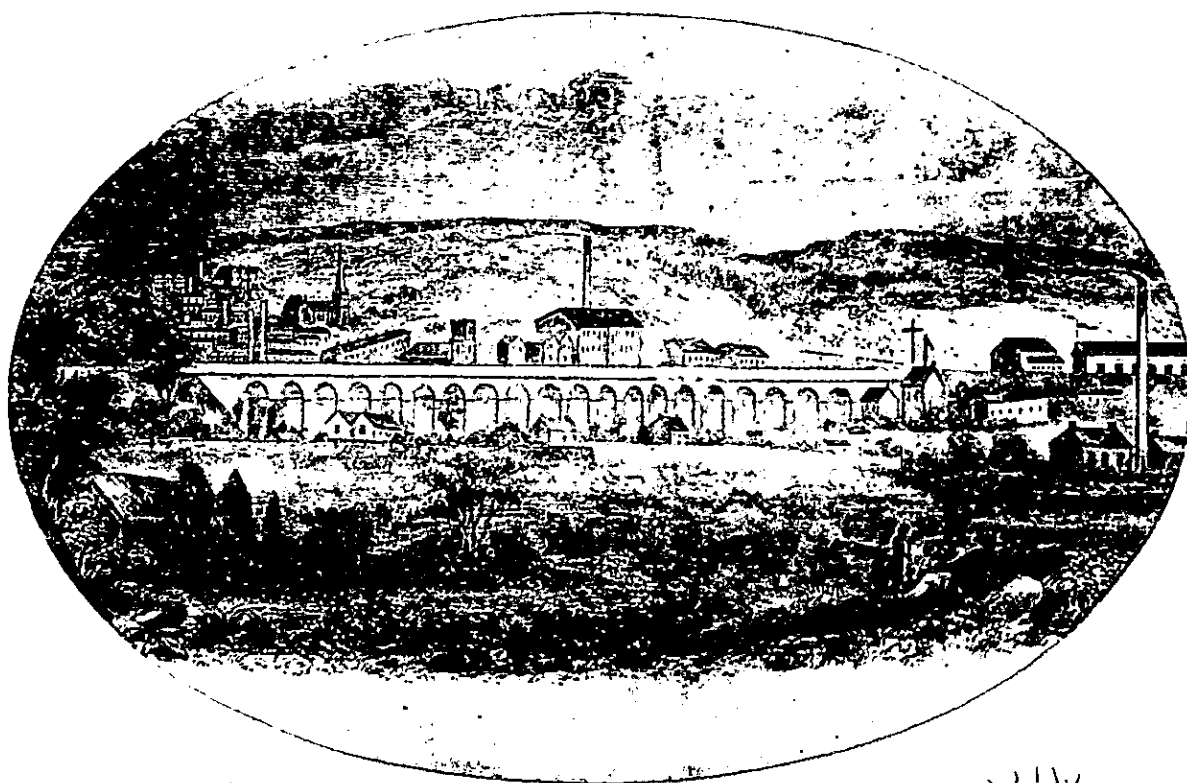


# **THE INFLUENCE OF RAILWAYS ON THE DEVELOPMENT OF ACCRINGTON AND DISTRICT, 1848-1914**



BY

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A THESIS SUBMITTED IN PARTIAL FULFILMENT FOR THE  
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AT THE UNIVERSITY OF CENTRAL LANCASHIRE

July 2009

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## ABSTRACT OF THESIS

The project explores the complex and counter-intuitive historical relationships between railways and development through a local study of Accrington and the surrounding smaller towns and townships in East Lancashire. This distinctive, yet little-researched, district formed a compact and self-contained mini-conurbation by 1914 flanked by its larger neighbours Blackburn and Burnley. Accrington itself functioned as the transport hub for the sub-region, dominated by cotton, coal, engineering and brick making, and served by the East Lancashire Railway from 1848 to 1859, and then by the successor amalgamated company, the Lancashire and Yorkshire Railway, until 1922. The important and unusual T-shaped rail network linked the district to Preston, Liverpool and West Lancashire, Leeds, Bradford and West Yorkshire, and towards the south, Bury and Manchester. The railway companies ran intensive passenger and freight services to connect the thriving industries and towns along the highly-developed trans-Pennine corridor. The Leeds and Liverpool canal, roads and tramways provided specialised services which complemented railways well in a sophisticated "transport-scape".

Accrington was a railway town which experienced exponential growth during the mid and late Victorian eras. Its industries became both increasingly diversified and specialised, its economic base was independent yet interdependent as intra-regional and inter-regional trade and business networks grew rapidly, the rail hub organised the structure of urbanisation. Within the sub-region, multiple nuclei of growth emerged suddenly and rapidly without urban precursors during the railway era. There were no significant commuting flows or suburban developments.

These striking phenomena cannot be explained by conventional approaches such as metropolitan central-place theory and cliometric counter-factual modelling. W.W. Rostow's "take-off" and F.J.Turner's "frontier" concepts are selectively rehabilitated, re-interpreted and synthesised to build an innovatory framework to describe and explain the observable patterns in East Lancashire. The theoretical synthesis is briefly applied to case-studies from northern England to explore the widely diverse impact of railway investments, and to highlight the potential for an extended comparative research agenda.

Mark A. Haydock,

July 2009

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Mark A. Haydock,  
July 2009.

## LIST OF RAIL-RELATED ABBREVIATIONS & TERMS IN THESIS

<b>Amalgamation (era)</b>	Merger of ELR and L & YR in 1859 (until 1923 Grouping)
<b>BB &amp; AER</b>	Blackburn, Burnley & Accrington Extension Railway
<b>BBA &amp; CER</b>	Blackburn, Burnley, Accrington & Colne Extension Railway
<b>B &amp; PR</b>	Blackburn & Preston Railway
<b>BBC &amp; WYR</b>	Bolton, Blackburn, Clitheroe & West Yorkshire Railway
<b>Blackburn Railway</b>	Shorthand name for BBC & WYR (legal title from 1851)
<b>BR (era)</b>	British Railways or British Rail, nationalised in 1948
<b>ELR (era)</b>	East Lancashire Railway, formed from merger of the three micro-companies in 1845/1846 (until 1859 Amalgamation)
<b>Extension Railway</b>	Shorthand name for BB & AER/BBA & CER
<b>FR</b>	Furness Railway
<b>GNR</b>	Great Northern Railway
<b>Grouping (era)</b>	Merger of GB railway companies into “Big Four” in 1923: GWR, LMSR, LNER, SR (until BR era, 1948)
<b>GWR</b>	Great Western Railway
<b>L &amp; YR</b>	Lancashire & Yorkshire Railway
<b>LMSR</b>	London, Midland & Scottish Railway
<b>LNER</b>	London & North Eastern Railway
<b>LNWR</b>	London & North Western Railway
<b>MB &amp; RR</b>	Manchester, Bury & Rossendale Railway
<b>Micro-companies (era)</b>	BB & AER/BBA & CER, B & PR, MB & RR, mid-1840s
<b>MR</b>	Midland Railway
<b>NER</b>	North Eastern Railway
<b>Railway era</b>	Period of railways’ greatest influence, from 1840s to WW1, specifically 1848-1914 in history of Accrington & district
<b>SDR</b>	South Devon Railway
<b>SR</b>	Southern Railway

