perceptions and interactions rather than the mechanisms and structures supporting the sector.¹⁰¹⁷ Conversely, Gareth Shaw explores the historical

¹⁰¹⁴ H. Levy, *The Shops of Britain: A Study of Retail Distribution* (London: Oxford University Press, 1948), 213.

¹⁰¹⁵ T. Barker and D. Gerhold, *The Rise and Rise of Road Transport* (Cambridge: Cambridge University Press, 1995), pp. 49-52. This publication identifies the growth urban goods transport by road as ‘neglected’ by historians.

¹⁰¹⁶ R. Scola, *Feeding the Victorian City: The Food Supply of Manchester 1770-1870* (Manchester: Manchester University Press, 1992).

¹⁰¹⁷ For example, J. Benson and L. Ugolini, ed., *Cultures of Selling* (Aldershot: Ashgate, 2006).

geography of retail development to explain the location of retailers in urban areas; however, the implications of shop location for collection and delivery remains unclear.¹⁰¹⁸

Looking at the twentieth century, Victoria de Grazia suggests that European consumerism was ‘Americanised’ during the mass retail revolution of the late 1950s; although the term is broad in scope, the author defines it as the transfer of American business, technological and cultural knowledge and working practices to non-American regions.¹⁰¹⁹ Although this narrative has become the historical assumption, it is also contentious, as Shaw and Louise Curth argue for the existence of a more nuanced process of retail development in Britain, a process which invariably relied upon the ability to move goods efficiently from supplier to store.¹⁰²⁰ The sector has been well-served by popular histories; Bridget Williams’ account of Sainsbury’s takes a thematic approach, whilst business case-studies exemplified by John Wilson, Anthony Webster and Rachael Vorberg-Rugh’s overview of the Co-operative Group’s development since 1863, highlights the challenges and opportunities faced by the Co-operative Wholesale Society (CWS).¹⁰²¹ The literature dealing specifically with the development of logistics within the food retail industry’s transport operations is sparse over the period 1919 to 1975, with publications such as Michael Bourlakis and Paul Weightman’s edited volume entitled *Food Supply Chain Management* concentrating upon developments made since the mid-1970s.¹⁰²²

This chapter uses material from the Marks & Spencer (M&S) and Co-operative Wholesale Society archives, Sainsbury’s staff magazines and *The Grocer and Oil Trader Review* to analyse the evolution of retail transport before 1975. It explores the use of road transport by small, independent retailers, the Co-operative movement and the privately-owned retail multiple respectively, whilst supply chain analysis is employed to assesses how supply chain governance shifted over the period and determined the character of food retail transport. The effects of wartime measures to control consumer demand and retail distribution are considered, whilst the chapter concludes by charting the extent to which

¹⁰¹⁸ G. Shaw, “Changes in Consumer Demand and Food Supply in Nineteenth-century British Cities,” *Journal of Historical Geography*, 11 (1985), p. 286, p. 293; G. Shaw, “The Evolution and Impact of Large-scale Retailing in Britain” in *The Evolution of Retail Systems, c.1800-1914*, ed. J. Benson and G. Shaw (Leicester: Leicester University Press, 1992), pp. 135-165; A. Alexander, G. Shaw and D. Hodson, “Regional Variations in the Development of Multiple Retailing in England, 1890-1939” in *A Nation of Shopkeepers: Five Centuries of British Retailing*, ed. J. Benson and L. Ugolini (London: I B Tauris, 2003), pp. 127-149.

¹⁰¹⁹ V. de Grazia, *Irresistible Empire: America’s Advance through Twentieth-Century Europe* (Belknap/Harvard University Press, 2006), pp. 376-415.

¹⁰²⁰ G. Shaw and L. Curth, “Selling Self-service and the Supermarket: The Americanisation of Food Retailing in Britain, 1945-60,” *Business History*, 46 (2004).

¹⁰²¹ B. Williams, *The Best Butter in the World: A History of Sainsbury’s* (London: Ebury Press, 1994); J. F. Wilson, A. Webster and R. Vorberg-Rugh, *Building Co-operation: A Business History of The Co-operative Group, 1863-2013* (Oxford: Oxford University Press, 2013).

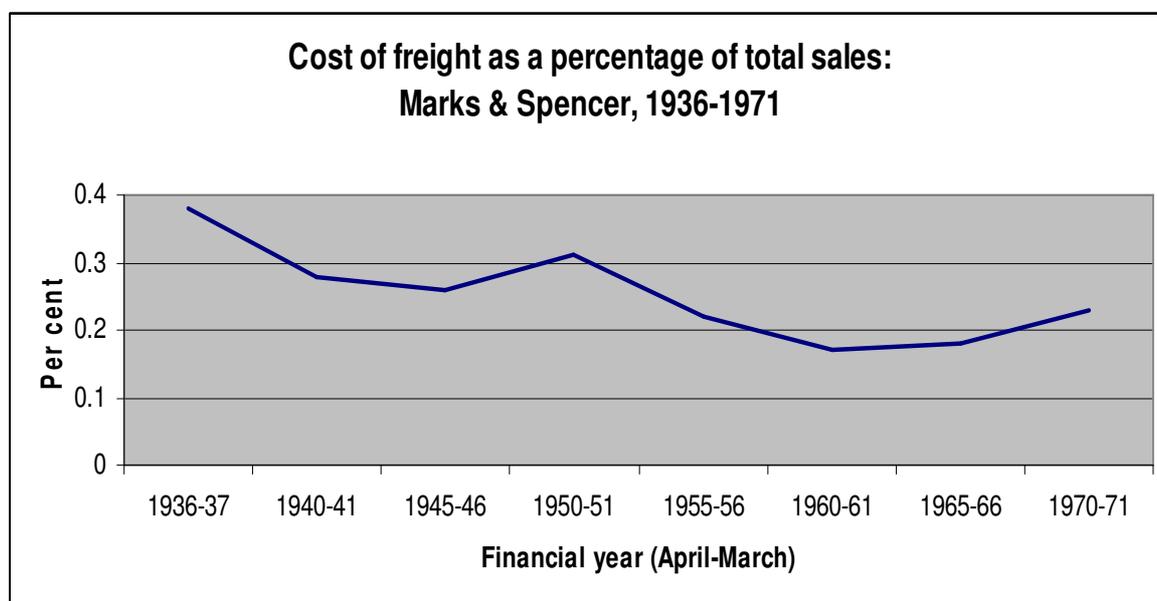
¹⁰²² M. A. Bourlakis and P. W. K. Weightman, ed., *Food Supply Chain Management* (Oxford: Blackwell Publishing, 2004).

the development of road haulage was a crucial factor that underpinned the mass retail ‘revolution’ that emerged in Britain after the mid-1950s.

6.2 Food retail supply chain analysis

As with the previous supply chain analyses, the operation of the food retail supply chain depended upon factors such as the range of goods, the size of the business and the demands of the customer base.¹⁰²³ The previous chapters have shown that financial data concerning distribution arrangements further up the supply chain are widely dispersed; the issue is also consistent with data relating to smaller retailers, which presents a potential area of future academic research. Surviving financial datasets consulted at the Co-operative archive in Manchester and in the retail trade press at the British Library are either incomplete, fragmentary, or present difficulties in interpreting the precise role of transport. Consequently, this section begins with an example of surviving transport cost data from Marks & Spencer (M&S), an example of a large chain retailer with a substantial archive in Leeds that sold consumer goods and diversified into luxury foods, before providing a general overview of the supply chain changes taking place between 1919 and 1975.

Graph 22



Source: See Appendix 2, Table 22 (p. 311).

¹⁰²³ A. Wileman and M. Jary, *Retail Power Plays: From Trading to Brand Leadership* (London: Macmillan, 1997), p. 23; Scola, *Feeding the Victorian City*, pp. 237-246; W. G. McClelland, “Economics of the Supermarket,” *The Economic Journal*, 72 (1962), p. 162; L. R. Gofton, “Machines for the Suppression of Time: Meaning and Explanations of Food Change”, *British Food Journal*, 7 (1992), p. 34.

Data detailing the overall cost of M&S' recorded freight charges in proportion to sales since 1936 is provided above in **Graph 22**. The lack of contextual information has prompted the author to assume that the series relates to the retailer's warehouse-store distribution operations. Notwithstanding annual sales fluctuations, transport costs declined from a high-point in 1936-37, and reduced between 1940 and 1946 as a result of wartime rationalisation and a reduction in sales from £29.1 million to £19.6 million.¹⁰²⁴ The subsequent increase to 1950 is consistent with rising road transport rates under the auspices of British Road Services, whilst the decrease between 1951 and 1960 encompasses rising sales following government decontrol.¹⁰²⁵ Finally, the rise experienced between 1961 and 1971 might be attributed to a reconfiguration towards a regional distribution centre-based system and rising contractor costs.¹⁰²⁶ However, M&S' surviving records do not distinguish food from consumer goods distribution, whilst the author has found no reference to tonnages dispatched. Consequently, the remainder of this section will instead provide a general overview of the changes taking place within the food retail supply chain between 1919 and 1975 as a prelude to discussing their impact upon transport choices.

Figure 13 below illustrates the two principal routes for retailing food products to customers, and demonstrates what Gary Gereffi, John Humphrey and Tim Sturgeon consider market-linked supply chain governance, whereby business transactions are simple and can persist over time, yet the flexibility to switch customers and suppliers remains.¹⁰²⁷ With food retail a localised concern, inputs are amalgamated at strategic points throughout the supply chain. These are denoted by wholesaler and retail multiple warehouses, which act as staging posts for providing product-specific distribution services or for collecting and combining commodities for onward dispatch.¹⁰²⁸ As shown in the diagram, the flow of goods is complicated by the fact that large retailers maintained business relationships with wholesalers in products such as meat and fish, and it has already been seen that manufactured foods such as confectionery were delivered direct to the store by firms 'pushing' their products into the market.¹⁰²⁹ Consequently, the retailer's reliance upon distributive efficiencies being achieved by organisations further up the supply chain

¹⁰²⁴ Marks & Spencer Archive (MSA): HO/9/3/3/8 'Carriage, Shipping and Motor Expenses,' Nominal Ledger, 1940-41; HO/9/3/3/14 'Carriage, Shipping and Motor Expenses,' Nominal Ledger, 1945-46.

¹⁰²⁵ I. Zweiniger-Bargielowska, *Austerity in Britain: Rationing, Controls and Consumption, 1939-1955* (Oxford: Oxford University Press, 2000), pp. 234-235.

¹⁰²⁶ D. A. Quarmby, "Developments in the Retail Market and their Effect on Freight Distribution," *Journal of Transport Economics and Policy*, 23 (1989), pp. 75-76.

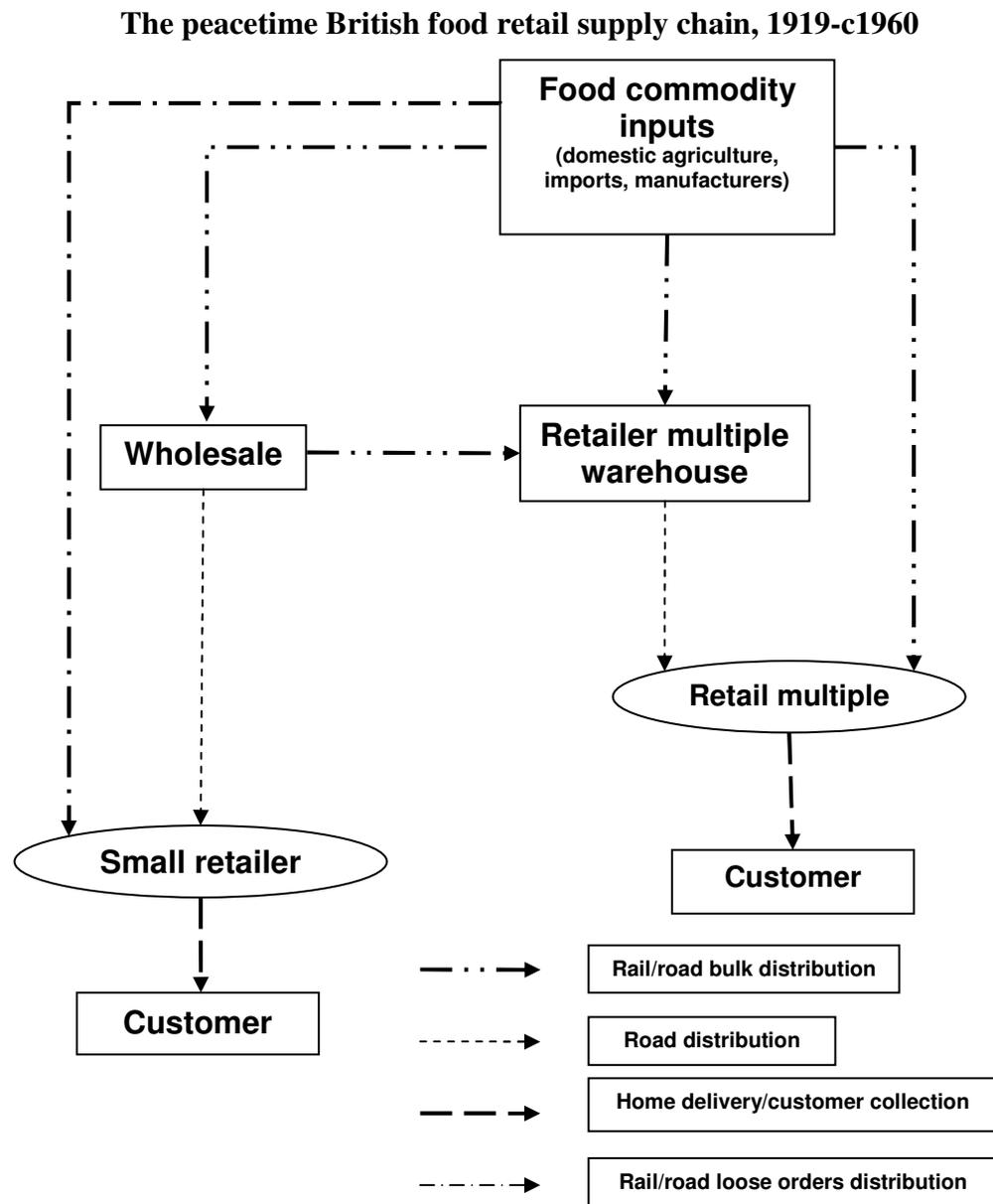
¹⁰²⁷ G. Gereffi, J. Humphrey and T. Sturgeon, "The Governance of Global Value Chains," *Review of International Political Economy*, 12 (2005), p.83, p. 85.

¹⁰²⁸ Quarmby, "Developments in the Retail Market and their Effect on Freight Distribution," p. 76.

¹⁰²⁹ Wileman and Jary, *Retail Power Plays*, p. 11.

indicates that they lacked the status of ‘lead firms’ driving change between 1919 and 1960.¹⁰³⁰

Figure 13



The situation is characteristic of an industry with little influence in the governance of the supply chain, which tended to be focused in the ‘intermediate’ stages of processing and wholesale.¹⁰³¹ The focus of supply chain governance is illustrated by the presence of resale price maintenance (RPM). As the previous chapter indicates, the practice enabled food processors to add value to raw ingredients by converting them into complex and marketable products to set prices based upon production and distribution costs as well as

¹⁰³⁰ Gereffi, Humphrey and Sturgeon, “The Governance of Global Value Chains,” p. 84.

¹⁰³¹ R. Kaplinsky, “Globalisation and Unequalisation: What can be Learned from Value Chain Analysis?,” *The Journal of Development Studies*, 37 (2000), pp. 124-125; Levy, *The Shops of Britain*, p. 20.

margin, thus creating a ‘producer-driven’ supply chain.¹⁰³² Consequently, processing firms could set the agenda for retail participation through contractual agreement, with little scope for retailers to engage in price competition on branded products, whilst wholesaler prices encompassed the distribution costs incurred as well as margin.¹⁰³³ Consequently, one area in which retailers could exercise control over distribution between 1919 and 1960 was home delivery, in which road transport provided a means for market differentiation between small outlets and retail chains through service-based competition.¹⁰³⁴

In common with the other case studies considered within this thesis, the retail sector was subjected to rationalisation during the Second World War. Legislative governance over Britain’s retail sector was established by government to establish basic trading rules during the conflict to bolster the wartime economy, which was characterised by the implementation of food rationing.¹⁰³⁵ Consequently, distribution was reconfigured by controlling consumer demand, with competition between retailers was held in abeyance.¹⁰³⁶ As food supply was based upon a fixed notion of demand, it was possible to adjust distribution according to demand through the pooling of resources such as transport and cooperation between participants. The changes resulting from government intervention are illustrated in **Figure 14** below, whilst consideration of **Graph 22** (p. 243) suggests that the combination of commodity control and transport rationalisation enabled M&S to achieve an overall decrease in freight charges between 1940 and 1946, thus reinforcing its decision to adopt road haulage as its principal means of distribution.

¹⁰³² Kaplinsky, “Globalisation and Unequalisation,” p. 125.

¹⁰³³ H. Mercer, *Constructing A Competitive Order: The Hidden History of British Anti-trust Policies* (Cambridge University Press: Cambridge, 1995), pp. 18-19; Levy, *The Shops of Britain*, p. 22.

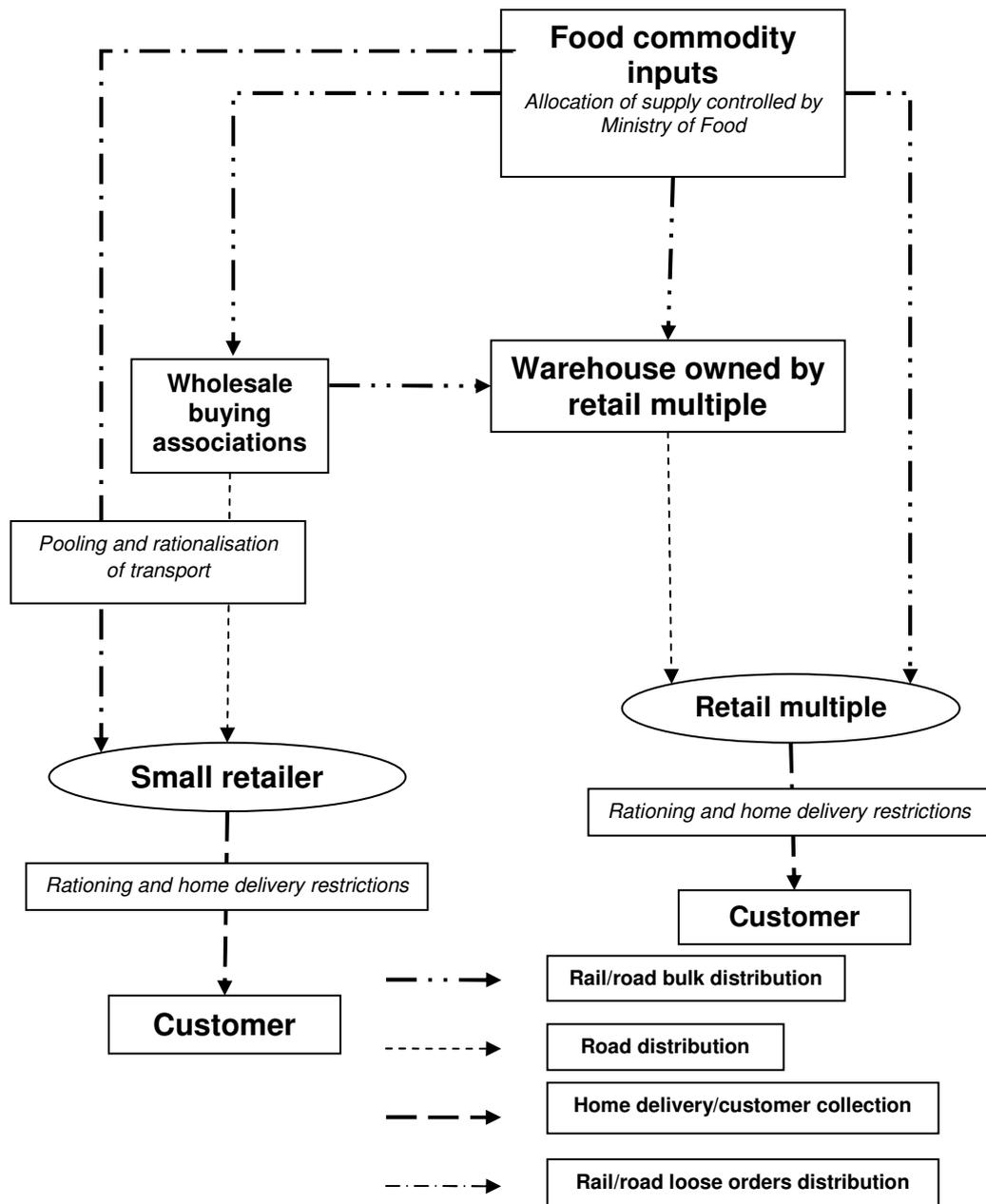
¹⁰³⁴ S. Phillips and A. Alexander, “An Efficient Pursuit? Independent Shopkeeping in 1930s Britain,” *Enterprise & Society*, 6 (2005), pp. 292-293.