## PREFACE TO THESIS

If we were to conduct a national poll about what the town of Accrington was most famous for, what would be the most common answers? Probably heading the list of responses would be Accrington Stanley, reflecting the town's long association with northern footballing history since the foundation of the Football League in the 1880s, the notorious milk advertisement, and Stanley's recent success in regaining its league status after its ignominious departure in 1962. The second most popular answer would likely be the Accrington "Pals" volunteer battalion, because since the early 1980s there has been a revival of interest in the tragic tale of the town's doomed young soldiers, 235 of whom were killed and many others injured and permanently maimed on the disastrous first day of the Battle of the Somme in July 1916. The third most common response, especially among those people knowledgeable about antiques and the applied arts, may well be the glorious Tiffany glassware collection at the Haworth Art Gallery, the largest in Europe, which was a donation of unsold (now priceless) stock by Joseph Briggs on his return to his home town after the decline and dissolution of Louis Tiffany's studios in New York in the late 1920s. An alternative answer to the question, popular with builders and observant homeowners, could be Accrington "NORI" hard red bricks, reflecting the fact that the town became a major brick making centre from the 1890s supplying the national market, and this industry continued until the recent recession on a reduced scale.

All of these are valid and interesting references to the town, and they all tell the enquirer something about Accrington's distinctive urban past. What is much less well known, both by the general public and professional historians alike, is the remarkable story of Accrington's rapid rise in the Victorian era, of how and why a prosperous and self-confident industrial community was created in the first place which could later proudly promote and support its own League football team, "Pals" battalion, and world-class Art Nouveau collection. It is this unfamiliar story about Accrington's development which this research project aims to communicate, and it is this story which intrigued me when I started work on the project several years ago, and continues to fire my historical imagination. Indeed, what happened in and around Accrington after the arrival of railways in 1848 still appears remarkable and astonishing to me after all these years struggling to understand the dynamics and inner workings of the development process.

This project was directly influenced by two loves in my life. One of them is a deep affection for my home town, its people, its history and its landscape. The other love is a passion for railways of all sizes and types, but especially steam railways. Lest the reader imagine that this study is an act of self-indulgence, I hasten to add that the initial aim was to make railway enthusiasm and local patriotism academically respectable! The reader will have to judge whether I have succeeded in this aim. What brought the two loves together to form the genesis of this project, around the turn of the millennium, was that I noticed an unusual sequence of development in the local cotton industry after the arrival of railways in Accrington. I counted 17 mills which opened in the 1850s, and at least 10 of these were weaving sheds. In other words, there was both rapid expansion and specialisation in “cotton” Accrington, and it was difficult to believe that railways had nothing to do with this. Moreover, my initial researches revealed that new industries sprang into life fully-formed from the 1850s onwards, apparently where none existed before, especially textile engineering. No one had commented before on what role railways played in all this frenetic and puzzling activity. In the available literature, it had just happened, without explanation, and I was both intrigued and dissatisfied.

At first I thought that Manchester must be responsible for Accrington’s development, because I assumed that its markets, merchants and capital dominated local textile economies in Lancashire, and I knew that railways had linked Accrington with “Cottonopolis” in 1848. Hence at the outset the focus was on Accrington *and* Manchester, but this was a mistake, and if pursued would have been a colossal distraction and waste of effort. It was only much later that I perceived what the true relationship was between Accrington and Manchester in the railway era, and how much the coming of the motorway era has changed this relationship in the twenty-first century. As the research progressed there was another significant change in my thinking, but one so subtle and gradual I was barely aware of it at the time. At first I viewed the town through the lens of railways and the interest was in what railways had done for Accrington’s rise. But I started to realise that you could also view railways through the lens of Accrington and ask what the town had done for the growth of the railway companies that served it. The relationship between town and railway was clearly of benefit to both. So if asked at this stage what my project was about, I could equally have replied: “railways and development” *or* “development and railways”. However, if asked now, I would simply say “development”. The reason for my

most recent shift of emphasis is that I came to realise that in East Lancashire railways were an *embedded* part of the urban economic system as a whole and indispensable to the way it functioned and grew. Equally, I now find it difficult to see that railways could exist independently of the local and regional development processes, which were always much more complex than a single technological innovation, however important.

It is a truism that the more you know about something, the more you realise you do not know, but in my case the intellectual experience was more chastening than this implies. As the research process unfolded it quickly became apparent that I would have to unlearn some of what I thought I knew and had taken for granted about the development of my home town and East Lancashire as a whole. Certain unforeseen discoveries caused me to radically re-assess how I viewed what was familiar, even over-familiar, to me. For example, I assumed that Accrington had grown in a piecemeal, evolutionary fashion, and that there was already a small town in existence when the railway was opened. What I had not realised was Accrington's sudden and swift emergence as a fully-fledged town in the mid-Victorian era, and that this district had never previously generated urban growth in any meaningful sense. I also discovered that Accrington's rise significantly post-dated the urbanisation of its neighbours, Blackburn and Burnley, in the early nineteenth century. I had not realised the remarkable diversity, adaptability, enterprise and innovation of its locally-controlled economic base by 1900, for example, that its textile and brick making engineering industries were leading exporters with world-class status, and that its largest employer, Howard and Bulloughs, was a multinational company with an American subsidiary. Accrington even briefly produced its own motor cars! I was surprised that all the indications suggested the Accrington area became an important coal mining and minerals supply centre for Lancashire in the second half of the nineteenth century, yet coal production and investment had collapsed in Blackburn, only 5 miles away, during the same period. I was amazed to discover that the rail network in East Lancashire was T-shaped and centred on Accrington, and that the present-day motorway network is also T-shaped and joined in Accrington. I was also intrigued that, despite the serious scale of investment in building local railways, only one passenger platform was provided at Accrington station in 1848, and that for some years passengers had to risk their lives to book a ticket on the other side of the tracks. As I reflected on what I had found and where this and other evidence was pointing, the less obvious and pre-determined did the development process appear and the

more counter-intuitive and complex, even semi-miraculous, became Accrington's rise as a recognisable and fully-formed town with no urban precedents.

My main hope, therefore, is simply that this unfamiliar and demanding research topic will engage the reader's curiosity and provoke some new and different questions to be asked about human development. Perhaps the reader will come to share my sense of wonderment and excitement as I followed my unexpected findings to their logical conclusion. Hence if others are intrigued by what I have discovered and can build on what has been pioneered here, I will be well satisfied. One of the most telling criticisms of Karl Marx's historical methodology is that he was never surprised by what he found, because he knew in advance the solution to the mystery of the dynamics of the modes and relations of capitalist production. This limited micro-study has, unlike Marx, never sought to provide the authoritative answer to all questions about development, the key which unlocks the door to the secrets of the historical process, and one of the things I have learned is to respect the awesome difficulty and complexity of the past and the inherent boundaries of historical enquiry. The project has never even aspired to be the definitive "final word" on what happened in and around Victorian Accrington after the arrival of railways. Some of the theoretical conclusions about local development paths are bound to be tentative and provisional until confirmed by studies with a wider comparative research agenda. Indeed we must acknowledge that: "now we see but a poor reflection as in a mirror" (1 Corinthians 13:12, NIV). This does not mean, however, that we should ever cease to be amazed at what we *can* see.

Mark A. Haydock,  
July 2009.

## **CHAPTER 1: INTRODUCTION**

The main purposes of the introductory section of the thesis are to define the central focus of the research process, to closely specify its chronological, geographical and thematic parameters, and to provide background information essential to understand the detailed analysis. The title of the thesis, “The Influence of Railways on the Development of Accrington and District, 1848-1914”, captures the four main elements of the project: an historical process; a clearly identifiable and, as will be demonstrated, significant location; an era of intensified and rapid change; and finally an agent of transformation. These elements will be introduced in sequence in this chapter, though with some inevitable overlap because of the thematic integration of the project, and an outline of the thesis structure will highlight the order by which the issues and evidence will be unfolded in depth in subsequent chapters. There is a need to go beyond a bare outline of the issues and to add contextual detail because the subject matter is often obscure or easily misunderstood, especially by readers unfamiliar with this distinctive district in northern England, or the ancient county of Lancashire more widely. This thesis utilises a distinctive conceptual approach of “comprehensive” history, which has been adopted to enable the four elements signposted above to be analysed both individually and collectively at an appropriate level. This approach is defined and explained, in conjunction with a brief comparison with alternative historical methodologies.

### **Scope and context of historical issues**

At the thematic heart of the thesis is the long-term process of development. When the developmental process is discussed by economic historians, they often have two definitions in mind which need to be clearly distinguished. Firstly, there is a general process of economic growth which transforms an agricultural into an industrial society, producing a vastly increased quantity and range of goods for human consumption or investment. Economic resources are shifted from the primary to the secondary and tertiary sectors, and their use is intensified as productivity rises. In the long term development usually, but far from inevitably, generates a rise in both individual and collective living standards. Secondly, there is a historically specific definition of the process which is usually conceptualised as an Industrial Revolution in the later eighteenth and nineteenth centuries over large parts of northern England, especially in the trans-Pennine districts. The mechanisation of manufacturing, especially textiles, the more gradual shift to the factory system, the concentration of an urban workforce and continual innovation in

production and transportation technologies are generally recognised as key aspects of an historical movement which forged economic modernity. This classic Industrial Revolution was central to the wider transformation of the British economy, and developing countries often consciously adopted it as a model, or what they thought the model was, and sought to learn its lessons. Whether the broad or narrow dimensions of the process of development are highlighted, it is still surprisingly difficult for historians to delineate the precise boundaries of this overarching “umbrella” term, to specify all that it does include, or should exclude. As a village, town, district or region developed, new forms and structures of more organised and integrated life were created, so we must ask if the vitality, variety and novelty of voluntary, non-commercial, organisations, such as the churches and sporting clubs, were as much part of the developmental process as cotton mills and transport systems. The term, which is often used interchangeably with “civilisation”, clearly means much more than quantitative growth alone, say in population; it implies a qualitative transformation of economic potential, of human ability to act in ways that change social relationships and manage the environment. For the purposes of this project, development will be defined as a step-change in a district’s level of economic performance and ability to generate and re-invest wealth productively, which is manifest as both a shift in the intensity of use of resources, and in creation and innovation of formal and informal institutions.

The second major issue in the thesis is the aspect of place, specifically the focus on Accrington and district. A central aim of the research project is to explain why several prosperous and independent urban communities like Accrington were created during the nineteenth century when none had existed before, and why the district followed such a distinctive path of development and not another. The particular choice of location for this analysis is unusual and the reasons for selecting it may seem far from self-evident, but it must be stressed that generalised studies which attempt to explain the developmental process in national economies or, more ambitiously, in a global framework, have proved to be unsatisfactory. Development models reliant on abstract variables and aggregated statistics essentially operate in a geographical vacuum and have been shown to explain very little, or nothing, about what was happening at particular points in an economic system. Their fundamental weakness is that they effectively mask what was peculiar and important about local and regional change within a large unit of analysis if, as all recent research suggests is the case, developmental trends are not uniform over the entire area. Hence it is necessary for historians to specify a location which is large enough to be significant for



understanding the growth process, compact enough to be manageable and accessible in terms of primary evidence, and representative of the features to be subjected to analysis.

Accrington serves as the “core” community in this project, and it satisfies these competing criteria well enough on several counts to function as a useful proxy and benchmark for wider patterns of development. Indeed, it is difficult to imagine anywhere else that allows such clear analysis in certain aspects, especially of the role of railways. Firstly, it was a distinct, self-contained, town, situated about twenty-two miles north of Manchester in the distinctive landscape of the East Lancashire uplands. Both of its dynamic neighbours, Blackburn, five miles to the west, and Burnley, six miles to the east, had expanded rapidly as textile manufacturing and marketing centres in the early nineteenth century before the rise of Accrington as a town, but their growth was never so overwhelming that Accrington’s integrity as a separate, independent entity was threatened. By Lancashire’s standards it formed a medium-sized town of 45,029 inhabitants by 1911, its population having more than quadrupled from the 1851 total of 10,374.<sup>1</sup> The dominant industries in the town and district before World War 1 were cotton textiles, mechanical engineering, coal mining, and brick making. When examined in detail, this mix was unique, but the complexity of Lancashire’s economic experience is much underrated in most historical accounts. Hence there was never a typical Lancastrian town, but Accrington is representative in general terms of the diversity and dynamism which was common across the county.