¹⁰³⁵ Kaplinsky, “Globalisation and Unequalisation,” p. 124; Zweiniger-Bargielowska, *Austerity in Britain*, p. 8; A. F. Wilt, *Food for War: Agriculture and Rearmament in Britain before the Second World War* (Oxford: Oxford University Press, 2001), pp. 61-62.

¹⁰³⁶ Kaplinsky, “Globalisation and Unequalisation,” p. 23; Zweiniger-Bargielowska, *Austerity in Britain*, pp. 14-16.

Figure 14

The British food retail supply chain under government direction, 1939-1953



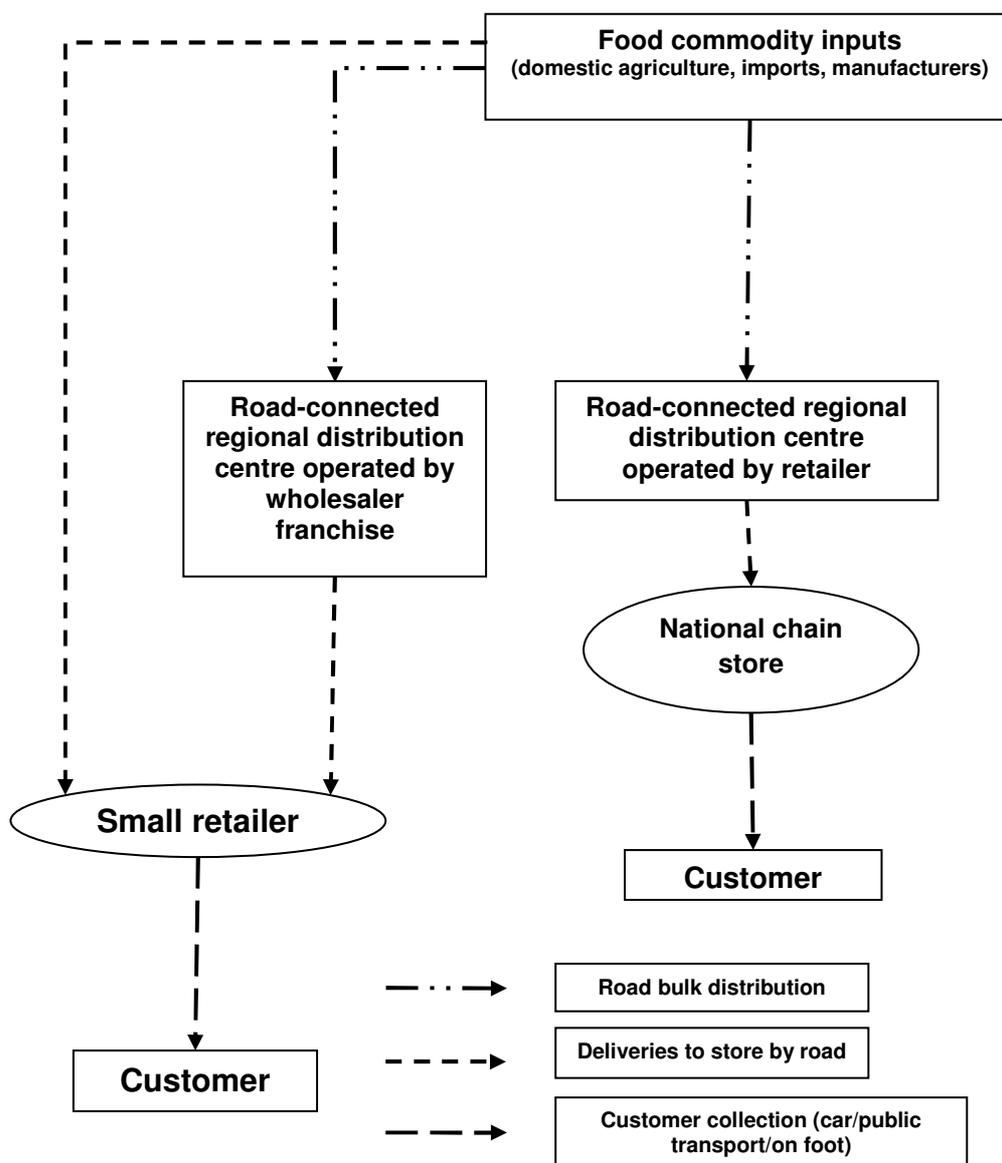
The immediate post-war period was characterised by a slow recovery for the food retail sector, as food rationing continued until 1953; with supply chain governance remaining in the hands of government, the retail sector used the period to develop and trial new concepts such as self-service.¹⁰³⁷ Whilst self-service brought about cost savings through the more efficient use of retail space, the de-specialisation of staff and the ability of the customer to view food products before buying, full advantage required retailer influence at key points

¹⁰³⁷ G. Shaw, A. Bailey, A. Alexander, D. Nell and J. Hamlett, “The Coming of the Supermarket: The Processes and Consequences of Transplanting American Know-how into Britain” in *Transformations of Retailing in Europe after 1945*, ed. R. Jessen and L. Langer (Farnham: Ashgate, 2012), pp. 37-38.

in the supply chain.¹⁰³⁸ However, the process could only begin in earnest after the decontrol of food rationing in 1953, which removed restrictions on food consumption. Similarly, the continued existence of RPM meant that branded products could not be discounted as a result of the efficiencies obtained through self-service, as this carried the risk of manufacturers ceasing supply.¹⁰³⁹ Moves to overcome the issue emerged in 1947 when the government sought to improve food distribution by creating conditions for price competition for consumer benefit and the abolition of collective RPM in 1956.¹⁰⁴⁰

Figure 15

The peacetime British food retail supply chain, 1960-1975



¹⁰³⁸ Bourlakis and Weightman, "Introduction to the UK Supply Chain," p. 8.; R. Clough, "Retail Change: A consideration of the UK food retail industry, 1950-2010," (PhD thesis, Middlesex University, 2002), p. 119.

¹⁰³⁹ Clough, "Retail Change," p. 119.

¹⁰⁴⁰ Mercer, *Constructing A Competitive Order*, pp. 125-126.

Further erosion of individual product RPM through buying power and sheer sales volume over a wide geographical area completed the shift in executive governance towards national chain retailers, with the resultant simplification in distribution highlighted above in **Figure 15**.¹⁰⁴¹ The development of the self-service supermarket brought far-reaching retailer-led legislative governance over market participation; retail chains seeking to reduce transaction costs encouraged investment in distributive technologies such as individual product packaging and road-based deliveries that underpinned the concept of self-service, consumer choice and low prices.¹⁰⁴² The result was a food supply chain managed according to the needs of the retailer with transport devolved to specialist firms, whilst one can speculate that the adoption of new distribution technologies including electronic stock control and temperature-controlled warehouses contributed to the rising cost of freight between 1966 and 1971 in **Graph 22** (p.243).¹⁰⁴³ These changes also assisted the small retailer, as their suppliers established a system of franchising and centralised warehousing to support the development of self-service convenience stores, thus emulating the active supply chain management implemented by retail multiples.¹⁰⁴⁴ How changes in supply chain governance affected the role and character of retail transport operations between 1919 and 1975 is detailed in the following sections.

6.3 Independents, wholesalers, the Co-operative and multiples: food distributors and their use of rail and road transport

The role of transport within the food retail sector was inextricably linked to growth of consumer demand as a result of the mass urbanisation of Britain's towns and cities that accompanied industrialisation in the latter half of the nineteenth century.¹⁰⁴⁵ The increased pressure upon local food supplies due to the geographical and population expansion of towns and cities stretched the ability of existing food traders to meet the demand for food in areas remote from established retail districts. Shaw notes that by the 1880s, suburban growth precipitated the decentralisation of food distribution away from town and city centres, giving rise to a proliferation of specialist retailers in the periphery.¹⁰⁴⁶ This process

¹⁰⁴¹ Clough, "Retail Change," p. 119.

¹⁰⁴² Johnston, *A Hundred Years Eating*, p. 86.

¹⁰⁴³ Quarmby, "Developments in the Retail Market and their Effect on Freight Distribution," p. 77.

¹⁰⁴⁴ H. W. Boyd, Jr. and I. Percy, "Retailing in Britain," *Journal of Marketing*, 27 (1963), p. 31.

¹⁰⁴⁵ Shaw, "Changes in Consumer Demand and Food Supply in Nineteenth-century British Cities," p. 287; Scola, *Feeding the Victorian City*, pp. 237-246 and J. Burnett, *Plenty and Want: A Social History of Diet in England from 1875 to the Present Day, 2nd Edition* (London: Scolar Press, 1979), pp. 144-145.

¹⁰⁴⁶ Burnett, *Plenty and Want*, pp. 144-145.

of decentralisation meant that retailers, as opposed to suppliers of goods, would be predominantly ‘locked-in’ to road, rather than rail-based distribution.

This process is described as ‘proximity retailing’, in which outlets were established within areas of high consumer demand, meaning that retailers were not always located in areas with direct links to Britain’s railway network; yet stock had to be delivered to a scattered array of small shops.¹⁰⁴⁷ The solution was the establishment of intermediaries between producer and retailer, giving rise to the food wholesale business. In contrast to the retailer, the food wholesale industry was a consequence of the development of long-distance transport links, and the railways provided economies of scale through the conveyance of food products in bulk from port and countryside, as well as providing warehouse space and cartage facilities for subsequent distribution to local retail customers in urban areas.¹⁰⁴⁸ The wholesaler therefore also assumed responsibility for providing a convenient, collection and delivery service for the small shopkeeper.¹⁰⁴⁹

Wholesalers were thus clearing houses that specialised in the amalgamation and subsequent sale of supplies of specific food groups including meat, vegetables and dairy products to the retail trade.¹⁰⁵⁰ Consequently, the wholesale industry paralleled the distribution arrangements established by food manufacturers in establishing a supplier-led operation, as evidenced by the diagrams in section 6.2 and the transport operations associated with the distribution of Rowntree’s confectionery described in the preceding chapter.¹⁰⁵¹ However, whilst supporting the small, independent food shops which dominated food retail in 1919, it is possible to hypothesise that the provision of these services added value to the products being dispatched, thereby increasing the final retail cost paid by the consumer.¹⁰⁵²

The independent retailer was therefore ‘locked-in’ to an arrangement requiring third-party input in the acquisition and delivery of stock; the sector’s primary role thus restricted to the selling of goods according to the ‘pull’ of consumer demand or the ‘push’ of travelling canvassers.¹⁰⁵³ This raises the hypothesis that small retailers exercised little governance over its supply chain for combating growing competition from branch-based retail ‘multiple’ firm since the 1880s. However, the multiple mode of retail possessed its

¹⁰⁴⁷ J. Stobart, “City Centre Retailing in Late Nineteenth and Early Twentieth-Century Stoke-on-Trent: Structures and Processes” in *A Nation of Shopkeepers: Five Centuries of British Retailing*, ed. J. Benson and L. Ugolini (London: I. B. Tauris, 2003), p. 165; Wileman and Jary, *Retail Power Plays*, p. 22.

¹⁰⁴⁸ Scola, *Feeding the Victorian City*, p. 168.

¹⁰⁴⁹ Scola, *Feeding the Victorian City*, pp. 128-129; “Delivered to your Door,” p. 3.

¹⁰⁵⁰ “Delivered to your Door,” *JS Journal*, 3 (January 1950), pp. 3-5.

¹⁰⁵¹ H. Smith, *Retail Distribution: A Critical Analysis* (London: Oxford University Press, 1937), p. 78.

¹⁰⁵² “How the Increased Railway Rates will Affect Grocers,” *The Grocer and Oil Trade Review*, CXVII (January 15, 1920), p. 3.

¹⁰⁵³ T. A. B. Corley, “Consumer Marketing in Britain, 1914-1960,” *Business History*, 29 (1987), p. 66; Wileman and Jary, *Retail Power Plays*, p. 11.

own logistical problems, as the regional and nationwide presence of some firms by 1919 demanded closer control over the final stages of what remained a complex, supplier-based food distribution network.¹⁰⁵⁴ Whether this was achieved depended upon whether the retailer operated as a private venture, or was affiliated to the Co-operative movement.

Since its formation in Rochdale in 1844, the Co-operative movement had evolved into a federation of autonomous retail, wholesale and manufacturing societies in working-class areas.¹⁰⁵⁵ The movement had established ownership over various stages of the supply chain, giving it the capacity to directly negotiate with suppliers to obtain bulk food orders at prices favourable to suppliers and customers.¹⁰⁵⁶ When coupled with the movement's various transport interests, the structure resembled a fully-integrated supply chain from farm to fork; in practice the dominance of local retail societies created a fundamental disconnect between its key wholesaling and retailing functions.¹⁰⁵⁷ This provided a stumbling-block for movement-wide adaption to changing external social and economic circumstances, including the establishment of a coherent transport policy, the latter resulting in a 'wasteful duplication of effort' in local transport management.¹⁰⁵⁸

Private multiples exemplified by firms such as Lipton's, Sainsbury and latterly Marks & Spencer (M&S), achieved regional and national prominence. The multiple principle comprised the full centralisation of purchasing strategy to reduce the administrative burden of store management and hence the risks associated with negotiating with wholesalers to produce a retail package that produced economies of scale that benefited the consumer.¹⁰⁵⁹ Each adopted different growth strategies, with Lipton's opening 600 outlets in heavily-industrialised areas between 1871 and 1920 on the basis of supplying a limited range of imported foodstuffs such as butter and bacon.¹⁰⁶⁰ Despite this success, the focus upon such product ranges had rendered this generation of multiple vulnerable to the effects of the German U-boat campaign in the latter stages of the First World War, as well as post-war economic change.¹⁰⁶¹

¹⁰⁵⁴ "Delivered to your Door," p. 3.

¹⁰⁵⁵ P. Scott, "Large-scale Retailing in Great Britain 1850-1914," *ReFRESH*, 24 (Spring 1997), p. 6.

¹⁰⁵⁶ K. Humphery, *Shelf-Life: Supermarkets and the Changing Cultures of Consumption* (Cambridge: Cambridge University Press, 1998), pp. 29-30.

¹⁰⁵⁷ P. Redfern, *The New History of the CWS* (London: J. M. Dent & Sons, 1938), p. 40; Wilson, Webster and Vorberg-Rugh, *Building Co-operation*, pp. 6-7.

¹⁰⁵⁸ L. E. Neal, *Retailing and the Public* (London: George Allen and Unwin, 1932), pp. 46-47.

¹⁰⁵⁹ Alexander et al., "Regional Variations in the Development of Multiple Retailing in England, 1890-1939," p. 130; Scola, *Feeding the Victorian City*, p. 168.

¹⁰⁶⁰ J. P. Johnston, *A Hundred Years Eating* (Dublin: Gill and Macmillan, 1977), p. 79; E. J. T. Collins, "The 'Consumer Revolution' and the Growth of Factory Foods: Changing Patterns of Bread and Cereal Eating in the Twentieth Century," in *The Making of the Modern British Diet*, ed. D. Oddy and D. Miller (London: Croom Helm, 1976), p. 33; J. Mackay, *The Man Who Invented Himself: A Life of Sir Thomas Lipton* (Edinburgh: Mainstream Publishing, 1998), p. 270.

¹⁰⁶¹ Burnett, *Plenty and Want*, pp. 133-135.

In contrast, regional multiples such as Sainsbury expanded during the inter-war economic recession, having focused upon establishing food ranges with broad demographic appeal.¹⁰⁶² The approach placed the onus upon the retailer to meet consumer demand and sell a broad range of food at competitive prices; the price-inflationary influence of the wholesaler could be bypassed through the centralisation of purchases direct from the supplier, a process characterised by M&S' expansion to 145 stores before the First World War.¹⁰⁶³ However, whilst centralised purchasing concept presented multiples with an opportunity to establish greater supply chain accountability through direct negotiation with producers and the development of centrally-located warehouses, retail transport remained only partially integrated outside of the Co-operative movement.

For the small, independent retailer, the wholesaler's importance within the supply chain meant that transport organisation, and hence the negotiation of delivery rates to stores, was beyond their control; integration of store collection and delivery was only possible when own-account transport was available.¹⁰⁶⁴ This contrasted with the multiples, which could assign clusters of shops to warehouses to facilitate regular dispatch, tight cost-control and closer monitoring of stock condition and staff.¹⁰⁶⁵ The warehouse system was also flexible, as multiples were free to accept goods from suppliers and adopt horse or motor transport on own account for store deliveries, with supplies dispatched by rail in the case of outlying stores.¹⁰⁶⁶ However, it is possible to hypothesise that a combination of geography, the varying quantities of goods sold at branches, declining reliability, rate rises and the emergence of motorised lorries and vans confirmed that Britain's railways were generally unsuitable for maintaining an efficient retail distribution operation by 1919.

Although food retail multiples with warehouses managed rising railway rates by employing staff to scrutinise charges and regularly acquiring stock in bulk from suppliers to obtain lower 'tonnage' charges, smaller retailers requiring less than a ton of goods reportedly accepted the rate as charged, exemplifying how businesses could be 'locked-in' to a mode of transport.¹⁰⁶⁷ The government's sanctioning of a general railway rates increase in 1920 had particular ramifications for retailers, as the merchandise charges for food products rose by 60 per cent.¹⁰⁶⁸ This was further increased by an additional flat-rate 'terminal charge' of one shilling per ton of merchandise to meet rising operational costs.

¹⁰⁶² Williams, *The Best Butter in the World*, pp. 85-86.

¹⁰⁶³ Scola, *Feeding the Victorian City*, p. 168; "Price Fixing," *The Grocer and Oil Trade Review*, CXXIII (January 12, 1923), p. 72.

¹⁰⁶⁴ Humphery, *Shelf-Life*, pp. 29-30; "How the Increased Railway Rates will Affect Grocers," p. 3.

¹⁰⁶⁵ For example: Williams, *The Best Butter in the World*, p. 26; "Transport for the Food of 150,000 People: A Co-operative Road Transport Scheme," *The Commercial Motor*, XXXV (June 6, 1922), pp. 496-497.

¹⁰⁶⁶ "Delivered to your Door," pp. 3-4.

¹⁰⁶⁷ J. R. Wilson, ed., *The Co-operative Manager's Text Book, Revised Edition* (Manchester: Co-operative Union, 1920), p. 151; *The Grocer*, LXXX (August 21, 1926), pp. 89-90.

¹⁰⁶⁸ "How the Increased Railway Rates will Affect Grocers," pp. 3-4.