Secondly, Accrington was the centre of a sub-region, having emerged from obscurity to serve as the transport and service hub for the ring of smaller surrounding towns and townships of Church, Oswaldtwistle, Rishton, Great Harwood, Altham, Clayton-le-Moors and Huncoat. The sub-region was never recognised as a political or administrative unit in the period covered by this study, but it did have an economic coherence and logic which was belatedly recognised when the Borough of Hyndburn was created from the towns and townships in this district during local government re-organisation in 1974, and this name is therefore used here as a convenient shorthand for the pre-1914 urban system rather than the built-up area of Accrington itself. Moreover, the term “Hyndburn” is justified by the evidence showing a consistent awareness of the strong but complex linkages that have persisted within the district. By 1911 this sub-region had grown to a sizeable urban cluster with a population of 100,172, nationally significant but still

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<sup>1</sup> British Parliamentary Papers, Census Reports, 1851 and 1911. See Chapter 4 for full details.

smaller than the adjacent urban systems of the boroughs of Blackburn and Burnley, with population totals of 133,052 and 106,322, respectively. Within the urban hierarchy of Lancashire, Hyndburn was similar in size to St. Helens and Wigan, though dwarfed in relation to the regional centres of Manchester (including Salford) and Liverpool, with respective populations of 945,690 and 746,421 in 1911. The population of the Borough of Accrington itself was comparable within the East Lancashire corridor to Darwen and Nelson, both of which were, like Accrington, relatively late developers.<sup>2</sup> These sub-regional and regional comparisons of urban demography will be elaborated in Chapter 4.

The more the historian studies the growth of Accrington, the more remarkable, even astonishing, it appears. There is sometimes the assumption of urban inevitability – when a town grew, it had to grow, because events were bound to unfold in this way – but this is not obvious here at all to the open-minded enquirer. Why would Accrington spring into being and grow so rapidly over a period of several decades in apparently unpromising, relatively inaccessible, hilly terrain on the northern flank of the West Pennine moorlands which had never supported significant urban settlement before the 1840s? Accrington did not exist even as a nucleated community throughout the eighteenth century, and the local population remained widely dispersed into the early nineteenth century. Even in the mid-1820s, according to Edward Baines' well-respected *Directory* for Lancashire, "Accrington (Old and New) form one considerable village", and the combined population in 1801 was recorded as 3,077, increasing to 5,370 by 1821.<sup>3</sup> Why would entrepreneurs establish a cotton mill, a bleachworks, a calico printing factory or an engineering workshop in such a geographical setting which lacked extensive flat land, a fertile agricultural base to feed the workforce, any navigable rivers, and easy transport routes giving ready access to national markets? An especially significant constraint in the early nineteenth century was the district's isolation from Manchester, which was by this time clearly the regional hub. Few observers, as late as the mid-1840s, could have predicted that this obscure collection of small manufacturing townships, made up largely of rural industrial hamlets, in the East Lancashire uplands would, despite their steady growth over several decades, rapidly and dramatically emerge in the mid-Victorian era into a prosperous, complex and well-ordered industrial town, or that by 1900 it would have a national, even international, significance and

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<sup>2</sup> 1911 Census, *op. cit.*

<sup>3</sup> Edward Baines: *History, Directory and Gazetteer of the County Palatine of Lancaster, Vol. 2* (Liverpool, 1825), pp. 636-637. See Chapter 4 for further demographic data from the *Directory*.

status. Accrington's rise from scattered and unpropitious origins was counter-intuitive, but it is the task of this thesis to show that it was definitely not just a big historical accident, a random happening without conscious plan or intent.

Economic theory often obscures the significance of particular locations, but here the argument is that place was indeed a vital factor in the developmental process. Consequently, this relatively unfamiliar but very unusual landscape, where the immediate geology and topography so powerfully influenced the patterns of industrialisation, settlement and transportation, must be discussed in greater depth. Accrington itself nestles in a hollow on the northern flank of the Rossendale Forest moorlands which technically form an anticline, a large, gently domed, geological structure. This structure dips roughly symmetrically to the north and south, and is a western extension of the Pennine range substantial and rugged enough to effectively separate East Lancashire from Manchester despite their proximity in terms of their nominal distance.<sup>4</sup> Compared to many upland Pennine towns, the important contour lines for Accrington's built-up core are slightly higher than the average at between 550 ft and 600 ft, although residential neighbourhoods cling to the steeply ascending terrain to the east and south up to an altitude of around 700 ft. The surrounding West Pennine moors consist of a series of gently undulating plateaux on the 1000-1200 ft contours, with the tops, formed of Millstone Grit (or local gritstone variants), towards the east, such as Great Hameldon and Musbury Heights, reaching altitudes of around 1300 ft, and the western summit, Winter Hill, at 1498 ft. High annual rainfall of 50-60 inches and mineral-poor rocks contributed to the formation of thin, acidic soils (podsoils), heather, crowberry and gorse on drier expanses, and cotton grass mosses and peat deposits where drainage was poor. It is important, however, not to exaggerate the upland characteristics of this district and to suggest greater heights than the reality. Despite their barren nature, the West Pennine moorlands reach modest altitudes within an upland region, and they cannot readily be classified as highland.

It must be stressed, therefore, that the moorland plateaux were never the wild inhospitable wastelands of romantic Pennine legend, for they had supported scattered settlement for many centuries, even, according to limited archaeological evidence, from Neolithic and pre-Roman

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<sup>4</sup> A.E. Trueman: *Geology and Scenery in England and Wales* (Pelican Books, Harmondsworth, 1972, revised), pp. 192-209, and Gladys Sellers: *Walks on the West Pennine Moors* (Cicerone Press, Milnthorpe, 1983, revised), pp. 9-18.

times, and the traditional highways and packhorse trails favoured them rather than the valley bottoms. Agricultural uses of the moorland plateaux were limited and mainly confined to cattle-raising and sheep-grazing, though subsistence cultivation was sometimes possible in favoured sheltered spots on their flanks. These upland pastures helped to support in early modern times a domestic woollen textile economy which also obtained much of its wool supplies from West Yorkshire and elsewhere.<sup>5</sup> The numerous steep-sided valleys which deeply incise the moorland terrain around Accrington, such as Priestley and Warmden Cloughs, contain streams which coalesce into the River Hyndburn. The Hyndburn joins the River Calder, which eventually flows in a north-westerly direction into the River Ribble near Whalley, over 6 miles from Accrington. The attractive valley of the Ribble gives the district a natural orientation quite different from that of the textile towns just a few miles to the south in the Manchester basin. It also forms a key geo-physical divide within Lancashire, demarking both an historic administrative and ecclesiastical boundary, and the sharply-defined limit of intensive development east of Preston, with the cotton textile industry concentrated in pockets along the Ribble, notably around Clitheroe and Chatburn. The fertile agricultural land of the Ribble Valley, like the West Lancashire plain north and south of the river, became during the nineteenth century an essential part of the food supply system for the growing towns throughout Lancashire.<sup>6</sup> The Ribble Valley's farmers shifted resources from arable cultivation to dairying to supply urban demands for liquid milk consumption, assisted by rapid freight services on the extending rail network from the 1850s.

The lower stretches of the Ribble towards Preston and the coast are navigable only for very small craft, there is no major watercourse in the immediate Accrington area suitable for navigation even with radical engineering improvements, and the steep-sided cloughs so typical of this mid-Pennine landscape made long-distance passage on foot difficult in early modern times. They have distinctive stepped profiles and small waterfalls in places along the busy streams caused by differential erosion of the alternating hard, coarse, sandstone and softer shale or mudstone layers (the Upper Carboniferous Series), which were readily available for local building projects or for making bricks. Also found in this complex geological sequence are extensive anthracite coal reserves (the Upper and Lower Mountain Mine), accompanied by fireclay in some locations. The outcropping of coal seams on the dip slopes along the moorland

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<sup>5</sup> Sheep ownership was at a "low level" in North-East Lancashire (S. Schwarz, *op. cit.*, p. 74).

<sup>6</sup> Roger Scola: *Feeding the Victorian City – the Food Supply of Manchester, 1770-1870* (Manchester University Press, 1992).

escarpments or the cloughs provided easy access to these resources for domestic fuel and a vital stimulus to early steam-powered mechanisation of the cotton industry.

The detailed geology is complicated by widespread faulting which runs mostly in a roughly NNW-SSE direction, though there are also lateral west-east faultlines which form a T-shaped pattern in the Accrington area. Here on the southern approach parallel faulting, rather than the action of a river, formed a mini-rift valley which became part of the only important through transport route over the West Pennine moors between Accrington and Manchester during the nineteenth century.<sup>7</sup> However, in contrast to most upland areas, but the normal if distinctive practice for this mid-Pennine district, the valley bottom had been so impassable that the ancient King's Highways followed the moorland tops and ridgelines south through Rossendale to Bury and eventually Manchester. In consequence, the difficult natural landscape of open moorlands and tortuous small valleys around Accrington, though rich in economic potential, had for centuries effectively separated local communities from each other, even though the geographical scale was compressed and the nominal distances were measured in miles rather than a higher order of magnitude. The resulting physical and cultural isolation, which persisted into the early Victorian era, had seriously constricted the expansion of the district's trade and commerce with much of Lancashire, especially Manchester, but encouraged it to form links with West Yorkshire instead, and directly to the Lancashire coast. The era of turnpikes and the canal had arrived relatively late in the Accrington area, with the construction of the turnpike from Whalley and southwards to Bury and Manchester in 1790-1791, routes westwards along Blackburn Road in 1826-1827 and north-eastwards along Burnley Road in 1836-1838, and the progressive opening of west-east sections of the Leeds and Liverpool canal through Burnley, Clayton-le-Moors, Rishton and Blackburn after 1800 and completed throughout as a trans-Pennine link in 1816. Manufacturers and merchants were prepared to invest in transportation improvements which could unlock the potential of the district's growing traffic, but both the absence of a north-south extension from the Leeds and Liverpool canal, and the relative lack of interest in developing the turnpike roads to Manchester, testify to the scale of the geo-physical challenges and the inadequacies of transport modes in the pre-railway era. The enduring influence of the moorland terrain meant, therefore, that nineteenth-century development around Accrington and more

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<sup>7</sup> Geological Map: Rochdale, Sheet 76, 1 inch/mile (OS published for Institute of Geological Sciences, 1971).

widely in East Lancashire was confined to a sharply-bounded “box” or rectangular corridor which was tangentially connected with Manchester towards the south, but also stood apart from the regional hub, unlike Bolton, Oldham and the spinning towns. Even today the towns of East Lancashire remain peculiarly introverted within this “box” formation, despite being located between, and apparently so close to, Manchester and the Ribble Valley.

For defensible reasons, therefore, the geographical focus is tightly defined, compact in terms of scale, and relates to a meaningful unit of analysis, but it must still be located within widening circles of regional context if its significance is to be properly grasped. Fig. 1.1 is an Edwardian topographical representation of the succession of self-contained communities, which remained highly separated, along a section of the East Lancashire “box” between Blackburn, Accrington and Burnley, showing also the north-south rail and road links across the moorlands and through the Irwell Valley to Bury and Manchester. Throughout the entire transport corridor from Preston, with its administrative, port and marketing services, to Colne about 30 miles further east, with its long-established trans-Pennine connections to the West Yorkshire wool sector, intensive industrialisation during the entire nineteenth century sequentially transformed localised domestic textile economies into centres of factory-based and highly mechanised manufacturing serving national and global markets. Fig 1.1, therefore, captures the East Lancashire corridor near the zenith of its industrial and urban development, including its transport systems.

Nineteenth-century growth built on earlier structural economic shifts, so that, for example, even by 1811 only 14.6 per cent of 410 families in the township of New Accrington were chiefly engaged in agriculture, while 84.6 per cent were employed mainly in trade, manufactures and handicrafts, and the equivalent figures for Old Accrington’s 173 families were 1.2 per cent and 97.7 per cent, respectively.<sup>8</sup> After 1800, the traditional woollen and fustian industries were supplanted by cotton manufacture, including spinning, weaving and finishing processes, which was supported by a local minerals base of coal and stone (though not in Preston). Around the mid-nineteenth century a distinct weaving belt was emerging in East Lancashire, though sectoral specialisation was never absolute and there were several spinning firms, especially around Blackburn. The weaving towns of East Lancashire had diverse product and market

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<sup>8</sup> Suzanne Schwartz: “Economic Change in North-East Lancashire, c.1660-1760”, *Transactions of the Historic Society of Lancashire and Cheshire*, Vol. 144, 1994, p. 88 (Table 3).