The addition of three shillings for railway collection and delivery services, which took the increase over the advertised 60 per cent, also prompted objections from the retail trade.¹⁰⁶⁹ However, this may be attributed to a new statutory obligation for the railway companies to disaggregate charges, thus allowing traders to refuse railway cartage and undertake their own collection and delivery to reduce costs.¹⁰⁷⁰

The publication of railway charges assisted the retailer's application for freight rebates; however, this was a minor concession when economic recession and inflated food costs were already eroding the retailer's ability to compete against rivals. Furthermore, progress was slow; although the retail industry broadly welcomed the 1921 Railways Act's proposal to revise the scale of goods charges and remove rate anomalies, this was finally implemented in 1928.¹⁰⁷¹ The inflexibility of the railway rates structure described in chapter 2 thus hampered the mode's ability to seriously compete for retail business, with long-standing regulations preventing the negotiation of competitive rates on grounds of 'undue preference'; charges were thus fixed at basic 'class' or discounted 'exceptional' rates for merchandise.¹⁰⁷² Whilst the latter rate permitted the conveyance of goods in bulk at lower cost, the diversity of food retailing and the small quantities of goods required at store level negated this advantage.

In consequence, the railways would face competition from any transport alternative offering greater flexibility in charges and operational radius, thus potentially providing savings that could be passed to consumers.¹⁰⁷³ Although cost control represents an important theme in food retail transport, the retailer's inability to influence the activities taking place upstream within the supply chain during the inter-war period meant reliance upon transport efficiencies being made by suppliers. However, the existence of resale price maintenance (RPM) in manufactured foods prevented the passing of savings, as the retailer retained a share of a retail price fixed by the manufacturers which also incorporated an amount required for distribution to retail customers.¹⁰⁷⁴ This was a product of the concentration of production amongst large firms, which ensured that governance rested with the manufacturer; the retailer's inability to individually negotiate or implement

¹⁰⁶⁹ "How the Increased Railway Rates will Affect Grocers," p. 3.

¹⁰⁷⁰ G. Walker, *Road and Rail: An Enquiry into the Economics of Competition and State Control* (London: George Allen and Unwin Limited, 1942), pp. 69-70.

¹⁰⁷¹ "How the Increased Railway Rates will Affect Grocers," p. 3.

¹⁰⁷² Walker, *Road and Rail*, pp. 31-36, pp. 48-61.

¹⁰⁷³ P. Scott, "The Growth of Road Haulage, 1921-1958: An Estimate," *Journal of Transport History*, 19 (1998), p. 139; T. Gibson, *Road Haulage by Motor in Britain: The First Forty Years* (Aldershot: Ashgate Publishing, 2001), p. 137.

¹⁰⁷⁴ Mercer, *Constructing A Competitive Order*, pp. 18-19.

competitive commodity pricing during the inter-war period therefore provided the enterprising retailer with an incentive to find alternative ways of generating custom.¹⁰⁷⁵

6.4 From railway strikes to road haulage: the Co-operative approach, 1919-1931

The decline of food retail logistics by rail since the First World War paralleled the emergence of motor haulage as a viable competitor. Chapter 2 has already touched upon the technological advances in range, capacity and reliability, whilst the sale of reconditioned lorries previously employed in military service provided opportunities for entrepreneurs to assemble vehicle fleets at low cost. Thomas Gibson notes that the 1919 railway strike had underlined the suitability of the motor lorry in serving the retail industry, which continued to experience dislocation because the clearing of the goods backlog congested the railways in the months following the strike.¹⁰⁷⁶ This would suggest that a close relationship between the food retail sector and road haulage was almost guaranteed, particularly considering the latter's rapid expansion throughout the 1920s. However, a lack of quantitative data precludes full support for the hypothesis that retail traffic was more conducive to road haulage; an examination of the qualitative evidence suggests that whilst small and multiple food retailers were receptive to the possibilities offered by the new mode, its adoption from 1920 depended upon the requirements of individual businesses.¹⁰⁷⁷

The Co-operative movement thus presents a unique case due to its ability to exercise governance over various aspects of its supply chain. Despite struggling to develop a universal logistics policy because of the individual demands of local retail societies, the Co-operative Wholesale Society (CWS) became an early proponent of standardised road motor haulage because of its vast scale and interest in increasing the exchange of goods in an uncertain economic environment.¹⁰⁷⁸ However, the selection of the appropriate mode of transport depended upon three main priorities, namely 'safe carriage, speed in transit and cheapness'.¹⁰⁷⁹ Another priority was flexibility, as a 1921 Co-operative Union pamphlet instructing retail societies on the importance of maintaining

¹⁰⁷⁵ "Price Fixing," *The Grocer*, CXXIII (August 21, 1926), p. 72. Mercer, *Constructing A Competitive Order*, p. 19.

¹⁰⁷⁶ Gibson, *Road Haulage by Motor in Britain*, pp. 138-143.

¹⁰⁷⁷ Scott, "The Growth of Road Haulage," pp. 138-155.

¹⁰⁷⁸ Redfern, *The New History of the CWS*, p. 426; R. W. Royle, *Transport in the Cooperative Movement and the Organisation of a Cooperative Society's Transport Department* (Manchester: Cooperative Union Ltd., 1921), pp. 1-2.

¹⁰⁷⁹ Royle, *Transport in the Cooperative Movement*, p. 1.

adequate transport provision suggested that ‘the variations of the rail traffic afford scope for diversion to the roads’ where loads and distances allowed.¹⁰⁸⁰

The pamphlet describes that it was essential to embrace new transport technologies to meet competition from private retailers and minimise the incidences of damage and delay; principles which could be applied throughout the food retail sector. However, the federal, democratic nature of the Co-operative movement’s retail societies meant that transport was coordinated locally, which prevented the development of a coherent national transport policy that capitalised upon the qualitative advantages of speed and general reliability provided by the lorry in service.¹⁰⁸¹ In consequence, a diverse range of approaches to the task of distribution were pursued, as the smaller retail societies lacked the financial and manpower resources enjoyed by their larger counterparts to invest in their respective operations.

Table 16

Approximate running costs of a Co-operative 2-3-ton petrol vehicle in 1921

Miles per day	30	80
Cost of vehicle	£855	£855
Driver and assistant wages (per week)	£369.20	£369.20
Petrol at 2s 1d per gallon	£93.55	£250
Tyres at 3/4d per mile (guaranteed 12,000 miles)	£28.13	£75
Lubrication oil	£3.38	£9
Repairs per annum	£40	£80
Insurance	£51.30	£18
Interest at 6% per annum on £855	£171	£171
Motor tax	£28	£28
Total cost per annum	£802.55	£1051.50
Total cost per week (50)	£16.06	£21.03
Total cost per day (300)	£2.68	£3.50
Cost per mile	9p	4p
Cost per ton-mile	3p	1p

Source: R. W. Royle, *Transport in the Cooperative Movement and the Organisation of a Cooperative Society’s Transport Department* (Manchester: Cooperative Union Ltd., 1921), p. 3.

Note: All monetary values have been decimalised to new pence.

Where resources permitted, the pamphlet advocated comparisons with rail to employ the best characteristics of both modes when maintaining goods turnover and reducing

¹⁰⁸⁰ Royle, *Transport in the Cooperative Movement*, p. 2.

¹⁰⁸¹ Wilson, Webster and Vorberg-Rugh, *Building Co-operation*, pp. 6-7; Royle, *Transport in the Cooperative Movement*, p. 3.

distribution costs.¹⁰⁸² Furthermore, it identified several disadvantages concerning motor transport technology, indicating a similar investigative approach to that undertaken by food manufacturers such as Rowntree between 1920 and 1923. The principal concern was purchase and operational costs when compared to existing distribution methods; **Table 16** above details the annual running costs of a 2 to 3-ton petrol vehicle in 1921. Whilst returns could be made from the operation of motor vehicles, they were their most efficient when conveying full loads at distances of up to 80 miles per day.¹⁰⁸³ This produced a 166 per cent increase in mileage for only 23 per cent higher annual running costs, whilst the cost per mile of the lorry was reduced by over 50 per cent. From these figures, cost-efficient short-distance delivery work would require fewer motor vehicles used more intensively. However, this also suggests that caution and forethought was needed in the employment of a lorry.

The table also shows that road vehicles possessed several ‘fixed’ vehicle hire-purchase, insurance and tax costs as well as variable fuel, oil, tyre and general maintenance costs. To efficiently finance these costs, responsibility was divided between sales and transport functions within the organisation; the latter function employed engineers and transport managers to ensure that haulage operations were undertaken by competent personnel. Retail fleets therefore had to be self-funding as the records originally kept by the Co-operative movement’s various departments might suggest, with individual transport accounts used to charge departments a fixed rate per vehicle, per hour.¹⁰⁸⁴ The requirement to cover fixed costs incentivised the transport manager to minimise vehicle idle-time, with the pamphlet suggesting that lorries should be on the road for 75 per cent of the time.¹⁰⁸⁵

Although the Co-operative movement encouraged an ethical approach towards all its employees, the government’s lack of legislative governance over the sector through the regulation of road haulage created conditions for transport managers and goods clearing-houses to engage in sharp-practice. This included driving-down rates when employing private hauliers during busy periods, or increasing a firm’s return on its investment in own-account motor transport by giving drivers discretion to obtain return loads in company vehicles.¹⁰⁸⁶ Furthermore, there was no ‘universal’ vehicle for meeting every logistical demand of retailers; specialist lorries and vans were required for perishable traffics such as milk and meat, which meant unremunerative empty return runs to the depots. Despite

¹⁰⁸² Royle, *Transport in the Cooperative Movement*, p. 2.

¹⁰⁸³ “Replacing Horses in Cooperative Service,” *The Commercial Motor*, XXXV (February 28, 1922), p. 43; Royle, *Transport in the Cooperative Movement*, p. 3, p. 6.

¹⁰⁸⁴ “Replacing Horses in Cooperative Service,” p. 43.

¹⁰⁸⁵ Royle, *Transport in the Cooperative Movement*, p. 3.

¹⁰⁸⁶ Cooperative Union Labour Department, *Schedule of Wages and Conditions of Cooperative Transport Workers* (Manchester: Cooperative Union Ltd., 1930), p. 2; “Delivered to your Door,” p. 3; Gibson, *Road Haulage by Motor in Britain*, pp. 146-149.

these disadvantages, the overall flexibility of the lorry in the retail trade was confirmed during the General Strike of May 1926.

Although railway reliability issues were highlighted by the 1919 and 1926 strikes, the fact that manufacturers had already sunk capital into infrastructure and the multiple retailer required bulk deliveries to maintain adequate warehouse stocks meant that they retained their position within the supply chain as long-distance bulk carriers.¹⁰⁸⁷ This was partially due to regulatory and technological limitations such as the contemporary goods lorry's low maximum speed, which prevented its economic use in trunk transport operations due to the length of time required to travel longer distances.¹⁰⁸⁸ However, the strike had caused the retail industry to experience disruption and delay, which resulted in the running-down of available stock at wholesale and retail warehouses, a situation that continued during subsequent months.

Whilst private retailers freely adopted voluntary labour to maintain a basic service, the General Strike provided difficulties for the Co-operative movement as CWS and retail society employees were heavily unionised.¹⁰⁸⁹ The effect of the strike at local level and upon the relationship with the trade unions has been researched by Nicole Robertson and Desmond Flanagan, who both indicate that warehouse and transport operatives at 126 societies ceased work, causing disruption nationwide.¹⁰⁹⁰ Percy Redfern's 1938 account of the CWS indicates the failure of an agreement with warehouse staff for the continued distribution of essential foodstuffs, necessitating the assistance of employees from other departments to maintain the food supply.¹⁰⁹¹ The flexibility of the lorry was therefore an important attribute under these conditions, as exemplified by a supply operation administered by the CWS Transport Department in Manchester, which dispatched 18 lorries to collect 700 casks of imported butter and 230 bales of bacon from Grimsby, a journey of over 100 miles.¹⁰⁹² The motor fleet was thus considered 'a valuable asset' that could be successfully used on journeys normally worked by rail in an emergency, although the author has found no evidence of a permanent shift to road transport after the strike.¹⁰⁹³

¹⁰⁸⁷ Williams, *The Best Butter in the World*, p. 76; "The Strike," *The Grocer and Oil Trade Review*, CXXIX (May 22, 1926), p. 75.

¹⁰⁸⁸ Gibson, *Road Haulage by Motor in Britain*, p. 139.

¹⁰⁸⁹ Redfern, *The New History of the CWS*, p. 266.

¹⁰⁹⁰ N. Robertson, *The Co-operative Movement and Communities in Britain, 1914-1960: Minding Their Own Business* (London: Routledge, 2010), pp. 202-207; D. Flanagan, *A Centenary Story of the Co-operative Union of Great Britain and Ireland* (Manchester: Co-operative Union, 1969), p. 75.

¹⁰⁹¹ Redfern, *The New History of the CWS*, p. 268.

¹⁰⁹² See *Cooperative News* (May 15, 1926), p. 5.

¹⁰⁹³ "Emergency Strike Number- An Unprecedented Crisis," *Cooperative News* (May 8, 1926), p. 3.

Table 17**Comparison between Co-operative Horse and Motor Transport, 1931**

Lorry type	Equivalent horse units at £1 per horse per day	Lorry cost per day
Under 1 ton	1.5 horses	£1.70
1 ton	2 horses	£2.25
2 tons	2.5 horses	£2.75
3 tons	3 horses	£3.25
4 tons	3.5 horses	£3.75

Source: J. S. Holloway, *Road Transport Methods and Cost in Relation to Retail Cooperative Societies* (Manchester: Cooperative Union Ltd., 1931), p. 11.

Note: All monetary values have been decimalised.

Despite the reliability displayed by road haulage during adverse circumstances, a pamphlet published by the Co-operative Union in 1931 raises the hypothesis that parts of the retail sector were yet to fully motorise, as the horse retained a significant presence on warehouse-to-shop deliveries in instances where branches were located within a short radius of the depot.¹⁰⁹⁴ However, this apparent anachronism was based upon hard economics; the pamphlet records that the difference in daily operating costs between horse-drawn transport and a one-ton lorry in Leeds was 25p, as highlighted in **Table 17**.¹⁰⁹⁵ This indicates that whilst the fixed costs associated with lorry purchase was mitigated by the Co-operative movement's vertical integration of construction at its own works at Trafford Park, Manchester, the advantages of speed and payload came at a premium when delivering in confined urban areas.¹⁰⁹⁶

6.5 The inter-war food retail multiple: regulation, expansion and the entry of Marks & Spencer, 1921-1935

The retail price of food was a prominent issue in the 'cost of living crisis' between 1921 and 1925, whilst price controls administered by manufacturers through RPM were applied to processed food products including confectionery, as detailed in the previous chapter. Consequently, the retail sector's lack of governance over activities taking place upstream in the supply chain and their direct interface with the consumer meant that rising retail

¹⁰⁹⁴ J. S. Holloway, *Road Transport Methods and Costs in Relation to Retail Cooperative Societies* (Manchester: Cooperative Union Limited, 1931), p. 3.

¹⁰⁹⁵ Holloway, *Road Transport Methods and Costs*, p. 11.

¹⁰⁹⁶ Holloway, *Road Transport Methods and Costs*, p. 5.

prices were attributed to ‘profiteering’ shopkeepers accused of keeping prices artificially high whilst commodity prices were falling.¹⁰⁹⁷ The disparity between retail prices and the prices received by producers was the focus of the Linlithgow Inquiry, although the sector’s comparatively light treatment within the report published in 1924 suggests that the government was hesitant to exercise legislative governance to regulate the terms under which the market operated as a whole.¹⁰⁹⁸ Instead, blame was also apportioned to ‘third parties’ such as the wholesale and railway industries despite, as chapter 2 suggests, the latter being hamstrung by prices enforced by the bureaucratic regulatory structure imposed upon the industry by successive governments since the nineteenth century.¹⁰⁹⁹

In contrast, the Geddes Report of 1925 advocated a more interventionist approach from the government in relation to the efficiency of Britain’s food supply chain. It highlighted that greater market concentration and infrastructure rationalisation was desirable to mitigate against rising costs and economic uncertainties, as ‘the elimination of uneconomic businesses through amalgamation [can lead] ...to the possibility of greater cheapness’.¹¹⁰⁰ The Report thus attributed high food retail prices to the complexity of Britain’s supply chain, and acknowledged that wholesalers, processors, manufacturers and transport all absorbed proportions of the price paid by the consumer.¹¹⁰¹ Geddes also argued that the problem was related to fiscal policy, as the return to the gold standard in 1925 had reduced the value of British currency, resulting in a higher proportion of household income being used to purchase food.¹¹⁰²

The global depression between 1929 and 1932 again highlighted the vulnerability of the sector to economic change, and emphasised the need for tight cost control. However, as the full force of economic decline was concentrated within Britain’s heavy industrial regions, steady growth in skilled manufacturing industries including motor vehicle construction and consumer electronics was experienced around London and the south-east.¹¹⁰³ The diversity of the manufacturing economy in south-eastern England thus

¹⁰⁹⁷ “Railway Rates and Food Prices,” *The Grocer and Oil Trade Review*, CXXIII (January 27, 1923), p. 71.

¹⁰⁹⁸ See Ministry of Agriculture, Final Report of the Departmental Committee on Distribution and Prices of Agricultural Produce, Cmd. 2008, 1924, p. 10, p. 12.

¹⁰⁹⁹ Walker, *Road and Rail*, pp. 31-61, pp. 70-75; F. P. Larkin, “The Conveyance of Meat, Poultry and Eggs,” *Great Western Railway Magazine*, XXXV (1923), p. 453.

¹¹⁰⁰ Royal Commission on Food Prices, Volume 1: First Report, Cmd. 2390, 1925, pp. 138-139.

¹¹⁰¹ Royal Commission on Food Prices, Volume 1, p. 130, p. 147; “Price Fixing,” p. 72.

¹¹⁰² Royal Commission on Food Prices, Volume 1, pp. 7-8.

¹¹⁰³ J. F. Wilson and A. Popp, ed., Introduction in *Industrial Clusters and Regional Business Networks in England, 1750-1970* (Aldershot: Ashgate, 2003), pp. 4-5; P. Scott, “The State, Internal Migration, and the Growth of New Industrial Communities in Inter-War Britain,” *English Historical Review*, 115 (2000), pp. 329-331.

encouraged internal migration to new urban districts, prompting a building boom.¹¹⁰⁴ Urban expansion in the south east throughout the 1930s presented new opportunities for growth within the food retail sector, and retail multiples such as Sainsbury took advantage of the situation to expand their store portfolios into new areas.

The shifting centres of consumer demand caused by suburbanisation thus began a large-scale shift from horse-drawn to motorised retail transport operations. The establishment of shops at new, more distant locations in relation to existing warehouses and wholesalers had rendered the horse increasingly uneconomic; the spread of outlets into the suburbs thus presented an opportunity to use motor vehicles with heavier maximum payloads over longer cumulative distances to obtain greater economies of scale and door-to-door service.¹¹⁰⁵ However, whilst it is possible to hypothesise that expanding food retail firms such as Sainsbury enjoyed levels of trade that supported a vertically-integrated lorry fleet for store deliveries, the wider adoption of motor transport again depended upon an individual retail firm's circumstances.¹¹⁰⁶

As motorised goods transport had experienced profound growth since 1919, Thomas Gibson has indicated that adverse economic cycles and motor taxation did little to deter smaller retailers from purchasing 'runabout' vans before 1932.¹¹⁰⁷ However, increased government regulation through the Road and Rail Traffic Act (1933) presented another factor that might have facilitated the retail sector's increasing use of motor transport. Peter Scott has shown that whilst the implementation of quantitative licensing for goods hauliers had effected a brake upon the number of vehicles registered by private hauliers between 1933 and 1938, the legislation stopped short of penalising the small trader.¹¹⁰⁸ This was because the quantity of 'C' licences issued for vehicles operated on 'own account' were exempt from review and were issued without restriction.