**Fig. 1.1: Edwardian Map of East Lancashire, between Accrington and Manchester**



*Source: Bacon's County Map and Guide to Lancashire for Cyclists and Tourists, n.d., c. 1905.*

portfolios and commercial networks which contributed to distinctive and persistent civic identities. Thus Blackburn and Burnley became major centres of cloth production for the mass Indian market using coarse yarns from Oldham's spinners, while Nelson and Colne specialised in higher quality cloths for niche markets, relying on Bolton to supply fine Egyptian yarns.<sup>9</sup> The era after the arrival of railways was also characterised by increasing diversification from cotton and related finishing trades, and new sectors like textile engineering flourished, expanding local pools of skilled labour.

John Walton, in a historiographical survey of Lancashire, has observed: "It is easier to divide the county into areas which could be compared and contrasted, than to pull it together into a convincing social unit."<sup>10</sup> Hence it is essential to appreciate how regionally diverse Lancashire was if the real path of development of each sub-region, and also their symbiotic combination, is to be understood. This diversity reflected intricate patterns of complementary and interdependent economic activity within and between Lancashire's manufacturing, mercantile, mineral and agricultural districts, and was stimulated by improved transport links which increasingly integrated the sub-regions into an internal market. Almost all types of economic activity were found within the county, in contrast to most well-known industrial regions, but they were neither spread extensively over the whole area, nor separated out decisively into highly-specialised districts and localities. Thus, south of the East Lancashire weaving corridor, a ring of specialised spinning towns like Bolton, Oldham and Rochdale developed around the commercial and marketing hub of Manchester, and became dependent on the services, networks and capital provided by Cottonopolis to a much greater extent than the weaving towns like Blackburn and Burnley. In south-west Lancashire, Merseyside, to use a modern term, was dominated by the port and mercantile services, and related industrial and transport investments, of Liverpool. The fertility of the West Lancashire agricultural plain, including the Flyde, has already been noted, and it was continually improved by extensive reclamation and investment, and the re-cycling of large flows of horse manure and urban organic waste, to supply the expanding towns and cities in

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<sup>9</sup> Mary B. Rose: *Firms, Networks and Business Values: The British and American Cotton Industries since 1750* (Cambridge University Press, 2000), p.172.

<sup>10</sup> John K. Walton: "Recent Work on the History of Lancashire and Cheshire since the late eighteenth century", *Transactions of the Historic Society of Lancashire and Cheshire*, Vol. 146, 1996, p. 156. See also John K. Walton: *Lancashire: A Social History, 1558-1939* (Manchester University Press, 1987), especially the introductory section, on the county's diversity.



the immediate hinterland with horticultural and market gardening produce.<sup>11</sup> The South Lancashire coalfield was most intensively exploited in and around Wigan and St. Helens, but intermingled extensively with manufacturing industry in the adjacent districts to the east. Manufacturing industry was insignificant north of the River Ribble, Preston apart, and was mainly confined to isolated textile pockets around Lancaster and the lower Lune valley, so that extensive tracts of moorland in the Bowland Forest remained untamed wilderness during the nineteenth century and beyond.

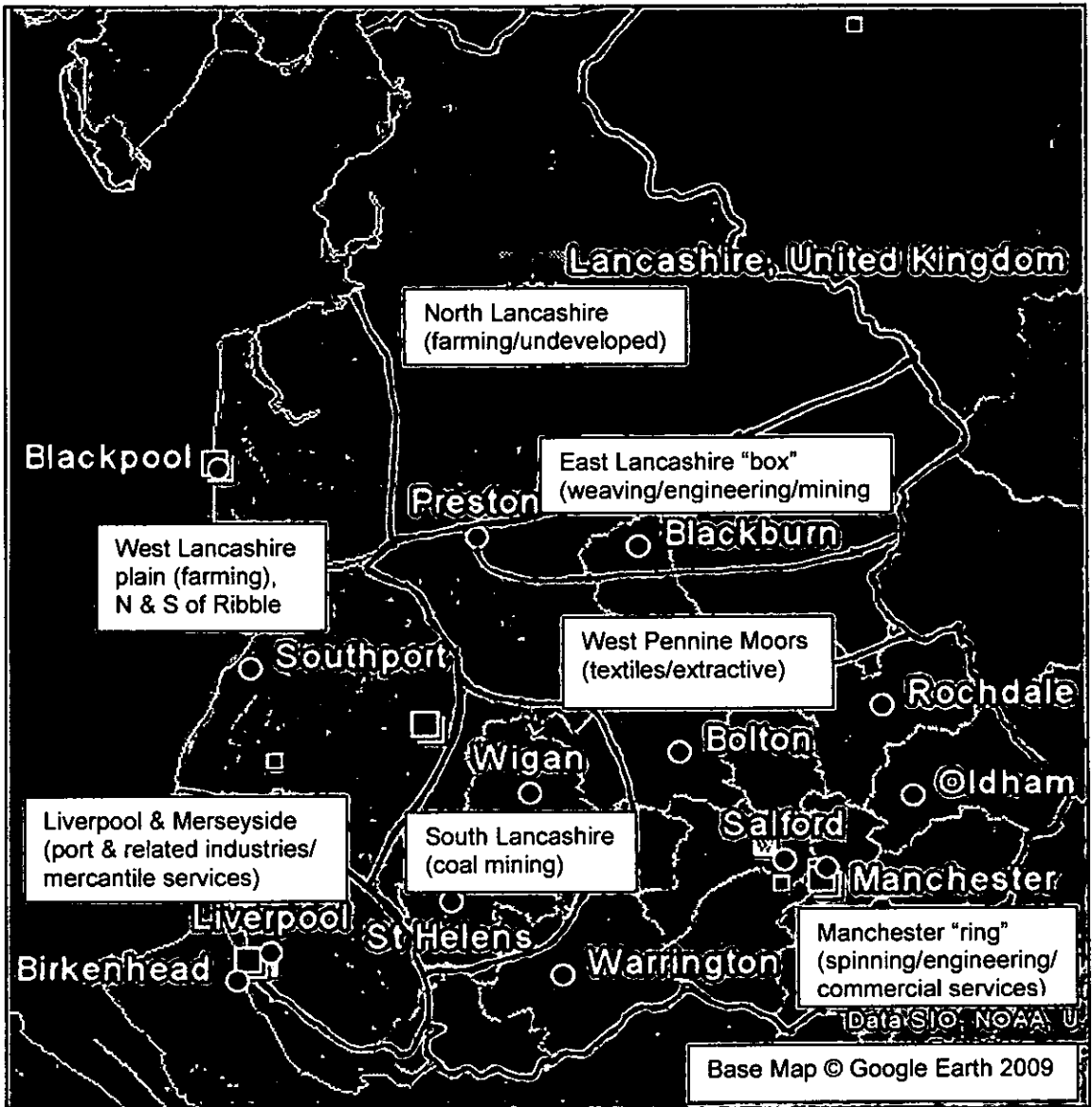
To develop the regional context further, the industrial, social and demographic contrasts within nineteenth-century Lancashire which persisted into the twentieth century are summarised on Fig. 1.2. This map charts the county schematically in terms of distinct zones of economic geography which were intimately related to topographical and geological diversity. For purposes of visual clarity and simplicity, the boundaries between these zones are drawn on the map as solid lines, and are apparently sharp, but in reality the transitions were more gradual in many places and there was considerable overlap of activity, particularly in the coalfield districts. Fig 1.2, in addition, might inadvertently shape the perception that Lancashire existed as a stand-alone unit, isolated from adjacent counties. Not represented here, and particularly significant, were the economic connections to West Yorkshire along the trans-Pennine corridor which have existed for many centuries. The map strongly suggests that Accrington's growth needs to be related to the dynamism and diversity of the regional economy and associated markets and commercial networks, while recognising the persistence of localised human and natural endowments which shaped distinctive paths of development in the districts.