Previous chapters have established that the key determinants of choosing a mode of transport were food product types and the cost of conveyance. However, road transport possessed additional attributes which proved useful within a competitive retail environment where range, convenience and the desire to establish effective methods of generating sales attracted the retailer's attention.¹¹⁰⁹ The approaches adopted by individual retail businesses to maintain competitiveness depended upon their target market, making it

¹¹⁰⁴ N. K. Buxton, "The Role of 'New' Industries in Britain during the 1930s: A Reinterpretation," *The Business History Review*, 49 (1975), p. 222; Broadberry, *The British Economy Between the Wars*, pp. 48-51.

¹¹⁰⁵ Williams, *The Best Butter in the World*, pp. 77-78

¹¹⁰⁶ "Delivered to your Door," pp. 4-5.

¹¹⁰⁷ Gibson, *Road Haulage by Motor in Britain*, p. 162.

¹¹⁰⁸ This was due to the Act establishing a mechanism for objecting against a commercial haulier's application for 'A' and 'B' licences. See chapter 2; Scott, "The Growth of Road Haulage," p. 138; Walker, *Road and Rail*, pp. 138-141; Road and Rail Traffic Act, 23 & 24 Geo. 5, 1933.

¹¹⁰⁹ Humphery, *Shelf-Life*, pp. 30-31.

possible to observe profound differences between retail multiples choosing to focus upon specialising in particular food ranges, and small, independent retailers attempting to compete for local custom by expanding service provision.

One retailer wishing to obtain a share of Britain's competitive food market during the 1930s was M&S, which had focused upon the sale of consumer goods since its establishment in Leeds in 1884. The company was already well-established, it already possessed warehouses in Manchester, Birmingham and London, thus giving the company distributive coverage in key urban regions.¹¹¹⁰ The retailer had experienced a period of profound growth following a stock market flotation in 1926, with investment directed towards the construction of new stores at locations far removed from its origins in northern England.¹¹¹¹ M&S was therefore in a strong position to weather the Depression between 1930 and 1932, as the majority of its outlets were located in the prosperous south east.

M&S' ability to weather the Depression is demonstrated by its decision to create a food department in 1931. However, in establishing its market position, the retailer faced two challenges, the first being the government's decision to impose import tariffs in 1932.¹¹¹² Whilst this limited the scope to compete on product price because of the higher cost of importing produce, this policy enabled M&S to meet the second challenge, that of distinguishing itself from its competitors by selling British-grown fresh vegetables, fruit and canned foods on the basis of quality.¹¹¹³ The success of this venture had ramifications for the firm's distribution arrangements, as rising demand necessitated a permanent presence at Covent Garden from 1935, where produce could be purchased, consolidated and dispatched for sale at selected stores.¹¹¹⁴

Another development in 1935 was a government scheme to encourage the consumption of fruit by reducing tariffs upon imported Jaffa oranges, a trade which resulted in the establishment of a specialist warehouse to sort, store and dispatch imported fruit at Stepney Green, East London.¹¹¹⁵ However, the extent of M&S' involvement in transport during the 1930s is difficult to ascertain beyond payments for 'freight and shipping' quoted in the revenue accounts; indeed, the sole transport-related memorandum

¹¹¹⁰ Marks & Spencer Archive (MSA), *M&S Transport and Logistics: How we sourced, stored and distributed goods, from 1884 to today* (Archive Research Pamphlet, c.2014), p. 2.

¹¹¹¹ J. Bevan, *The Rise & Fall of Marks & Spencer ...And How it Rose Again, Revised Edition* (London: Profile Books, 2007), pp. 27-28.

¹¹¹² See: A. F. Cooper, *British Agricultural Policy, 1912-36: A Study in Conservative Politics* (Manchester: Manchester University Press, 1989), pp. 145-146. The Food Department was first referred to in the company Annual General Meeting which took place on May 10, 1939. See: Marks & Spencer Ltd., *The Chairman's Speeches Delivered at the Annual General Meeting, 1927-1964. Reprinted from The Times* (London: The Times, 1964), p. 91.

¹¹¹³ Sir S. Marks, "What the Chairman Said," *Sparks Magazine*, XVI (Autumn 1949), p. 1.

¹¹¹⁴ Bevan, *The Rise & Fall of Marks & Spencer*, p. 33.

¹¹¹⁵ Bevan, *The Rise & Fall of Marks & Spencer*, p. 3.

seen by the author at the company's archive was published in 1954, which indicates that the firm used third-party hauliers on short-term contracts to administer its transport requirements, and the author hypothesises that this was a long-term policy.¹¹¹⁶ It clearly had advantages in the pooling of engineering expertise and the delegation of the costs associated with purchasing new vehicles to a third party, as the analysis of Rowntree's transport operation indicates in chapter 5.

6.6 Mobile shops and home delivery: the independent retailer and service-based competition to 1939

The experience of M&S contrasts with small, independent food retailers, which were less able to negotiate their position because of the comparatively smaller business they provided manufacturers and wholesalers. With RPM fixed by the manufacturers for key product lines such as confectionery and branded goods, thereby preventing price-based competition, the independent food retailer was forced to compete through the provision of extra services designed to attract the customer.¹¹¹⁷ Beyond the issuing of customer credit, the principle of 'sales through service' extended to the employment of mobile grocery shops and home delivery, both of which were prime examples of how the retailer engaged with road transport during the inter-war period.¹¹¹⁸

Originally conceived in 1934 by an Ilkley grocer to serve outlying villages within a 20-mile radius of the town, the mobile grocery shop was a solution to the lack of shops located within newly-built suburban housing estates.¹¹¹⁹ The concept provided customers with a convenient travelling 'one-stop shop' for a variety of food products, and provides evidence of a retailer's 'universal desire to please the public'.¹¹²⁰ The conversion of obsolete buses into mobile shops enabled food retailers to meet a changing social need, particularly when increasing female employment had reduced the amount of time available for shopping trips to acquire everyday groceries.¹¹²¹ The mobile shop therefore provided access to markets otherwise restricted to shop-based retailers.

¹¹¹⁶ MSA: HO/5/15/37, 26 February 1954 Memorandum: Change Over from Nationalised Transport to Road Haulage by Private Enterprise, p. 1.

¹¹¹⁷ Phillips and Alexander, "An Efficient Pursuit?," pp. 292-293.

¹¹¹⁸ For an account of customer credit, see: P. M. Scott and J. Walker, "Working-Class Household Consumption Smoothing in Interwar Britain," *The Journal of Economic History*, 72 (2012), p. 799; Williams, *The Best Butter in the World*, pp. 87-88.

¹¹¹⁹ "A Grocery Store on Wheels," *The Grocer and Oil Trade Review*, CXLV (May 12, 1934), pp. 86-87.

¹¹²⁰ "A Grocery Store on Wheels," p. 86; Wilson, ed., *The Cooperative Manager's Text Book*, p. 142.

¹¹²¹ M. Hilton, "The Female Consumer and the Politics of Consumption in Twentieth Century Britain," *The Historical Journal*, 45 (2002), p. 103.

Another example of service-based competition was home delivery. The provision of the service gained heightened importance during the economic depression when independent grocers provided home delivery as a ‘loss-leader’ funded by the anticipated additional custom.¹¹²² This facilitated direct competition with the multiples and Co-operative retail societies, which kept costs low by promoting customer collection, or by adding a delivery surcharge based upon the weight of goods requested by the customer to offset the cost of service provision.¹¹²³ Independent retailers therefore resorted to using the service as leverage to increase consumer spend, although the risk of employing roundsmen during depressed economic circumstances meant that shops in densely-populated urban districts continued to focus upon providing counter service.¹¹²⁴

Delivery by manual, horse or motorised transport therefore depended upon local circumstances and the regularity of demand; for example, the employment of vans was contingent upon the distance from the shop, as the stop-start nature of delivery risked an increase in potentially costly vehicle idling-time.¹¹²⁵ Despite this shortcoming, retailers possessing small vans to collect stock from local wholesalers could improve the return on their investment by employing them on deliveries to expand their customer base geographically, which along with the use of horses, grocery trolleys and branch handcarts over shorter distances, promoted customer convenience and choice, albeit at the expense of transport efficiency.¹¹²⁶ The independent retailer’s application of transport thus blurred the boundaries between the districts they served, although this created a cycle of wasteful cross-haulage that left retailers with rising distribution costs.¹¹²⁷ Little was done to address this problem before the outbreak of the Second World War, when wartime controls and declining manpower resources finally checked the inefficiencies created by home delivery.

¹¹²² Wilson, ed., *The Cooperative Manager’s Text Book*, p. 142.

¹¹²³ Wilson, ed., *The Cooperative Manager’s Text Book*, p. 142; Williams, *The Best Butter in the World: A History of Sainsbury’s*, pp. 87-88.

¹¹²⁴ P. Ford, “Excessive Competition in the Retail Trades. Changes in the Number of Shops, 1901-1931,” *Economic Journal: The Journal of the Royal Economic Society*, 45 (1935), p. 501.

¹¹²⁵ Wilson, ed., *The Cooperative Manager’s Text Book*, p. 142.

¹¹²⁶ P. Ford, “Decentralisation and Changes in the Number of Shops, 1901-1931,” *Economic Journal: The Journal of the Royal Economic Society*, 46 (1936), p. 361.

¹¹²⁷ Ministry of Agriculture and Fisheries, *Milk: Report of Reorganisation Commission for Britain (Economic Series No. 44)* (London: HMSO, 1936).

6.7 Food retail at war, 1939-1945

Previous chapters have indicated that policy regarding road transport operations in wartime initially focused upon implementing Traffic Control Schemes that had been devised by the road haulage sector on a voluntary basis.¹¹²⁸ Whilst the government might therefore be accused of failing to grasp the nettle of road haulage coordination at the earliest opportunity after the outbreak of war in September 1939, its approach must be considered in relation to the complexity of the task. It is possible to hypothesise that the policy was adopted because of the numerous interests involved, and was intended to give the haulier a stake in the development of the organisation that would ultimately control it in wartime; equally, it reflected the government's desire to establish governance through negotiation rather than coercion after the Road and Rail Transport Act (1933).¹¹²⁹

The voluntary schemes were a compromise between controlling road haulage in the interests of fuel economy and maintaining transport flexibility. They were based upon the existing system of regional Licensing Authorities established under the Road Traffic Act (1930) and affected all grades of goods licence to afford the efficient and equitable distribution of Britain's wartime fuel supply.¹¹³⁰ As 'C' licence holders, food retailers with vertically-integrated lorry fleets were expected to form their own groups with which independent retailers possessing smaller vans under 1 ton were encouraged to register their vehicles to guarantee fuel supplies.¹¹³¹ However, full effectiveness could only be achieved after restrictions had been imposed upon the demands of transport users.

These included the imposition of restrictions placed upon service-based competition through home delivery, a task which was undertaken once food rationing and price controls were implemented in January 1940. By tying customers to specific retailers, and retailers to specific suppliers, consumer demand for food could be monitored and controlled centrally by estimating the quantity of food required within a given locality, thus setting the terms of market participation through legislative governance by limiting the scope for retailers to enlarge their customer base and delivery radius.¹¹³² However, whilst exercising control over consumer demand provided the Ministry of Food with a means for influencing rail and road distribution, rationing alone proved ineffectual in curbing home delivery.

¹¹²⁸ Ministry of Transport, *Organisation of Road Transport for a Defence Emergency: Goods Vehicles* (London: HMSO, 1939).

¹¹²⁹ P. Bagwell, *The Transport Revolution, 1770-1985, 2nd Edition* (London: Routledge, 1988), p. 256; "An Appeal from the Railways," *Modern Transport*, XL (November 26, 1938), p. 1.

¹¹³⁰ Savage, *Inland Transport*, pp. 151-153.

¹¹³¹ Ministry of Transport, *Organisation of Road Transport*, p. 5.

¹¹³² Zweiniger-Bargielowska, *Austerity in Britain*, p. 14; A. F. Wilt, *Food for War: Agriculture and Rearmament in Britain before the Second World War* (Oxford: Oxford University Press, 2001), pp. 61-62.

The problem rested with the fact that the food retailer's position as an essential link in the wartime supply chain meant that guaranteeing the equitable distribution of Britain's food supply was given priority over transport organisation.¹¹³³ However, part of the pre-war preparations was to give customers the opportunity to choose which retailers they wished to register with, a concession which posed a risk of registration at shops located some distance from their place of residence, which created demand for home delivery.¹¹³⁴ Consequently, whilst government control of Britain's food supply imposed a moratorium upon the competition between independent and multiple retailers, it is possible to hypothesise that the rationing system perpetuated the wasteful cross-haulage of food.

Another source of confusion caused by the government's policy for controlling road haulage during the initial stages of the Second World War was the difficulty in defining what constituted 'non-essential' transport. The problem was partly caused by the government's suspension of the goods vehicle licence classification system for the duration of the conflict to facilitate the employment of all general haulage lorries in an emergency, thus maximising the mode's ability to support the railways in the event of serious wagon shortages when ports and routes were congested or were closed as a result of enemy action.¹¹³⁵ Despite providing a means of contingency in the case of the railways, the relaxation of the classification system also had the potential to disrupt a food retailer's distribution operation as vehicles could be drafted into war service.

Although railway rolling stock owned privately by organisations such as the CWS were absorbed into a common-user pool to reduce cross-haulage and excessive shunting, the government stipulated that road vehicles could only be requisitioned by the military, whilst those used in food distribution were taken off the requisition list.¹¹³⁶ However, the relaxation of goods licensing put own-account food transport at risk, as the cessation of official differentiation meant they were considered fair game for requisition by civil defence personnel, despite defence regulations forbidding the commandeering of vehicles by Air Raid Precaution (ARP) staff. This is evidenced by the CWS' wartime circulars to its wholesale and retail society staff, and highlight the problems the movement faced in dealing with interference from over-zealous ARP personnel after the outbreak of war, resulting in time and resources being expended in resolving disputes.¹¹³⁷

¹¹³³ Wilt, *Food for War*, p. 52.

¹¹³⁴ Zweiniger-Bargielowska, *Austerity in Britain*, p. 15.

¹¹³⁵ Ministry of Transport, *Organisation of Road Transport*, p. 5; The Co-operative Archive (CA), *Co-operative Wholesale Society (CWS) War Emergency Circulars*, Para. 5 (12 September 1939).

¹¹³⁶ CA, *CWS War Emergency Circulars*, Para. 5 (12 September 1939).

¹¹³⁷ CA, *CWS War Emergency Circulars*, Para. 10 (19 September 1939).

The rail distribution of food was inevitably disrupted by the Luftwaffe's aerial bombardment of Britain, although enemy action also affected the retail industry's road haulage arrangements in two ways. Firstly, the bombing of city centres had resulted in the destruction of numerous shops, which necessitated short-notice changes in existing distribution operations. Large stores were particularly vulnerable, as exemplified by an M&S branch destroyed during the 'Sheffield Blitz' of 12-13 December 1940.¹¹³⁸ The aftermath of the air raid saw the dispersion of individual store departments to various unoccupied premises around the city for the duration, causing 'a great inconvenience to the housewife' because of the branch's inability to stock the entire range at one location.¹¹³⁹

Although the war disrupted the ordinary channels of supply and demand within Britain's grocery sector prompted the implementation of the changes to the distribution network described in section 6.2, it also presented an opportunity for innovation in store presentation and layout; innovations which would later influence the retail sector's relationship with rail and road transport. This is evidenced by a pioneering venture undertaken by the London Co-operative Retail Society at a store in Romford, Essex in 1942, which was designed to offer part counter service and part 'self-service'.¹¹⁴⁰ Self-service was trialled to address the problem of declining staff levels caused by conscription and the re-allocation of labour to war production. The war precluded the widespread adoption of the concept, yet its potential lay in both facilitating range expansion and efficient use of available space, reducing store overheads and catering for the discerning customer by allowing the shopper to inspect goods before purchase.¹¹⁴¹

The concept of self-service thus represents an example of a retailer beginning to assert executive governance and change how it interfaced with the customer. Its emergence coincided with a concerted attempt to make further improvements to transport efficiency, a task which was placed under the Ministry of War Transport's remit. From January 1942, the ministry began an initiative to rationalise the transport operations of the retail sector to obtain further savings in scarce resources.¹¹⁴² It concentrated upon the restriction of home delivery, which had been virtually left alone since the implementation of food rationing. Although customer registration at shops had suppressed competition, the practices associated with competition remained; *The Commercial Motor* commented that

¹¹³⁸ M. Myers, "Sheffield Welcomes Our New Store in Fargate," *Sparks*, XVI (Winter 1950), p. 6.

¹¹³⁹ Myers, "Sheffield Welcomes Our New Store in Fargate," p. 6.

¹¹⁴⁰ Johnston, *A Hundred Years Eating*, p. 85.

¹¹⁴¹ Wilson, Webster and Vorberg-Rugh, *Building Co-operation*, p. 3; Johnston, *A Hundred Years Eating*, p. 86; Humphery, *Shelf-Life*, pp. 72-73.

¹¹⁴² CA, *CWS War Emergency Circulars*, Para. 563 (3 January 1942).

home delivery was a luxury or convenience that had no place in wartime, and the government encouraged customers to carry their own shopping home.¹¹⁴³

The natural contraction of the retail sector caused by wartime attrition assisted in this regard, although the reality was that conflicting interests within the retail sector diluted the government's attempts to establish legislative governance over transport operations, ensuring that the rationalisation of food retail distribution was only partially achieved by the end of the conflict.¹¹⁴⁴ A judgment on the success of wartime rationalisation might therefore concur with Hammond's analysis of confectionery distribution during the Second World War, which concludes that the Ministry of Food's policy merely attempted to maintain the appearance of economy and control.¹¹⁴⁵ By March 1945, road haulage was released from wartime control through the reinstatement of quantitative goods haulage licensing; however, the election of the Labour government in July 1945 and subsequent regulatory and legislative changes prevented any immediate return to the pre-war status-quo of unchecked retail competition.

6.8 Post-war challenges, 1946-1948

The first post-war challenge facing the food retail sector was the passing of legislation devised to limit drivers' hours in February 1946, which had implications for retailers requiring long-distance transport of food products. The legislation imposed a statutory 5.5 hours of continuous driving, with drivers working eleven hours in any 24 granted a ten-hour rest period between shifts, which necessitated the employment of more drivers to maintain existing service levels, as well as creating demand for higher-capacity vehicles.¹¹⁴⁶ Secondly, discussions surrounding the nationalisation of transport during 1946 caused concern amongst food retailers, as the Ministry of Transport proposed to rein-in the 'C' licence holder by restricting their range to a maximum of 40 miles from the depot, with merchandise traffic requiring long-distance haulage directed onto the railways.¹¹⁴⁷

Whilst the clause represented a clear desire to continue the work of transport rationalisation and coordination based upon the strengths of rail and road transport, the distance restriction demonstrated the government's failure to recognise that merchandise

¹¹⁴³ "Passing Comments: The Delivery of Many Goods Could Easily be Cut," *The Commercial Motor*, LXXIV (January 16, 1942), p. 431.

¹¹⁴⁴ "News of the Week: Rationalising Retail Deliveries," *The Commercial Motor*, LXXV (June 12, 1942), p. 332; M. R. Bonavia, *The Nationalisation of British Transport* (New York: St. Martin's Press, 1987), p. 5.

¹¹⁴⁵ Hammond, *Food Vol. I*, p. 342.

¹¹⁴⁶ CA, *The Co-operative Gazette*, Para. 19 (February 19, 1946).

¹¹⁴⁷ W. J. Reader, *Hard Roads and Highways: SPD Ltd., 1918-1968* (London: B. T. Batsford Ltd., 1969), pp. 94-95; Bonavia, *The Nationalisation of British Transport*, p. 8, p. 16.

traffic was not necessarily in direct competition with the railways because of the lower distances involved.¹¹⁴⁸ Food distribution between warehouse and retailer was characterised by smaller loadings and multiple deliveries over short distances; practices more conducive to the lorry than rail transport, whilst use of the latter had the attendant risk of pilferage or spoilage. Although consultation with trade and industry produced a range increase to 60 miles in August 1946, further intensive lobbying resulted in the complete removal of the clause from the Transport Bill by March 1947, thus removing the uncertainty facing retailers that possessed vertically-integrated distribution operations.¹¹⁴⁹

The Bill was but one challenge facing the food retail sector's distribution operations between 1946 and 1950. The period was also dominated by balance of payments crises and global shortages in food and raw materials, which prompted the Labour government to maintain food rationing in the interests of controlling consumer spending and their demand for imported foods.¹¹⁵⁰ Despite the opening of Britain's first fully self-service supermarket by the London Co-operative Society at Manor Park in 1948, an effective self-service operation required the pre-packing of perishable food to preserve the product's integrity during transit. This required assistance from food processors when investment to reduce the resource-intensiveness of portioning and packaging was unavailable.¹¹⁵¹ Consequently, while the growth of self-service concept was hindered by a lack of financial resources throughout the supply chain, the post-war period was characterised by a continuation of 'inefficient' independent and multiple food retailing.

6.9 Tentative steps towards self-service retailing and its impact upon distribution, 1950-1955

Another reason for the gradual adoption of self-service was physical and institutional path-dependency, as exemplified by the Co-operative movement's difficulties in establishing a coherent plan for its future retailing needs.¹¹⁵² This was because its existing stores were ill-suited to conversion, many having been fitted-out for counter-service.¹¹⁵³ Despite the movement pioneering self-service and supermarkets in 1942 and 1948 respectively, both were products of a single London-based retail society adapting to local needs. Whilst 600 other stores were converted to self-service by 1950, Wilson, Webster and Vorberg-Rugh

¹¹⁴⁸ Scott, "The Growth of Road Haulage," p. 139.

¹¹⁴⁹ Reader, *Hard Roads and Highways*, p. 95; CA, *The Co-operative Gazette*, Para. 169 (March 14, 1947).

¹¹⁵⁰ J. Tomlinson, "Marshall Aid and the 'Shortage Economy' in Britain in the 1940s," *Contemporary European History*, 9 (2001), pp. 139-140.

¹¹⁵¹ H. W. Boyd, Jr. and I. Piercy, "Retailing in Britain," *Journal of Marketing*, 27 (1963), p. 32.

¹¹⁵² Shaw et al., "The Coming of the Supermarket," p. 40.

¹¹⁵³ Johnston, *A Hundred Years Eating*, p. 85.

suggest that standardisation was again hindered by the federal structure of the Co-operative movement, which preserved the autonomy of the local retail society in decision-making.¹¹⁵⁴ In contrast, multiples with centralised management and planning such as Sainsbury's could more readily adopt a self-service policy across its branch portfolio.

However, the continuation of food rationing created an interim period for detailed research into self-service management and stock control techniques between 1948 and 1952, which was undertaken with the support of the Anglo-American Council on Productivity.¹¹⁵⁵ The Council encouraged a number of representatives from British firms to visit their counterparts in the United States to take advantage of free knowledge transfer and hence increase productivity within British food retailing, which ostensibly supports de Grazia's thesis of an 'Americanising' European retail sector.¹¹⁵⁶ In contrast, Gareth Shaw and Louise Curth highlight that far from being universally accepted, American retail practices were treated with scepticism amongst British shoppers.¹¹⁵⁷ Equally, it is also possible to hypothesise that the slower pace of adoption was dictated by structural factors, which include the gradual pace of technological, regulatory and commercial developments in distribution, which meant that retailers remained 'locked-in' to existing transport operations beyond 1950.

The product of research into self-service undertaken by Sainsbury's was the opening of a large store in West Croydon in 1950, which demonstrated that food ranges appealing to the broadest possible customer base provided a formula for success.¹¹⁵⁸ It also confirmed the prescient observation made by Professor of economics Hermann Levy in 1947 that the sale of a variety of foods was not necessarily dependant upon the existence of an equal variety of specialist shops.¹¹⁵⁹ The widespread adoption of self-service thus had the potential to alter the traditional British pattern of regular, 'themed' shopping trips and reduce the time spent shopping. However, full exploitation was contingent upon the decontrol of Britain's food supply; improvements in customer mobility and the reconfiguration of the supply chain to reduce lead times and adapt to new food ranges. In short, it required the retail sector to assert executive governance over its supply chain.

¹¹⁵⁴ Johnston, *A Hundred Years Eating*, p. 85; Wilson, Webster and Vorberg-Rugh, *Building Co-operation*, pp. 219-225.

¹¹⁵⁵ Shaw et al., "The Coming of the Supermarket," pp. 37-38.

¹¹⁵⁶ Shaw and Curth, "Selling Self-service and the Supermarket," pp. 568-569; de Grazia, *Irresistible Empire*, pp. 414-415.

¹¹⁵⁷ Shaw and Curth, "Selling Self-service and the Supermarket," p. 573; Shaw et al., "The Coming of the Supermarket," p. 53.

¹¹⁵⁸ F. W. Salisbury, "Sainsbury's sample Self-Service," *J S Journal*, 3 (September 1950), pp. 2-8.

¹¹⁵⁹ Levy, *The Shops of Britain*, p. 25.

The period 1950-1955 was therefore crucial in the development of British food retail distribution. Although the Anglo-American Council of Productivity published a report on the future development of retail in 1952 that recommended the adoption of self-service retail, the implementation of the idea was slow to take place, initially because of continuing regulatory constraints.¹¹⁶⁰ Firstly, the Conservative government's Transport Bill of 1952 indicated that the denationalisation of long-distance transport under the Transport Act (1953) would be accompanied by a road transport levy to compensate for any resultant transfer of traffic from British Railways (BR).¹¹⁶¹ Secondly, the longevity of food rationing hindered progress; the full decontrol of Britain's food supply in 1954 therefore created an environment more conducive to the large-scale adoption of self-service.¹¹⁶² The ideal of service through minimising costs and maximising product range became fundamental in the battle for customer loyalty and increasing market share.¹¹⁶³

Table 18

Index of basic weekly wage rates, 1950-1965

	Index (January 1956 = 100)
1950	70.9
1951	71.9
1952	83.2
1953	87.1
1954	90.8
1955	97
1956	104.7
1957	110
1958	113.9
1959	117
1960	120.1
1961	125
1962	129.6
1963	134.3
1964	140.6
1965	146.7

Source: B. R. Mitchell, *Abstract of British Historical Statistics* (Cambridge: Cambridge University Press, 1988), p. 151.

Table 18 indicates that decontrol coincided with rising real consumer income, which rose sharply between 1954-1957 and 1960-1965 respectively; increasing disposable income was accompanied by a desire for food variety and cheapness, which meant that the floor-space

¹¹⁶⁰ Philips and Alexander "An Efficient Pursuit?," p. 280.

¹¹⁶¹ Bonavia, *The Nationalisation of British Transport*, p. 156.

¹¹⁶² Shaw et al., "The Coming of the Supermarket," pp. 40-41.

¹¹⁶³ Johnston, *A Hundred Years Eating*, pp. 84-86.

released by self-service could be used to full advantage.¹¹⁶⁴ With a resultant increase in the pace of stockroom turnover as product ranges expanded at the expense of the volume of goods stored at branches, the capabilities of the transport operation became an obvious area for analysis and improvement as inefficient logistics had the potential to choke the transition to self-service.¹¹⁶⁵ However, a means to achieve the timely delivery of a broadening food range cheaply had been developed during the war, as regional warehouses constructed by the Ministry of Food were turned over to private enterprise to provide the basis for the peacetime road distribution network.

6.10 Improving the mobility of food: warehousing, transport technologies and the influence of consumer demand, 1955-1959

Private warehouse and distribution networks were established by food manufacturers and retail consortia to reduce the requirement for vertically integrating transport fleets into the main business, as exemplified by Unilever's subsidiary SPD Ltd. - 'Speedy Prompt Delivery' - which possessed 52 depots nationwide.¹¹⁶⁶ Large retail chains also expanded their use of third-party hauliers on short-term contracts, particularly when British Road Services (BRS) was in the process of being denationalised under the terms of the Transport Act (1953). In 1954, M&S recorded that BRS operated 32 vehicles on its behalf, with contracts terminable via three-month notice by either side. It also revealed that the 'full and planned use of contract vehicles [offers] a saving of 25-30% compared with [fixed] tonnage rates' quoted by BRS.¹¹⁶⁷ Denationalisation also saw a proportion of the BRS fleet sold back to private enterprise; this presented an opportunity for retailers to exercise governance over the supply chain as competition returned to the retail market following decontrol, with M&S protecting its reputation for quality by approving new owners before awarding contracts.¹¹⁶⁸

Equally, M&S' policy was to '...increase the use of contract vehicles as far as it is economic,' thus highlighting the firm's emphasis upon minimising internal transport

¹¹⁶⁴ S. Ryle, *The Making of Tesco: A Story of British Shopping* (London: Bantam Press, 2013), p. 37; Wilson, Webster and Vorberg-Rugh, *Building Co-operation*, 221; P. Maunder, "Food Processing," in *The Structure of British Industry*, ed. P. Johnson, (London: Unwin and Hyman, 1988), p. 190.

¹¹⁶⁵ Bourlakis and Weightman, "Introduction to the UK Supply Chain," p. 1; Atkins and Bowler, *Food in Society*, p. 94.

¹¹⁶⁶ Reader, *Hard Roads and Highways*, pp. 101-103; "SPD" Advertisement, *The Grocer*, CLXXVI (July 9, 1955), p. 29.

¹¹⁶⁷ MSA: HO/5/15/37, Change Over from Nationalised Transport, p. 1.

¹¹⁶⁸ MSA: HO/5/15/37, Change Over from Nationalised Transport, pp. 1-2.

overheads.¹¹⁶⁹ Store deliveries were thus delegated to experienced, regionally-based road hauliers, whilst the firm's stated policy on rail transport was that its continued use depended upon the effect of rates increases upon the firm's traffic.¹¹⁷⁰ With M&S seeking to maintain its reputation as a retailer of high quality, a resilient and reliable mode of distribution that assisted with protecting the supply chain in adverse circumstances was crucial. In this regard, a modal shift to road-based distribution proved beneficial during the railway strike of 1955; in the case of M&S, deliveries of food to stores were met with little disruption beyond road congestion in urban areas.¹¹⁷¹

The year also saw a sea-change in activities associated with customer service, as Sainsbury's discontinued home delivery on the basis that its cost outweighed the benefit to the customer, a trend that accelerated with increasing personal mobility offered by the mass-produced car.¹¹⁷² The combination of events means that it is possible to hypothesise that 1955 was the year in which 'modern' British mass consuming culture emerged, with rising consumer spending power the driver for further retail development.¹¹⁷³ The period 1955-1965 also encompassed the development of modern packaging and preservation techniques, which assisted the road haulage of perishable food products such as meat, fruit and vegetables by preventing spoilage in transit.¹¹⁷⁴

These developments accompanied the increasing involvement of third-party firms, such as East Kent Packers Ltd. (EKP), which collaborated with M&S in 1959 to procure and supply fresh fruit and vegetables to 133 stores.¹¹⁷⁵ Aside from receiving perishable imports from the continent by rail, the firm also operated a lorry fleet to collect fresh fruit from local farms and wholesalers, with personnel employed to check product condition before packing. The removal of wartime restrictions on materials had allowed businesses such as EKP to research and invest in new packaging types such as fruit netting, which reduced the risk of damage and minimised the gross weight and bulk of loosely-packed fruit and vegetables without resorting to heavy and expensive wooden crates.¹¹⁷⁶

The pre-packaging of perishable foods was a major step towards realising the self-service concept; it increased product shelf-life, allowed the pre-measurement of staple foods for low-cost batches on the shop floor, and permitted customer inspection before

¹¹⁶⁹ MSA: HO/5/15/37, Change Over from Nationalised Transport, p. 1.

¹¹⁷⁰ MSA, *M&S Transport and Logistics: How we sourced, stored and distributed goods, from 1884 to today* (Archive Research Pamphlet, c.2014), p. 3; MSA: HO/5/15/37, Change Over from Nationalised Transport, p. 2.

¹¹⁷¹ "Warehousing and Transport Solving Rail Strike Problems," *St. Michael News*, 3 (June 10, 1955), p. 1.

¹¹⁷² "Sainsbury's Stop Delivery and Credit from October 1," *The Grocer*, CLXXVI (September 10, 1955), p. 6.

¹¹⁷³ Humphery, *Shelf-Life*, pp. 72-75.

¹¹⁷⁴ Shaw et al., "The Coming of the Supermarket," p. 42.

¹¹⁷⁵ "East Kent Packers Supplement," *Sparks*, 6 (January 1959).

¹¹⁷⁶ "East Kent Packers Supplement."

purchase.¹¹⁷⁷ Finally, the employment of third-party specialists in the packaging of food thus allowed the retailer to reduce its involvement in labour-intensive product selection. This had the benefit of reducing company overheads through the closure of warehouses, such as M&S' fruit warehouse at Stepney Green, and focused management attention upon anticipating consumer demand and meeting competition from rival firms.¹¹⁷⁸ The process of de-specialising company warehouses was assisted by palletisation, which enabled stock to be assembled on a branch-by-branch basis; an important development that increased the speed and efficiency of stock turnover at self-service stores.¹¹⁷⁹

Transport improvements also reflected shifts in consumption, particularly in relation to consumer demand for products with ease of preparation. Rising female employment favoured products with longer shelf-life and hence reduce the regularity of shopping trips.¹¹⁸⁰ These attributes are characteristic of frozen produce, although progress was initially slow; whilst market leader Birdseye established a quick-freezing plant in East Anglia in 1945, consumer demand was initially constrained by the lack of affordable household refrigeration equipment.¹¹⁸¹ The 'affluent society' of the 1950s saw the mass production of home refrigerators and freezers, with ownership observed to increase from six to 16 per cent between 1956 and 1959 amongst Britain's working class population alone.¹¹⁸² Rising demand also drove technological change in low-temperature distribution, as bulky vehicle insulation was replaced with lightweight construction materials such as aluminium, thus allowing hauliers to compete for a traffic associated with rail-hauled 'company trains' from factory to distribution depot.¹¹⁸³

¹¹⁷⁷ S. Freidberg, *Fresh: A Perishable History* (London: Belknap/University of Harvard Press, 2009), pp. 185-186, p. 188.

¹¹⁷⁸ "East Kent Packers Supplement"; Ryle, *The Making of Tesco*, pp. 36-37.

¹¹⁷⁹ Ryle, *The Making of Tesco*, p. 43.

¹¹⁸⁰ J. L. Rogers and R. Binstead, *Quick-frozen Foods, 2nd Edition* (London: Food Trade Press Ltd., 1972), p. 3; Burnett, *Plenty and Want*, pp. 344-345; P. Scott, "Regional Development and Policy," in *The Cambridge Economic History of Modern Britain Vol. III: Structural Change and Growth, 1939-2000*, ed. R. Floud and P. Johnson (Cambridge: Cambridge University Press, 2004), pp. 334-335.

¹¹⁸¹ Burnett, *Plenty and Want*, p. 345.

¹¹⁸² M. Abrams, "The Future of the Left: New Roots of Working-class Conservatism," *Encounter*, XIV (1960), p. 57.

¹¹⁸³ Rogers and Binstead, *Quick-frozen Foods*, p. 142, pp. 144-145.

6.11 Shifting supply chain governance and its effect upon food retail transport operations, 1959-1975

The growth of self-service retail also required a reconfiguration of the distribution process, and the gradual expansion of Britain's motorway network after the opening of the M1 in 1959 presented opportunities for change, as it had the potential to reduce delays caused by urban road congestion.¹¹⁸⁴ Consequently, the motorway network prompted retailers to establish new warehouses at key road intersections, creating an asset that reduced dependence upon supplier-led deliveries direct to stores, thus lowering supplier overheads and the retail cost of food products; this development is described in section 6.2.¹¹⁸⁵ Although a limited and unscientific survey of store chains published in *The Grocer* in 1963 suggested that 83.9 per cent of centrally-bought goods received by stores originated from the retailer's own warehouses and was conveyed by own-account transport, a retailer's ability to exercise executive governance over the supply chain was contingent upon the size of company turnover and its customer base.¹¹⁸⁶

Table 19

Estimated number of supermarkets, 1958-1967

	Number of supermarkets
1958	175
1959	286
1960	367
1961	572
1962	996
1967	3,000

Sources: *Self Service and Supermarket Annual Survey and Directory, 1963* (London: Self Service and Supermarket, 1963), p. 13; G. Shaw, A. Bailey, A. Alexander, D. Nell and J. Hamlett, "The Coming of the Supermarket: The Processes and Consequences of Transplanting American Know-how into Britain," in *Transformations of Retailing in Europe after 1945*, ed. R. Jessen and L. Langer (Farnham: Ashgate, 2012), p. 42.

The issue of supply chain governance also explains the sluggish growth of the British supermarket after its emergence in 1948, which was caused by the constraints of rationing and manufacturer-controlled RPM. The latter was an important factor, as fixed prices

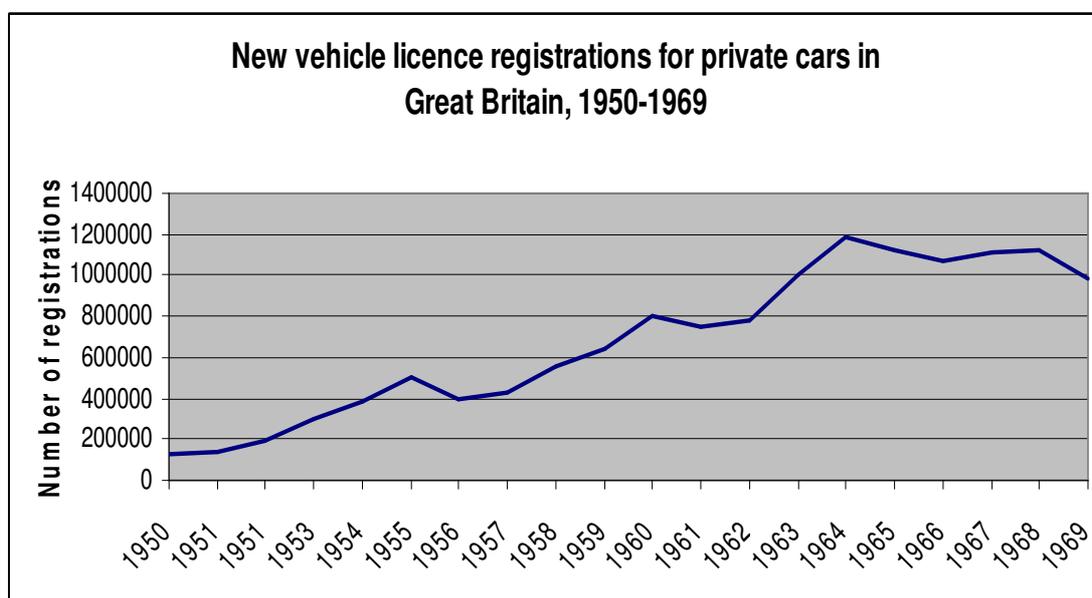
¹¹⁸⁴ P. Merriman, *Driving Spaces: A Cultural-Historical Geography of England's M1 Motorway* (Oxford: Blackwell Publishing, 2007), p. 203.

¹¹⁸⁵ See R. Clough, "Retail Change: A consideration of the UK food retail industry, 1950-2010," (PhD thesis, Middlesex University, 2002), pp. 170-171.