To synthesise the significant elements in the choice of location, East Lancashire, especially the Accrington area, offers the historian a very clear perspective on the developmental process in action, and the interest in this project centres on the shape and direction of the local growth path. How and why did this district grow so rapidly from 1848, and what precisely contributed to the local economy's ability to generate such wealth? The fact that there is so little general agreement about these issues shows that they have never been satisfactorily addressed in the academic historiography, and arguably the wider development of the Pennine districts has often been

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<sup>11</sup> Alistair Munch: *Rural Life in South-West Lancashire, 1840-1914* (Centre for North-West Regional Studies, University of Lancaster, 1988). Here railways prompted a shift to liquid milk production from the 1840s and tied agriculture to the needs of "massive urban neighbours", p. 10.

**Fig. 1.2: Schematic Map of Economic Zones in Victorian Lancashire**



misunderstood, assuming a southern-based pattern of incremental growth on solid and deep institutional foundations and missing the rapidity and novelty of industrial and urban transformation. It should also be stressed that, though the Accrington area is not typical of the whole of Lancashire, or even of the county's industrial zones, no district was or ever could be fully representative. The purpose of analysing Accrington and Hyndburn is to capture the essence of the developmental process as a whole, rather than to assume there was a strict sequence followed everywhere. Hence the intention of this thesis, based on pioneering empirical research, is to explore unfamiliar and challenging terrain, in both geographical and historiographical senses.

The “core” period of the thesis, 1848-1914, was chosen for several reasons. Firstly, initial investigations suggested that this included the most critical, yet little-understood, phase in Accrington’s rise as a town. The most striking industrial and urban transformations occurred in the mid-Victorian years, followed by the shift to a less dramatic phase of adaptation and consolidation in the late Victorian and Edwardian decades, but these two clearly discernible stages have received scant attention by East Lancashire’s economic historians, who tended to concentrate on the early modern era, and occasionally ventured into the early nineteenth century. There is no satisfactory overview of the local developmental process during the Victorian and Edwardian eras, and so the project seeks to fill the chronological gap. Secondly, the starting-point, 1848, was the year rail services arrived in Accrington, a significant event for both the railway and the local economy which indicated a huge step-change in the potential of transportation systems compared to the two preceding phases of packhorses, and then the canal and turnpikes. The third reason for the choice of period is that the cut-off year, 1914, marked the end of the railway era in British history as conventionally defined, the era when railways dominated inland transportation, and also it was the start of a devastating World War which concluded the long-term process of local development and precipitated a prolonged economic decline in Accrington and indeed in much of “cotton” Lancashire. Hence, although periodisation may sometimes appear to be an artificial exercise, there is a satisfying coherence and integrity about 1848-1914, with sharply-defined transitions to and from the distinctive growth phases, particularly in the late 1840s. Furthermore, there were subsidiary pragmatic reasons for the choice of era, which was manageable and viable in terms of the availability of archival sources, especially for the 1840s and 1850s, and, less importantly, research time. Obviously, the project will travel backwards and forwards in time to better understand what happened in this period, and what the critical changes were, but the pre-1840s and post-World War 1 eras are only lightly or selectively outlined here.

The final major issue for the project, as signposted in the thesis title, is the role of railways as an agent of economic transformation in the widest sense, not just as a provider of carriage for goods and people. Innovation in modes of transport is widely acknowledged to have been one of the catalysts for general economic development, and railways, in particular, were traditionally seen as a breakthrough technology and harbinger of modernity because they brought a huge and rapid shift in the speed and carrying potential of transportation systems for both freight and passenger

traffic. Hence they had important direct and indirect effects which permeated the wider economy, but here it will be argued that in the Accrington district their influence was more fundamental and far-reaching than has been recognised in other studies. The research process has established that they are the obvious candidate to fulfil the function of transformatory agent, because of the close chronological match between the arrival of the railway age and the phase of particularly dramatic and intensified industrial and urban change in this district during the mid-Victorian decades.