¹¹⁸⁶ "Supermarket Statistics," *The Grocer*, CLXXXIV (June 22, 1963), p. 34.

initially limited the possibility for retail multiples to pass the benefits of economies of scale through the bulk-purchasing of stock and competitive pricing to the customer.¹¹⁸⁷ However, a desire amongst the larger retail chains to capitalise upon a combination of rising consumer affluence and government interest in restricting and ultimately abolishing RPM created conditions which would support the rapid growth of the format throughout the 1960s, as **Table 19** demonstrates above. In this regard, the Restrictive Trade Practices Act (1956) commenced the outlawing of collective RPM amongst a cartel of manufacturers, permitting an intensification of price competition in a wider range of products.¹¹⁸⁸

Graph 23



Source: See Appendix 2, Table 23 (p. 312).

It is possible to hypothesise that the British supermarket was as much a product of growing price competition as the spreading of American influence, as multiple retailers such as Tesco recognised that the cost-efficiencies provided by self-service supported ‘special offers’ and ‘loss-leaders’ to entice custom, which undermined RPM.¹¹⁸⁹ The increasing size of food retail chains allowed the circumvention of any terms and conditions set by suppliers, as retailers engaged in price-based competition without recourse to obtaining

¹¹⁸⁷ J. F. Pickering, *Resale Price Maintenance in Practice* (London: George Allen and Unwin, 1966), pp. 115-116.

¹¹⁸⁸ Mercer, *Constructing A Competitive Order*, pp. 125-126; H. Mercer, *The abolition of resale price maintenance in Britain in 1964: a turning point for British manufacturers?* Economic History working papers, 39/98 (London: London School of Economics and Political Science, 1998), pp. 3-4.

¹¹⁸⁹ Clough, “Retail Change,” p. 119; Johnston, *A Hundred Years Eating*, p. 86; Ryle, *The Making of Tesco*, pp. 52-56.

support from the latter, a key example of how supply chain governance was shifting towards the retailer even before RPM was finally abolished in 1964. Equally, restrictive town centre planning regulations failed to constrain the long-term growth of the supermarket format; improved personal mobility and the rise in private car ownership highlighted above in **Graph 23** prompted the emergence of ‘edge of town’ stores between 1960 and 1969.¹¹⁹⁰

The pressure to drive-down costs and focus upon core operations resulted in greater delegation of logistics to haulage specialists through vertical disintegration. Although this approach had already been adopted by firms including M&S, others such as Sainsbury had continued to operate transport on own-account, which distracted from the day-to-day management of the retail business.¹¹⁹¹ The practice of contracting-out distribution to third-parties also provided a means to avoid the cost implications of transport policy shifts following the election of the Labour government in 1964.¹¹⁹² Although legal restrictions were imposed upon vehicle construction and maximum payloads, the main source of concern for vertically-integrated transport operators was the alteration of the regulatory structure governing the use of goods transport.

On the one hand, the 1967 Transport Bill deregulated road haulage by removing the quantitative licensing of vehicles, which allowed the demands of the market to determine the maximum number of hauliers and lorries.¹¹⁹³ This was accompanied by two other initiatives. Firstly, the Bill proposed the creation of a National Freight Corporation (NFC), which would combine long-distance road and rail haulage to stem the decline of rail-borne freight by controlling the bulk transport of goods by road at distances of over 100 miles, thus effecting a modal shift in favour of the railways.¹¹⁹⁴ However, the inconvenience facing food retailers as a result of the allocation of traffic to specific modes of transport was mitigated by the fact that British Railways was gradually extricating itself from wagonload traffic in favour of trainload operations, therefore making it increasingly unsuited to retail traffic bound for destinations below a 200-mile radius from rail-connected distribution depots.¹¹⁹⁵

¹¹⁹⁰ Clough, “Retail Change,” p. 124.

¹¹⁹¹ A. C. McKinnon, “Third-Party Logistics in the Food Supply Chain,” in *Food Supply Chain Management*, ed. M. A. Bourlakis and P. W. K. Weightman (Oxford: Blackwell Publishing, 2004), pp. 165-178.

¹¹⁹² D. L. Munby, “Mrs. Castle’s Transport Policy,” *Journal of Transport Economics and Policy*, 11 (1968), p. 136, p. 146.

¹¹⁹³ M. E. Beesley, “UK Experience with Freight and Passenger Regulation,” in *Privatization, Regulation and Deregulation, 2nd Edition*, ed. M. E. Beesley (London: Routledge, 1997), pp. 216-217.

¹¹⁹⁴ See: Munby, “Mrs. Castle’s Transport Policy,” p. 146; T. R. Gourvish, *British Railways 1948-1974: A Business History* (Cambridge: Cambridge University Press, 1986), p. 394; Transport Act, 1968, c. 73 (UK): para 71.2.

¹¹⁹⁵ Scott, “The Growth of Road Haulage,” p. 139.

Secondly, the imposition of qualitative licensing necessitated the employment of accredited transport managers and the compulsory training and retraining of drivers, which were expensive propositions for retail multiples already experiencing numerous other demands upon revenue.¹¹⁹⁶ Incentives to adopt electronic stock control, ‘just-in-time’ deliveries to stores and multi-temperature warehousing between 1970 and 1975 might therefore have been lost had the flexibility and adaptability encapsulated within road transport been restricted by the government setting the terms of participation within the road haulage sector. Instead, it is possible to hypothesise that the legislation created favourable conditions for a shift towards the use of third-party hauliers, with administration, cost and risk transferred to the transport specialist, thus leaving retail management to concentrate on policy and establish executive governance over the supply chain through direct negotiation with suppliers.¹¹⁹⁷ Consequently, it may be argued that the Transport Act (1968) secured the British retail sector’s relationship with road haulage, and created the conditions for an expansion of road-based distribution networks.

6.12 Conclusion

The previous chapters have referred to a gradual modal shift from rail to road haulage in food distribution between 1919 and 1975. In contrast, the railways were of limited use in meeting the distribution requirements of the food retailer, as geographical constraints determined the stop-start, short-distance nature of collection and delivery and ensured that the sector already relied upon road haulage by 1919; indeed, the question of modal shift might be considered simply as one from horse to the motor lorry. Contact with the railways was thus at arm’s length, and confined to the movement of stock from suppliers to wholesalers. However, the road transport requirements of food retailers broadly reflected the changing consumer landscape of the mid-twentieth century, which in turn determined the focus of supply chain governance.

The use of transport depended upon the size of the retailer in question, as the Co-operative movement and privately-owned retail multiples could justify expenditure upon the vertical integration of transport or the use of haulage contractors to distribute goods between warehouses and stores. In contrast, small, independent grocers were wholly reliant upon supplier-led distribution throughout the inter-war period. This was

¹¹⁹⁶ Transport Act, 1968, c. 73 (UK): paras. 61, 62, 65.

¹¹⁹⁷ Quarmby, “Developments in the Retail Market and their Effect on Freight Distribution,” pp. 75-76; Beesley, “UK Experience with Freight and Passenger Regulation,” p. 217.

emblematic of overall supply chain governance resting outside the retail sector, as food processors and manufacturers could exert influence by setting retail prices through RPM. Price competition was thus constrained, and retailers turned to service-based competition to increase custom through home delivery, providing an example of how Britain's food retailers attempted to use the flexibility of road transport to their advantage.

The provision of home delivery for customer convenience was restricted during the Second World War, although the conflict also initiated a sea-change in the introduction of self-service. Whilst it might be said that food retailing experienced a self-service 'revolution' during the 1950s, it was initially a revolution of ideas, rather than visible change. The ideal of self-service was initially constrained by the continuation of rationing until decontrol in 1954 and the gradual development of distributive infrastructure such as the motorway network; however, the author has identified 1955 as the watershed year for British retail, as subsequent years witnessed steps towards mass food retailing and a profound shift in supply chain governance away from suppliers.

The shift was achieved through a combination of government intervention in 1956 and the ability of large chain retailers to use their size to circumvent price controls enforced by suppliers and engage in price competition. This combined with rising consumer affluence to ensure that Britain's food retail sector, particularly chain retailers, could take the initiative in asserting supply chain governance in their pursuit of self-service. This was also supported by the development of new forms of lightweight packaging, which not only prevented spoilage in transit, but also permitted a broadening of the range of food suitable for display. The remaining pieces of the self-service puzzle included the expansion of the motorway network after 1959, which presented opportunities for retail chains to establish regional warehouses at locations away from the congested urban environment, whilst the emergence of personal transport underpinned the growth of the supermarket format.

Finally, changing government transport policy cemented the association between road haulage and the retail sector for the long term, as the 1968 Transport Act marked the deregulation of road transport through the abolition of quantitative vehicle licensing and the imposition of qualitative licensing based upon training and accreditation. Far from stifling the relationship with road haulage, the policy encouraged a transfer of responsibility to transport specialists, with retail management free to directly negotiate with suppliers to improve efficiency and cut costs within the supply chain; later technical innovations such as electronic stock control had increased the pace of distribution by the early 1980s.¹¹⁹⁸ Consequently, the transfer of governance from supplier to retailer provides

¹¹⁹⁸ Quarmby, "Developments in the Retail Market and their Effect on Freight Distribution," pp. 75-76.

a concise reason for the post-war ascendancy of road haulage, and underpins the modal shift from rail to road experienced elsewhere in Britain's food supply chain by 1975.¹¹⁹⁹

¹¹⁹⁹ Quarmby, "Developments in the Retail Market and their Effect on Freight Distribution," p. 76.

Chapter 7 - Conclusion

7.1 Overview

‘The organisation of industry is generally marked by constant change, and, although many of these changes are gradual, the continuous absorption ...of ideas and new methods ...affect in one way or another the demands of industry upon transport’.¹²⁰⁰ Thus wrote T. F. Cameron, Acting Divisional General Manager of the London and North Eastern Railway’s Scottish Area in his 1946 publication detailing the intricacies of railway traffic operation. Cameron succinctly highlights this thesis’ core argument that analysing the supply of transport only partially explains Britain’s transition from rail to road haulage; his statement reflects upon the fact that structural changes in industry influenced the demand for transport and was of equal importance in determining the character of food distribution. Cameron also comments that the railways, and by extension transport in general, presented a ‘series of diverse, although related problems’, and these are prevalent within each of the cases studied.¹²⁰¹ To conclude the thesis, the main findings will be reviewed before further avenues of research are proposed and their place within wider debates considered.

Two key research questions were posed in the introduction. The first was concerned with the impact of supply chain governance upon food distribution; the second the impact of labour relations and government regulation upon the food sector’s relationship with transport. In answering these questions, each chapter has demonstrated that success in distribution between 1919 and 1975 depended, at least in part, upon the food trader’s capacity to drive change and overcome any reticence to invest on the part of the transport provider. Although such direct action depended upon overall trading conditions and the extent of the market influence exerted by the enterprise under analysis, it indicates that transport was under continuous review by the food trade, a process which generated service improvements and flexibility.

In addressing these questions, this thesis has responded to Colin Divall’s call for further investigation into the demise of rail distribution, albeit from the perspective of food.¹²⁰² Despite the importance of food to human existence, knowledge of food distribution beyond the key stages of the supply chain is notable by its absence within the

¹²⁰⁰ T. F. Cameron, *An Outline of Railway Traffic Operation* (London: Tothill Publishing Co., Ltd., 1946), p. 9.

¹²⁰¹ Cameron, *An Outline of Railway Traffic Operation*, p. 7.

¹²⁰² C. Divall “Conceiving Distribution in the United Kingdom: The (London and) North Eastern Railway’s Discursive Response to Road Haulage, 1921–1939” in *From Rails to Roads and Back Again? A Century of Transport Competition and Interdependency*, ed. R. Roth and C. Divall (Aldershot: Ashgate, 2015), p. 106.

literature. However, studying the needs and idiosyncrasies of the transport customer has added a new dimension to traditional accounts focusing upon the impact of regulation and transport management upon Britain's modal shift from rail to road haulage. The overview of the transport sector in chapter 2 indicates that free competition and government regulation had failed to produce the coordination of rail and road haulage, and had instead exposed structural and organisational deficiencies in the former. The 'Square Deal' campaign of 1938 and 'Modernisation Plan' of 1955 were thus symptoms of an industry wrestling with the fact that it was not necessarily master of its own destiny.

Bearing this in mind, the author has identified an opportunity to place transport within the context of the food supply chain, thus responding to Elaine Hartwick's call for the analysis of individual commodities.¹²⁰³ The supply chain analyses undertaken at the beginning of each chapter have produced the hypothesis that shifting governance, which has been defined as the focus of management and control, amongst the key stakeholders within a supply chain has played a significant role in driving modal shift between rail and road distribution of food in Britain. Furthermore, the thesis has argued that the conditions which permitted modal shift in some commodities had emerged within a common and identifiable timeframe. The key points supporting this hypothesis are therefore detailed in the following section.

7.2 Key factors

Supply chain governance

The overarching influence of shifting governance within Britain's food supply chains is present in all cases studied, as each stage between producer and retailer has exercised influence over the organisation of transport between 1919 and 1975. The thesis has therefore argued that the profound changes experienced in the structure of food distribution, as demonstrated by the supply chain analyses, drove innovation in the form and practice of conveying products between supplier and customer for a variety of reasons. These include responses to influences such as the cost of living, inter-firm competition and the demands of the final consumer which heightened the need for cheap, flexible and reliable distribution. The resultant power plays between the stakeholders described within

¹²⁰³ E. Hartwick, "Geographies of consumption: a commodity-chain approach," *Society and Space*, 16 (1998), p. 423.

each of the food supply chain analyses thus created a dynamic environment for developing transport networks according to the logistical requirements of the trader.¹²⁰⁴

Another motivation was inter-firm competition amongst the commodity-based oligopolies such as United and Express Dairies, Rowntree and Cadbury's, as well as the leading players within the more fragmented meat and retail sectors. Consequently, producer, manufacturer, processor and retailer had the ability to exercise control over their respective markets at various times throughout the period studied, and hence influence the development of distribution. In the case of the producer, chapter 3 has shown that dairy farmers were initially at the mercy of the wholesaler to organise cheap and efficient transport. However, the wholesaler influence, whilst not entirely benign, reflected a shared interest in reducing costs and achieving economies of scale by driving the development of transport technology to the benefit of all parties concerned. This placed pressure upon Britain's railways, which were physically and organisationally path-dependent and consequently reluctant to adopt and invest in innovative technology, to change. This is demonstrated by the LNER's lacklustre response to the emergence of the bulk milk tank, which contrasted with the willingness of road hauliers and the owners of vertically-integrated lorry fleets to speculate by pioneering new transport concepts.¹²⁰⁵

Consequently, the thesis has argued that any change required of the railway industry depended upon a trader's ability to make a financial commitment. This required stable market conditions, a challenging proposition within a volatile food industry that outpaced rail transport's capacity to adapt and adopt to favour the flexibility provided by road transport, as the livestock and meat case study in chapter 4 has highlighted. This is supported by the post-war transfer of supply chain governance from the manufacturer and wholesaler to the retailer. Chapter 5 has indicated that Rowntree's marketing strategy focused upon 'pushing' products into retail; consequently, the growth of consumer demand for confectionery and a desire to establish a positive reputation amongst retail customers necessitated the closer monitoring of distribution to ensure reliability, cost-efficiency and the maintenance of its share of a competitive market.¹²⁰⁶ However, multi-modal distribution networks developed by manufacturers such as Rowntree were under pressure to obtain cost efficiencies and standardisation to lower retail prices.¹²⁰⁷

The pressure had emerged from a profound shift in supply chain governance towards the retailer. Chapter 6 has indicated that Britain's inter-war retail sector depended

¹²⁰⁴ J. Dawson, "Food Retailing, Wholesaling and Catering" in *Food Supply Chain Management*, ed. M. A. Bourlakis and P. W. K. Weightman (Oxford: Blackwell Publishing, 2004), p. 121.

¹²⁰⁵ Gibson, *Road Haulage by Motor in Britain*, p. 251.

¹²⁰⁶ R. Fitzgerald, *Rowntree and the Marketing Revolution, 2nd Edition* (Cambridge: Cambridge University Press, 2006), pp. 114-329.

¹²⁰⁷ Bourlakis and Weightman, "Introduction to the UK Supply Chain," p. 1.

upon the manufacturer to organise the supply network from supplier to store, a practice which provides one reason for the prevalence of resale price maintenance (RPM) throughout the period. Consequently, Britain's broadly fragmentary retail sector initially used road transport as a tool for engaging in non-price competition through services such as home delivery, thus providing a means for maintaining market share. However, the growing influence of retail multiples, the decontrol of food rationing in 1954, the development and demands of self-service and increasing product ranges gave retailers greater leverage over the supply chain. This favoured the adoption of a standard form of transport capable of resupplying enlarged retail spaces from a broad range of suppliers on a regular, door-to-door basis; indeed, the gradual growth of the motorway network was instrumental in consolidating a long-term modal shift to road haulage.¹²⁰⁸

Service quality

The second research question focused upon trader perceptions of service quality and the influence of regulatory processes upon food distribution, which touches upon a diverse range of issues including labour relations and the impact of government intervention. The trader's quest for service reliability is an important lens for understanding the modal shift to road, and it is necessary to reiterate that the immediate post-First World War period was crucial in establishing the viability of road haulage in participating in food distribution. In this regard, railway maintenance deficits, traffic embargoes and strikes disrupting routine food distribution carved the future shape of food logistics in Britain.

Complaints about the quality of service provided by Britain's railways were a perennial issue in all commodities studied, with each presenting examples of cases where suppliers had struggled to meet consigner expectations and service obligations because of the railway industry's shortcomings. With railway companies struggling to operate goods services because of wagon shortages, a cause of the traffic embargoes experienced at various times, any loss of traffic to road hauliers would appear self-inflicted.¹²⁰⁹ Dissatisfaction is particularly evident in milk and confectionery distribution, as railway reliability issues combined with high charges to prompt United Dairies and Rowntree to experiment with different transport solutions; in contrast, the retail sector's long-term association with road distribution ensured only indirect inconvenience during strikes.

¹²⁰⁸ M. Bourlakis and P. Weightman, "Introduction to the UK Supply Chain," in *Food Supply Chain Management*, ed. M. A. Bourlakis and P. W. K. Weightman (Oxford: Blackwell Publishing, 2004), p. 8.

¹²⁰⁹ Gibson, *Road Haulage by Motor in Britain*, p. 204.

The Second World War has demonstrated that the railway industry struggled to meet the demands of the food industry because of network congestion and damage. This, coupled with the railway strike of 1955, had sown the seeds for a change in the organisation of food distribution in Britain. However, the fact that several technological innovations relating to road haulage had yet to reach their apogee, such as temperature-controlled road haulage, which required the construction of similarly-equipped warehousing, ensured that the process was ongoing in 1975. Further development was also required in the management of mass transit operations to meet the needs of self-service food retail necessitated the universal adoption of electronic stock control systems which directly linked the point of sale to suppliers.

Regulation

Regulatory intervention was an issue that affected both food and transport industries; indeed, it determined the terms of participation in each market in ways which were well-intentioned, yet sometimes disruptive. In chapters 3 and 4, initial *laissez-faire* from successive governments between 1919 and 1932 gave way to legislation offering greater support to the milk and meat trades. The establishment of the Milk Marketing Board (MMB) in 1934 gave the producer protection from domestic competition through fixed milk prices that stabilised the industry by shifting the centre of control away from the wholesaler, as the supply chain analysis has shown. Conversely, it was the government's imposition of trade tariffs that assisted the domestic livestock industry by restricting the flow of imported animals and meat.¹²¹⁰ Distribution was thus affected because the MMB eventually pursued a policy of reducing long-distance milk haulage, whilst declining livestock imports eroded the viability of a once-regular source of railway traffic.

The Ministry of Agriculture and Fisheries' animal welfare regulations also made the process of transporting livestock, whether from port or cattle market, difficult when rail and road industries were experiencing their own regulatory challenges. The passing of the Road and Rail Traffic Act (1933) added an extra layer of bureaucracy for traders through its implementation of quantity licensing, yet it failed to address the fundamental disadvantage faced by the railways caused by nineteenth-century anti-monopolist regulation. In contrast, the Agriculture Act (1947) paved the way for investment in

¹²¹⁰ A. F. Cooper, *British Agricultural Policy, 1912-36: A Study in Conservative Politics* (Manchester: Manchester University Press, 1989), p. 144.

Britain's agricultural economy to improve self-sufficiency in food, a consequence of which was the ability of farmers to purchase tractors and lorries.¹²¹¹

Other instances of government intervention had implications for all cases because of their widespread effect. Firstly, the imposition of rationing during the Second World War restricted the influence of the market in the interests of preserving Britain's fragile wartime economy. Whilst petrol rationing favoured rail distribution, it was combined with commodity controls to precipitate the rationalisation of road haulage to prevent wasteful practices such as cross-haulage and service-based competition to demonstrate the mode's adaptability. Although the Labour government's nationalisation programme threatened long-standing transport arrangements, as evidenced by the absorption of Rowntree's main haulage contractor into British Road Services and the problems faced by the MMB, its abolition of quantitative licensing in favour of qualitative, competency-based licensing in 1968 encouraged the use of third-party contractors, and paved the way for a fully deregulated, flexible haulage market.¹²¹²

The point of transition

The foregoing has already given some idea of when a general 'point of no return' in the transition from rail to road transport took place in British food distribution. The inter-war years were a period of reputation-building for road hauliers, and although the Second World War ostensibly slowed the process of transition in the interests of preventing waste, it had also proved that rationalised road distribution could successfully operate within constraints set down by government in terms of market control and petrol rationing.¹²¹³ Consequently, one must turn to the developments experienced in transport and food retail during the 1950s to pinpoint when conditions favoured the widespread adoption of road distribution by traders.

Firstly, the gradual loosening of restrictions imposed upon long-distance road transport after the 1953 Transport Act provided the basis for a general reconfiguration of distribution.¹²¹⁴ However, it took until 1955 before the combination of the decontrol of transport and rationing, the adoption of self-service retail, the emergence of mass consumption and the transfer of supply chain governance to the retail industry permitted such reconfiguration. Furthermore, British Railways' (BR) Modernisation Plan offered

¹²¹¹ Martin, *The Development of Modern Agriculture*, p. 73.

¹²¹² Fitzgerald, *Rowntree and the Marketing Revolution*, p. 436; p. 449.

¹²¹³ For example, C. I. Savage, *Inland Transport* (London: HMSO, 1957), p. 87.

¹²¹⁴ Scott, "The Growth of Road Haulage," p. 141.

little from the perspective of the food industry, whilst the Associated Society of Locomotive Engineers and Firemen (ASLEF) strike of 1955 once again confirmed a key disadvantage of rail distribution: the lack of consistent reliability. This setback was faced by BR at a critical point in the narrative of transport in Britain, as the growing influence of the retailer within the supply chain ensured that a tipping point had been reached.

In the case of food distribution, this tipping point is linked to the emergence of self-service retailing since 1945; retail chains had developed a vision of the future, and in doing so established a groundswell which would ultimately change the face of supply chain management within the sector. However, whilst a course towards road-based food distribution was set after 1955, progress depended upon the resolution of remaining physical constraints, which initially comprised the lack of a road network capable of accommodating intensive long-distance trunk haulage.¹²¹⁵ Despite this, the retail sector was making progress in establishing a clear system of supply chain management by 1975.

7.3 New directions

The thesis introduction has already highlighted that this thesis contributes to histories of transport, consumption, agriculture, food manufacturing and retail. Furthermore, by adopting the supply-chain approach, this thesis has worked around the fragmentary nature of statistics by using empirical evidence comprising correspondence and official documentation to build a picture of the organisation and practice of food distribution, as well as considering the place of transport in the development of the food supply chain in Britain. However, the research has also produced some tantalising, detailed glimpses of transport operations which offered only limited scope in the analysis of long-term national trends forming the focus of this thesis, as exemplified by ledgers found by the author pertaining to daily meat arrivals at Smithfield Market between 1937 and 1939.

The researcher's challenge in this regard is the extent to which national trends can be extrapolated from such material when the available data series is limited, and a comparative dataset remains to be seen by the author. The existence of more than one repository of data is also of use in supplementing the material found in business archives; indeed, the author's research at the Rowntree-Mackintosh archive initially produced a conclusion that the confectioner had developed a near-exclusive relationship with Northern Motor Utilities (NMU) for its transport requirements. However, documents at the NRM and TNA disproved this conclusion, as engineering drawings found amongst the Great Western Railway's (GWR) Swindon Works collection and a depot agreement found by the

¹²¹⁵ Merriman, 'Motorways and the Modernisation of Britain's Roads,' pp. 315-338.

author amongst that railway's plans and deeds suggests the contrary. This raises the possibility that as principal contractor, NMU might have sub-contracted this work to the railway company, allowing speculation that there was more collaboration between rail and road transport operators than at first sight; an alternative conclusion might be that Rowntree sub-contracted to more transport providers than the archive suggests.

The breadth and scope of available sources has also meant that some aspects of food distribution have either eluded the author, or space constraints have prevented their inclusion. A prime example is the ability to ascertain the extent to which investment in motorway construction since 1959 has subsidised users of road transport; although Peter Scott has highlighted that Britain's road network had experienced underinvestment in comparison with other European nations, the growth of private road haulage by nearly 500,000 vehicles between 1949 and 1959 implies that a modal shift was taking place in spite of minimal expenditure on road improvements.¹²¹⁶ However, a more in-depth, international comparison would provide a useful future contribution to the historiography. There is more work to be done on the impact of food hygiene legislation upon transport. This might take the form of ascertaining whether hygienic processes in transport were adopted out of genuine concern for public health, or were considered as marketing tools. Finally, the approach adopted within this thesis might be used to investigate further commodities, thus providing a broader perspective on distribution in Britain.

The introduction of this thesis has already established that food forms only part of the freight equation; much more research is desirable in non-food freight and the transport of consumer goods to ascertain whether the concerns and demands of the numerous stakeholders that participated within Britain's food supply chain reflected a wider pattern of modal shift from rail to road haulage. Secondly, much more has been written about the regulation of British transport than the effect of deregulation, which has been touched upon in several chapters when discussing the consequences of the Transport Act (1968). Qualitative licensing was introduced to replace quantitative licensing, which opened the sector to regulation by the demands of the market; whilst the government retained an interest in road haulage until 1981 through its National Freight Corporation (NFC), the effect of deregulation upon the growth of the private haulage contractor and its relationship with business presents an important point for future analysis, particularly as the contractor retains a visible presence on the road network at the time of writing.

¹²¹⁶ P. Scott, "Public Sector Investment and Britain's Post-war Economic Performance: A Case Study of Roads Policy," *Journal of European Economic History*, 34 (2005), pp. 391-418; see Appendix 2.5 for figures.

The thesis has demonstrated that the course of transport development was driven by the demands of British trade, which reflected various shifts in supply chain governance, whether from an executive or legislative perspective; indeed, this may have informed political lobbying concerning its use, and might also explain the government's support of the haulage sector since the Transport Act (1962). This in turn suggests that Britain able to broadly parallel the consumer-led deregulatory path pursued by the United States throughout the late 1970s.¹²¹⁷ There are also wider ramifications for European transport regulation, as Britain was the first European nation to fully deregulate road transport by 1982, thus permitting the haulage industry to achieve equilibrium through private enterprise. Patterns of transport demand and consumption thus contribute to wider debates concerning the growth of Britain's service-based economy.

Although the provision of transport is arguably Britain's original service industry, having emerged to support economic growth, the author subscribes to the view that the transition from rail to road during the twentieth century broadly reflected the inability of Britain's existing industrial resources to support a demand-driven mass consumerist society alone. Its ramifications for the supply chain was a shift towards globalisation, which has provided business opportunities for transport specialists possessing a strong customer focus and a service outlook. The emergence of the car as a means of personal transport in Britain is emblematic of this; it opened avenues of consumer demand by presenting new freedoms of choice, which consequently drove changes within business to reflect the ever-evolving need to compete for a customer's time and money.

This shift is by no means exclusive to road haulage, which has inevitably experienced a burgeoning in scale and scope- BR's sectorisation programme of 1982 also reflected a need to compete for custom, as it entailed dividing the nationalised railway operation into individual, specialist business units that could focus upon specific traffic flows. However, the thesis has shown that the metamorphosis which took place in rail and road food logistics between 1919 and 1975 was achieved partly through the transformative effect of the changes in supply chain governance. The result has been a continuous search for flexibility, efficiency and service; the consequence for failure in this quest is concisely summarised by Rudyard Kipling's observation that: 'Everything in life ...turns on the speed and cost at which men, things and thoughts can be shifted from one place to another. If you tie up a Nation's transport, you can take her off your books'.¹²¹⁸

¹²¹⁷ For an account of the agrarian and consumer-based deregulation of road haulage in the United States, see S. Hamilton, *Trucking Country: The Road to America's Wal-Mart Economy* (Princeton: Princeton University Press, 2008), pp. 224-231.

¹²¹⁸ From a speech delivered by Kipling to the Chamber of Shipping Annual Dinner, February 1925. Rudyard Kipling, *A Book of Words: Selections from Speeches and Addresses Delivered between 1906 and 1927* (London: Macmillan, 1928).

Appendices

Appendix 1

Histories of selected organisations

Anglo-American Council of Productivity - The Council was assembled by Sir Stafford Cripps, President of the Board of Trade and Chancellor of the Exchequer, in late 1948. It was composed of management and workforce representatives from key British industries including the Federation of British Industries (FBI). The Council's remit was to facilitate the free flow of knowledge and best practice in industrial organisation by examining American methods. Following the publication of a series of reports on subjects including retail and manufacturing, the Council was disbanded in 1952.

Associated Society of Locomotive Engineers and Firemen (ASLEF) - A 'craft' trade union established in 1880 to represent railway locomotive crews. Participated in the September 1919 national railway strike over pay which resulted in the introduction of the eight hour working day. The union also called railway strikes in 1923 and 1955.

Board of Trade - A government department with wide-ranging responsibilities for trade and industry. It advised on domestic and Empire economic matters, and was responsible for formulating legislation on a broad range of issues including trade marks, company regulations, employment and transport.

British Transport Commission (BTC) - Created under the Transport Act (1947), the Commission was tasked with providing strategic oversight for all transport interests nationalised under the Act. The Commission was disbanded upon the creation of the British Railways Board (BRB) in 1962.

British Road Services (BRS) - The trading name for long-distance haulage firms nationalised under the Transport Act (1947). A proportion of BRS' assets were sold after the dissolution of the Road Haulage Executive (RHE) in 1953. Sales were halted in 1956, and the remainder of the organisation was left to compete with the commercial haulage sector. It was subsequently amalgamated with BR's Freightliner services following the Transport Act (1968) to form the National Freight Corporation (NFC).

Co-operative Wholesale Society (CWS) - Founded in 1863, the CWS provided a means of bulk-buying and supplying produce and consumer goods to Co-operative retail societies. The CWS was wholly owned by the societies it traded with, and integrated the means of production and distribution to drive down costs.

Co-operative Union - A national organisation created in 1869 to provide a central forum for the co-operative movement in Britain and disseminate advice on issues of common interest. It was also a lobbying organisation for the movement which campaigned on matters of regulation and market discrimination against the movement.

Departmental Committee on Distribution and Prices of Agricultural Produce - Also known as the Linlithgow Inquiry after its chairman, Lord Linlithgow. The Committee was convened in 1922 to consider how supply chain inefficiencies impacted upon the marketing of domestic agricultural produce.

Department of Scientific and Industrial Research (DSIR) - The DSIR was established in 1915 to fund and encourage a wide range of developments in scientific and industrial research to assist the war effort and reduce Britain's reliance upon imported goods. After the First World War, the Department turned to applying scientific research to everyday tasks such as food production and distribution. The DSIR was disbanded in 1965.

East Kent Packers Ltd. (EKP) - A fruit grower's co-operative established in Faversham in 1944 to collect, grade, pack, market and distribute locally produced fruit such as apples and pears to local and national retail and wholesale customers.

Federation of British Industries (FBI) - A unitary association of manufacturing firms and trade associations founded by Dudley Docker in 1916 in response to the government's implementation of wartime controls. Its remit was to establish policy positions on behalf of its membership when dealing with government regulation, and also provided a means for firms to collectively lodge objections to railway rates at the Railway Rates Tribunal.

Licensing Authorities - Regional Authorities was created under the Road Traffic Act (1930) to regulate public service and private motor vehicles. Their remit was expanded after the passing of the Road and Rail Traffic Act (1933) when they were also tasked with implementing quantitative goods vehicle licensing. The Licensing Authorities were a means of controlling motorised road transport during the Second World War.

Mansion House Association on Transport (MHA) - Originally called the Mansion House Association on Railway Rates when created in 1889, the MHA was a trader's association which provided an organisation for objecting to high rates and, after 1931, railway demands for the removal of anti-monopoly regulations. In doing so, it became a key advocate for road haulage. The MHA became part of the Freight Transport Association in 1969.

Manufacturing Confectioner's Alliance (MCA) - Established by key firms involved in the production of confectionery including Cadbury and Rowntree, the Alliance was responsible for representing the industry. In doing so, it influenced the development of food regulations and pursued legal disputes with external bodies such as Britain's railway companies. It was renamed the Cocoa, Chocolate and Confectionery Alliance in 1945.

Meat Transport Organisation, Ltd. (MTOL); United Carriers Ltd. - A company established in 1946 to coordinate the activities of all Meat Transport Operators in London and the Home Counties. It also assumed responsibility for long-distance insulated road haulage. It became a co-operative haulage organisation that incorporated former MTOL members in July 1954.

Milk Marketing Board (MMB) - The MMB was a producer-controlled marketing organisation established in 1933 under the Agricultural Marketing Act. It was tasked with stabilising the milk market at a time of dire economic performance in other agricultural commodities by providing a steady and regular income for all farmers selling milk to wholesalers and other purchasers. It also developed transport interests to reduce transit costs for the farmer, and was instrumental in the motorisation of country milk collection after the Second World War. The MMB was dissolved in 1994.

Meat Importer's National Defence Association Limited (MINDAL) - An agency established by the Ministry of Food in 1940. It facilitated liaison with the Wholesale Meat Transport Association (WMTA) and the Railway Executive Committee (REC) in respect to imported frozen meat, and to allocate tonnages for onward transport from the ports by rail or road.

Reorganisation Commission for Milk - Appointed in 1935 to review the Milk Marketing Board's (MMB) activities and consider improvements. Chaired by Arthur Cutforth, the Commission's Report was published in November 1936, and also reflected upon the efficiency of the retail distribution of milk in urban areas.

Ministry of Agriculture and Fisheries; Ministry of Agriculture, Food and Fisheries - The Ministry of Agriculture and Fisheries was created in 1919 to oversee the transition of domestic agriculture to peacetime conditions after the First World War. Price controls for farm produce introduced under the Agricultural Act (1920) were abolished following the Act's repeal in 1921, and the Ministry of Agriculture and Fisheries subsequently focused upon issues including disease control and research.

Between 1925 and 1933, the Ministry was responsible for introducing the Agricultural Marketing Acts, which led to the formation of the Milk, Hops, Potato and Bacon Marketing Boards. The Ministry of Agriculture and Fisheries was also responsible for the allocation and cultivation of agricultural land during the Second World War. The Ministry was renamed Ministry of Agriculture, Food and Fisheries following a merger with the Ministry of Food in 1955.

Ministry of Food; Food (Defence Plans) Department - The first incarnation of the Ministry of Food emerged during the First World War and was tasked with maintaining a stable food supply in wartime conditions. To prevent shortage and inflationary pressures upon the wartime economy, the Ministry devised and administered rationing schemes to ensure the equitable distribution of food amongst the population. The Ministry of Food was disbanded in 1921, and its functions absorbed by the Board of Trade.

The Food (Defence Plans) Department was created in 1936 to develop plans in anticipation of the Second World War. The Ministry of Food was consequently re-formed in 1939 to implement rationing and, in conjunction with the Ministry of Agriculture and Fisheries (MAF) and Ministry of War Transport, ensure the efficient distribution of food. The Ministry of Food was merged with the Ministry of Agriculture and Fisheries following the repeal of food rationing in 1955.

Ministry of Health - The Ministry of Health was created in 1919, and absorbed the powers of the Local Government Board. Although responsibility for housing was transferred away from the Ministry, it subsequently focused on public health matters including food hygiene.

Ministry of Labour - Created in 1916, the Ministry of Labour absorbed the Board of Trade's employment remit, and directed labour resources to essential industries. In peacetime, the Ministry was tasked with the re-employment of demobilising soldiers, established labour exchanges and the administration of unemployment insurance. From 1939, the Ministry allocated personnel to military, civil defence and industrial posts, and retained responsibility for labour exchanges after the Second World War.

Ministry of Transport; Ministry of War Transport - The Ministry of Transport was established by the Ministry of Transport Act (1919). It was created to amalgamate the powers and responsibilities held by diverse agencies such as the Board of Trade over transport matters into one government organisation. Initially tasked with the administration of a transition to peacetime operations, the Ministry of Transport was responsible for legislation amalgamating the majority of Britain's railway companies into four major concerns.

The Ministry also exercised regulatory jurisdiction over road transport, and oversaw the organisation of transport in wartime as the Ministry of War Transport. Between 1945 and 1948, the Ministry of Transport oversaw the Labour government's transport nationalisation programme, and later administered the contraction of the British railway network following the publication of the Beeching Reports in 1963.

National Farmers' Union (NFU) - Established in 1908 as a professional association representing the interests of the British farming industry. As a lobbying organisation, the NFU worked to protect the interests of farming in England and Wales, as evidenced by its call for trade quotas during the 1932 Ottawa Conference.

National Freight Corporation (NFC) - Created under the Transport Act (1968) to improve coordination between nationalised long-distance rail and road transport operations. The Corporation was denationalised in 1982.

National Union of Railwaymen (NUR) - The NUR was an industrial union which emerged from the amalgamation of three smaller unions in 1913. Consequently, the union represented a diverse range of railway occupations including signallers, works staff and some footplate crews. The union took part in the September 1919 railway strike to improve pay and establish the eight-hour day, but refrained from joining the ASLEF-supported strikes that took place in 1923 and 1955.

Northern Motor Utilities (NMU) - A York-based haulage contractor with close links to Rowntree. The firm was established soon after the First World War and was nationalised under the Transport Act (1947). Following denationalisation, the firm's assets were purchased by Rowntree, and became a transport subsidiary of the confectioner, NMU (1953) Ltd.

Railway and Canal Commission - The Commission was the predecessor of the Railway Rates Tribunal, and was created under the terms of the Railway and Canal Traffic Act (1873). It was a permanent court of record tasked with enforcing the Railway and Canal Traffic Act (1854) by supervising the issuing of railway rates and investigating trader grievances in relation to unfair charges and abuses of monopoly.

Railway Clearing House (RCH) - The RCH was formed in 1842 to administer the allocation of revenue where passenger and goods journeys traversed more than one railway company's network, as well as maintaining a standard classification of goods for charging purposes. The RCH was also an important conduit for standardising railway technology such as wagons and equipment, with the resultant designs capable of being easily maintained throughout the network. The nationalisation of the railways resulted in a much-reduced workload, and the RCH's activities were absorbed by the British Transport Commission (BTC) in 1955.

Railway Companies Association (RCA) - Founded in 1867, the RCA was a lobbying organisation that provided a coordinated approach towards protecting the commercial interests of Britain's private railway companies before nationalisation in 1948. Examples of RCA lobbying include propaganda published during the Salter Conference of 1932 and the 'Square Deal' campaign of 1938. The Association was dissolved as a result of nationalisation in 1948.

Railway Executive (RE); Railway Executive Committee (REC) - Created under the terms of the Transport Act (1947), the RE was a successor organisation to the wartime Railway Executive Committee (REC) established in 1914. It was disbanded in 1921 and reconvened in 1938 to provide centralised, coordinated management of Britain's railway network in wartime. The 1947 creation was responsible for the daily management of British Railways (BR). It was disbanded under the Transport Act (1953) and its functions were absorbed by the BTC.

Railway Rates Tribunal - The Tribunal was a product of the Railways Act (1921), which proposed the revision of railway rates. It was a court of record set up to hear the opinions and objections of traders regarding the 'standard' schedule of charges published in advance of 1 January 1928; the 'appointed day' when these charges would become effective. The Tribunal was also responsible for compiling and revising conditions of carriage.

Road Haulage Association - A trade association founded in December 1944 following the amalgamation of several local road haulage associations. It continues to support and represent the interests of the road haulage industry during negotiations with government and the trading community.

Road Haulage Executive (RHE); Road Transport Executive (RTE) - Originally named the RTE, the RHE was created as a result of the Transport Act (1947). The RHE was responsible for the daily management of the nationalised haulage services, which traded as British Road Services (BRS). It was disbanded under the Transport Act (1953).

Royal Commission on Food Prices - Chaired by Sir Auckland Geddes, the Commission was appointed in 1924 to ascertain how conditions within the food supply chain influenced the differences between prices paid by the retailer and received by the producer. The Geddes Report was published in 1925, and recommended the creation of a Food Council to oversee Britain's food trade.

Salter Conference on Road and Rail - Set up in 1932, the Conference was chaired by Sir Arthur Salter. It comprised rail and road industry experts, and its remit was to discuss matters of policy and regulation concerning Britain's rail and road industries. A broad principle of rail and road transport coordination was established, and the subsequent Report of 1933 recommended the reduction of 'wasteful competition' by regulating road haulage through goods licensing. The Salter Report's findings were adopted by the government, and formed the basis of the Road and Rail Traffic Act (1933).

Transport and General Workers' Union - Established in 1922 following an amalgamation of several dock-worker, clerical and road transport union groups, the Transport and General Workers' Union was to become the largest British trade union.

Wholesale Meat & Provisions Transport (Defence) Association (WMPTA); Wholesale Meat Transport Association (WMTA) - Set up in 1939, the WMPTA provided the basic organisational structure for wartime meat transport. The Association exercised central control over operations and administered haulier remuneration during the first two years of the Second World War. The WMPTA was renamed the WMTA in 1940, and was disbanded when responsibilities were absorbed by the Ministry of War Transport in 1941.

Wholesale Meat Supply Associations (WMSA) - Established in 1939 when a series of eight Associations were appointed as agents for the government with responsibility for administering the equitable distribution of meat allocations to retailers and retail butchers. The WMSA issued permits to buying consortia based upon an aggregate of customer ration book registrations.

Appendix 2

Graph data tables

Table 1 Compensation for damage and loss of goods and property, 1919-1938 (all railways)

	Compensation for damage and loss of goods and property (£ thousands)	Goods traffic (1,000 tons)	Compensation per 1000 tons of traffic (£ Sterling)
1920	2,039	332,164	6.1
1921	1,353	230,786	5.8
1922	592	319,934	1.8
1923	617	366,606	1.6
1924	658	359,873	1.8
1925	701	339,818	2
1926	698	233,850	2.9
1927	660	345,229	1.9
1928	570	328,098	1.7
1929	607	351,144	1.7
1930	555	325,812	1.7
1931	472	288,865	1.6
1932	408	268,519	1.5
1933	407	269,249	1.5
1934	421	289,008	1.4
1935	451	289,914	1.5
1936	463	300,580	1.5
1937	521	317,707	1.6
1938	479	284,834	1.6

Source: Ministry of Transport, *Railway Returns* (London: HMSO, 1920-1947).

Table 2 LNER cartage service motorisation, 1932-1935

	LNER Road Motor Service	Horses
1932	1,615	No data
1933	2,267	3,244
1934	2,791	2,901
1935	3,033	2,483

Sources: TNA: RAIL 390/917, 26 April 1933 Memorandum to the Suburban and Road Traffic Committees, p. 1, TNA: RAIL 390/1011, 1 May 1935 Memorandum to the Suburban and Road Traffic Committees, p. 1 and TNA: RAIL 390/1055, 22 April 1936 Memorandum to the Suburban and Road Traffic Committees, p. 1.

Note: There is no data for the number of horses employed in cartage in 1932.

Table 3 Estimated British Railways male adults weekly wage bill, 1949-1958

	Male adults annual wage bill (£000s)
1949	200,689
1950	198,084
1951	213,408
1952	228,899
1953	240,053
1954	250,271
1955	266,282
1956	288,002
1957	294,466
1958	313,820

Source: Calculated from *British Transport Commission- Annual Report and Accounts* (London: HMSO, 1949-1958).

Table 4 Non-nationalised lorries in Britain, 1945-1959

	Total number of licensed lorries (thousands)
1945	446.9
1946	532.8
1947	649.4
1948	746.6
1949	801.8
1950	852.4
1951	912.3
1952	950.2
1953	981.8
1954	1,025.9
1955	1,085.1
1956	1,147.4
1957	1,224.3
1958	1,258.1
1959	1,299.3

Source: Office for National Statistics, *Annual Abstract of Statistics* (London: HMSO, 1946-1960).

Table 5 British Railways total merchandise freight traffic, 1948-1959

	Total merchandise freight tonnage (thousand tons)
1948	54,727
1949	53,978
1950	52,995
1951	53,290
1952	50,275
1953	48,708
1954	46,641
1955	43,400
1956	42,503
1957	41,596
1958	36,290
1959	37,125

Source: British Transport Commission, *Transport Statistics* (London: HMSO, 1948-1959).

Table 6 Liquid milk for consumption in the UK, 1901-1937

	Liquid milk for consumption (million gallons, including Eire)	Liquid milk for consumption (million gallons, excluding Eire)
1901	1,605	
1919	1,892	
1920	1,807	
1921	1,894	
1922	1,907	
1923	1,928	
1924	1,965	
1925		1,152
1926		1,186
1927		1,212
1928		1,224
1929		1,235
1930		1,255
1931		1,249
1932		1,248
1933		1,255
1934		1,255
1935		1,277
1936		1,331
1937		1,336

Source: B. R. Mitchell, *Abstract of British Historical Statistics* (Cambridge: Cambridge University Press, 1988), pp. 211-212.

Table 7 Cost of United Dairies' milk transport as a percentage of total sales, 1927-1938

	Total Sales (£ sterling)	Cost of carriage and haulage (£ sterling)	Per Cent of Total Sales	Cost of collection (£ sterling)	Per Cent of Total Sales
1927	1,941,489	80,523	4.1	13,668	0.7
1928	1,987,688	69,869	3.3	11,378	0.6
1930	2,399,784	74,872	3.1	19,653	0.8
1932	2,815,305	60,915	2.1	29,875	1
1934	3,572,833	142,651	3.9	16,032	0.4
1936	3,943,959	198,773	5	41,259	1
1938	4,626,099	191,781	4.1	58,716	1.2

Source: WSA: 1531/130/1, Wilts United Dairies, *Annual Accounts and Balances*, 1917-1938.

Table 8 Milk Marketing Board transport deductions as a proportion of total producer contract income, 1935-1975

	Transport Deductions (£ sterling)	Total Value of Milk Sold (£ sterling)	Transport deductions as a proportion of total producer contract income
1935	3,337,339	36,698,931	9.09
1940	4,163,411	56,454,591	7.37
1945	3,921,943	96,022,215	4.08
1950	4,893,753	177,040,306	2.76
1956	6,678,027	235,484,500	2.83
1960	7,385,601	259,573,429	2.84
1965	8,350,198	397,952,743	2.09
1970	9,502,076	345,606,969	2.74
1975	28,071,864	670,765,834	4.18

Source: Milk Marketing Board, *Reports and Accounts, 1935-1975*.

Table 9 Value of gross output of selected agricultural holdings in England and Wales and the economic Depression, 1927-1939

	Milk and products (£ millions)	Grain crops (£ millions)	Potatoes and sugar beet (£ millions)
1927-28	55	22.6	17.1
1933-34	52.1	9.2	14.2
1934-35	52.9	10.1	18.8
1935-36	54.1	10	19.5
1936-37	55.8	12.4	20.4
1937-38	59.3	12.4	16.6
1938-39	64.6	10	15.8

Source: E. H. Whetham, *The Agrarian History of England and Wales, Vol. VIII* (Cambridge: Cambridge University Press, 1978), p. 260.

Table 10 Annual average liquid milk prices in England and Wales, 1922-1938

	Annual average liquid milk prices in England and Wales, 1922-1938 (data converted to new pence)
1922-23	6.7
1923-24	6.4
1924-25	6.4
1925-26	6.4
1927-28	5.9
1929-30	6.2
1930-31	5.8
1931-32	5.6
1932-33	5.9
1933-34	4.9
1934-35	5
1935-36	4.8
1936-37	5
1937-38	5.4

Source: E. H. Whetham, *The Agrarian History of England and Wales, Vol. VIII* (Cambridge: Cambridge University Press, 1978), p. 147; pp. 251-252.

Table 11 Total wartime milk production (June-May year), 1939-1945

	Milk (million gallons)
Pre-war average	1,781
1939-40	1,771
1940-41	1,608
1941-42	1,564
1942-43	1,657
1943-44	1,712
1944-45	1,727
1945-46	1,789

Source: K. A. H. Murray, *History of the Second World War- Agriculture* (London: HMSO, 1955), p. 262.

Table 12 Production and consumption of liquid milk in the UK, 1945-1964

	Liquid milk for consumption (million gallons)	Population: mid-year estimates (thousands)	Estimated average milk consumption per capita in the UK, 1945-1964 (gallons per annum)	Estimated average milk consumption per capita in the UK, 1945-1964 (pints per week)
1945	1,243	48,668	25.5	3.9
1946	1,304	48,987	26.6	4
1947	1,305	49,538	26.3	4
1948	1,417	50,033	28.3	4.4
1949	1,514	50,331	30	4.6
1950	1,557	50,381	30.6	4.7
1951	1,567	50,286	31.1	4.7
1952	1,545	50,429	30.6	4.7
1953	1,518	50,592	30	4.6
1954	1,515	50,764	29.8	4.5
1955	1,516	50,946	29.7	4.5
1956	1,521	51,183	29.7	4.5
1957	1,504	51,430	29.2	4.4
1958	1,518	51,652	29.3	4.5
1959	1,537	51,956	29.5	4.5
1960	1,559	52,372	29.7	4.5
1961	1,583	52,807	29.9	4.6
1962	1,606	53,291	30.1	4.6
1963	1,621	53,624	30.2	4.6
1964	1,641	53,990	30.3	4.6

Sources: B. R. Mitchell, *Abstract of British Historical Statistics* (Cambridge: Cambridge University Press, 1988), pp. 211-212; “UK Population Estimates 1851-2014,” Office for National Statistics, 6 July 2015, accessed January 3, 2017, <https://www.ons.gov.uk/people-populationandcommunity/populationandmigration/populationestimates/adhocs/004356ukpopulationestimates1851to2014>.

Table 13 Comparison between total British cattle population and imported Irish cattle, 1901-1926

	Total British cattle population (to nearest 1,000)	Total Irish imports (to nearest 1,000)
1901	6,764	343
1902	6,556	959
1903	6,705	898
1904	6,858	772
1905	6,987	749
1906	7,011	775
1907	6,912	842
1908	6,905	862
1909	7,021	837
1910	7,037	868
1911	7,114	695
1912	7,026	555
1913	6,964	1,108
1914	7,093	945
1915	7,288	841
1916	7,442	889
1917	7,437	889
1918	7,410	720
1919	7,424	764
1920	6,713	926
1921	6,660	767
1922	6,869	978
1923	7,017	813
1924	7,059	1,078
1925	7,368	781
1926	7,451	720

Sources: Ministry of Agriculture, Fisheries and Food & Department of Agriculture and Fisheries for Scotland, *A Century of Agricultural Statistics: Great Britain, 1866-1966* (London: HMSO, 1968); A. Chadwick et al., *The Meat Trade, Vol. I*, (London: Gresham Publishing Co., 1935), p. 248.

Table 14 RPI price comparison between British and imported beef ribs, 1914-1947

Year	Beef Ribs, British (new pence)	Beef Ribs, imported (new pence)
1914	9.7	7.4
1915	11.6	9.1
1916	13.9	11.3
1917	16.8	13.9
1918	17.3	16.3
1919	17.2	15.8
1920	20.4	14.5
1921	21.3	13.1
1922	16.8	9.6
1923	16.3	9.4
1924	16.3	9.4
1925	16.3	9.6
1926	16.1	9.4
1927	15.4	8.9
1928	15.4	9.4
1929	15.4	9.6
1930	15.1	9.6
1931	14.5	8.9
1932	13.5	8.5
1933	12.9	8.3
1934	12.9	8.3
1935	12.4	8
1936	12.2	8
1937	12.9	8.5
1938	13.3	8.9
1939	13.2	8.9
1940	14.4	11.5
1941	14.5	11.7
1942	14.5	11.9
1943	14.5	11.9
1944	14.5	11.9
1945	14.5	11.9
1946	14.5	11.9
1947	14.5	11.9

Source: "RPI Average Prices 1914 to 2004," Office for National Statistics, c2005, accessed April 5, 2016, <https://www.ons.gov.uk/file?uri=/economy/inflationandpriceindices/methodologies/consumerpricesindexcpiandretailpricesindexrpibasketofgoodsandservices/rpiaverageprices19142004tcm77168515tcm77420253.xls>.

Table 15 Total British cattle, sheep and pig population and livestock conveyed by rail, 1920-1937

	Total livestock population (thousands)	Total livestock conveyed by rail (thousands)
1920	28,393	17,086
1921	29,272	16,773
1922	29,642	16,706
1923	30,088	17,266
1924	31,586	17,846
1925	33,889	18,663
1926	34,312	18,158
1927	34,439	19,728
1928	34,106	19,121
1929	34,019	17,701
1930	33,560	16,117
1931	35,308	13,721
1932	36,948	12,328
1933	37,165	11,149
1934	35,392	10,615
1935	35,629	10,410
1936	36,132	10,645
1937	36,661	9,238

Sources: Ministry of Agriculture, Fisheries and Food & Department of Agriculture and Fisheries for Scotland, *A Century of Agricultural Statistics: Great Britain, 1866-1966* (London: HMSO, 1968); D. L. Munby and A. H. Watson, *Inland Transport Statistics: Great Britain, 1900-1970, Vol. 1* (Oxford: Oxford University Press, 1978); Ministry of Transport, *Railway Returns* (London: HMSO, 1920-1938).

Table 16 Total British cattle, sheep and pig population and livestock conveyed by rail, 1920-1937

	Million cattle carried by rail (to nearest 100,000)
1920	17.1
1921	16.8
1922	16.8
1923	17.3
1924	17.8
1925	18.7
1926	18.2
1927	19.7
1928	19.1
1929	17.7
1930	16.1
1931	13.7
1932	12.3
1933	11.1
1934	10.6
1935	10.4
1936	10.6
1937	9.2
1938	8.4

Source: Ministry of Transport, *Railway Returns* (London: HMSO, 1920-1938).

Table 17 Total Irish cattle exports, 1930-1938

	Irish exports (nearest thousand)
1930	858
1931	766
1932	645
1933	590
1934	511
1935	668
1936	728
1937	711
1938	702

Source: "TSA04: Exports of Cattle and Beef by State, Year and Statistic," Central Statistics Office, Ireland, March 15, 2016, accessed April 7, 2016, <http://www.cso.ie/px/pxeirestat/Statire/SelectVarVal/Define.asp?MainTable=TSA04&TabStrip=Select&PLanguage=0&FF=1>.

Note: It has not been possible to adjust the export data from the Central Statistics Office (Ireland) to accurately represent the exact head of cattle exported to Britain between 1930 and 1938. The figures represented within the graph therefore include the numbers of cattle exported to Europe. However, a rough indicator of the numbers arriving may be ascertained from Walworth, who cites figures which indicate that 87 per cent of total cattle exported from Ireland in 1930 went to the British market. See: Walworth, *Feeding the Nation in Peace and War*, p. 460.

Table 18 Total confectionery output in Britain: Five-year averages, 1919-1959

	Five-year average total output (thousand tonnes)
1919-1923	28,020
1924-1928	36,020
1929-1933	38,800
1934-1938	46,210
1939-1943	31,620
1944-1948	27,000
1949-1953	44,420
1954-1959	65,640

Source: R. Fitzgerald, *Rowntree and the Marketing Revolution, 2nd Edition* (Cambridge: Cambridge University Press, 2006), pp. 625-626.

Table 19 Cost of Rowntree's (York) outward goods transport as a percentage of gross sales, 1920-1952

	Gross Sales (£ sterling)	York-Depots Carriage Outwards (£ sterling)	Cost of freight as a percentage of gross sales
1920	5,126,217	105,220	2.05
1923	3,152,721	127,073	4.03
1935	3,078,537	106,470	3.45
1936	4,371,941	139,256	3.18
1947	7,431,529	174,089	2.34
1952	16,117,356	306,177	1.89
1957	24,171,794	527,531	2.18

Sources: The Borthwick Institute: Rowntree-Mackintosh Archive (RMA): Rowntree (R)/DD/T/2 Transport Manager's Budget Files, 1935-1944; R/DF/A/2-4, Annual Accounts, 1916-1960; R/DD/T/2 Transport Manager's Budget Files, 1935-1944; R/HIR/4A/9 General Account/Analysis Book, 1870-1953.

Table 20 Rowntree's confectionery output at five-year intervals, 1919-1939

	Rowntree total output (tonnes)
1919	17,845
1924	17,821
1929	19,829
1934	22,499
1939	52,433

Source: R. Fitzgerald, *Rowntree and the Marketing Revolution, 2nd Edition* (Cambridge: Cambridge University Press, 2006), pp. 611-614.

Table 21 Rowntree sales, 1950-1965

	Rowntree & Co. Sales (£ sterling)	Rowntree Group Sales (£ sterling)
1950	11,982,611	
1951	15,262,130	
1952	16,117,356	
1953	18,760,393	
1954	22,927,735	
1955	23,923,912	
1956	23,927,735	42,504,000
1957		43,726,000
1958		46,163,000
1959		48,856,000
1960		51,955,000
1961		51,538,000
1962		51,598,000
1963		51,678,000
1964		56,647,000
1965		62,075,000

Source: Fitzgerald, *Rowntree and the Marketing Revolution*, pp. 614-615.

Table 22 Cost of freight as a percentage of total sales: Marks & Spencer, 1936-1971

Budget year	Total Carriage, Shipping and Motor Expenses (£ sterling)	Total Sales (£ sterling)	Cost of freight as a percentage of sales
1936-37	63,691	16,596,412	0.38
1940-41	84,069	29,120,597	0.28
1945-46	51,191	19,608,594	0.26
1950-51	201,724	63,890,841	0.31
1955-56	269,968	118,873,628	0.22
1960-61	285,223	16,5726,700	0.17
1965-66	425,613	234,465,339	0.18
1970-71	1,081,678	407,335,887	0.23

Source: Marks & Spencer Nominal Ledgers, 1937-1971.

Table 23 New vehicle licence registrations for private cars in Great Britain, 1950-1969

	New vehicle licence registrations for private cars
1950	132,273
1951	136,188
1951	187,616
1953	295,073
1954	386,386
1955	500,857
1956	399,675
1957	425,355
1958	555,297
1959	645,617
1960	805,017
1961	742,803
1962	784,734
1963	1,008,608
1964	1,190,569
1965	1,122,477
1966	1,065,423
1967	1,116,702
1968	1,116,894
1969	987,441

Source: Office for National Statistics, *Annual Abstract of Statistics* (London: HMSO, 1951-1969)

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