Hence it is essential to understand the sequence of development of the railway companies, which may usefully be divided into three chronologically uneven stages.<sup>12</sup> Firstly, three localised “micro-companies” were formed to promote and build railway projects in East Lancashire in the mid-1840s: the Blackburn and Preston Railway (B & PR), authorised on 6 June 1844; the Manchester, Bury and Rossendale Railway (MB & RR), authorised on 4 July 1844 and re-named the East Lancashire Railway (ELR) on 21 July 1845, and the Blackburn, Burnley, Accrington and Colne Extension Railway (BBA & CER or, more simply, the “Extension Railway”), incorporated on 30 June 1845.<sup>13</sup> In the second phase, the ELR had absorbed these micro-companies into a single corporate structure, based in Bury, by August 1846, and it completed and integrated their construction projects to form a distinctive regional rail network by the late 1840s. Two essential connecting links to major regional centres outside East Lancashire were built by the micro-companies in the mid-1840s. Before merger into the ELR, the B & PR opened the Blackburn to Preston section for passengers on 1 June 1846, and the railway between Rawtenstall, Bury and Clifton Junction (for Manchester) was opened throughout on 25 September 1846 by the ELR. The heart of the network which penetrated East Lancashire was the proposed Extension Railway, and it was opened by the ELR in four stages: Blackburn-Accrington, 19 June 1848; Stubbins Junction-Accrington, 17 August 1848; Accrington-Burnley Barracks, 18 September 1848; Burnley Barracks-Colne, 1 February 1849. The ELR had a relatively short-lived existence as an independent operating company, but its self-contained yet interconnected system, focussed on serving local communities, had an enduring significance in terms of both the perpetuation of its own corporate legacy, and the wider economic development of East Lancashire. The third major stage of corporate development was

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<sup>12</sup> For chronological details, see Christopher Awdry: *Encyclopaedia of British Railway Companies* (Guild Publishing, London, 1990).

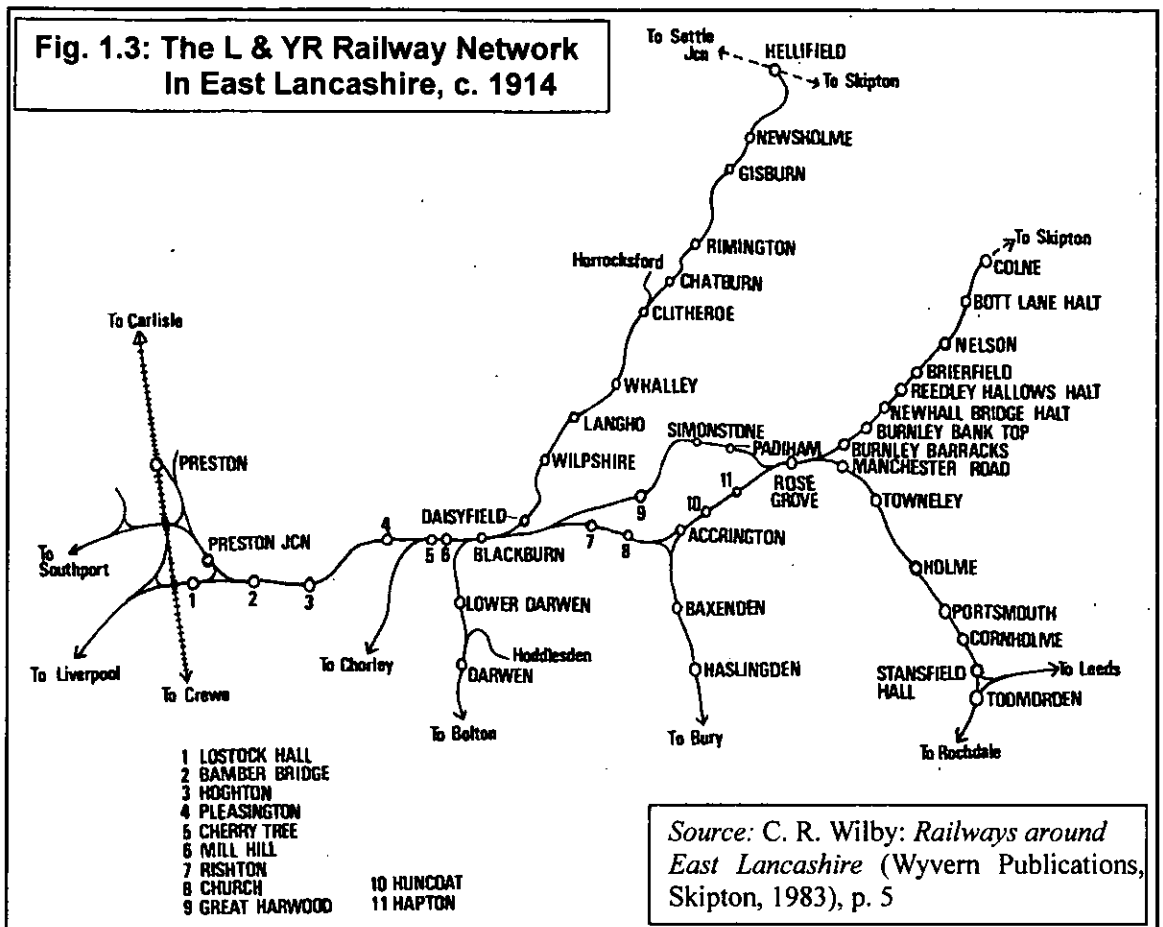
<sup>13</sup> The BBA & CER was known by the slightly less cumbersome title of the Blackburn, Burnley and Accrington Extension Railway (BB & AER) when its Provisional Committee was formed in 1844.

that the Lancashire and Yorkshire Railway (L & YR), a large inter-regional structure serving northern England, absorbed the much smaller ELR in August 1859, and then operated all the rail services on the district network for over 60 years. The capacity, reach and density of this network were progressively expanded by the L & YR, with, for example, major investment in the building in the 1870s of the "Loop line" between Blackburn and Rose Grove (near Burnley), avoiding the increasingly congested hub of Accrington. The L & YR itself merged with the London and North Western Railway (LNWR) in 1922, shortly before the legislated re-organisation, or Grouping, of British railway companies in 1923.<sup>14</sup> The L & YR was one of the most significant of the pre-Grouping companies in terms of the density of its west-east network, including its own shipping services across the Irish and North Seas, and the huge volumes of short and intermediate haul traffic it carried across the north of England on its relatively small and compact route mileage of about 600 miles. The unglamorous, no-nonsense, "Business Line" has not received the academic recognition or wider popularity it deserves, partly because it never built its own route to London.

In the Victorian and Edwardian eras the railway companies in East Lancashire ran some of the most intensively operated passenger and freight services in the country and indeed the world along a highly developed but compact network. The ELR's unusual T-shaped system, centred on Accrington, connected the district to Blackburn, Preston, the Lancashire coast and Liverpool towards the west, towards the east, Burnley, Nelson, Colne and beyond to Halifax, Keighley, Bradford and Leeds in West Yorkshire (by two routes), and towards the south, Bury, Salford and Manchester. The map depicting the full extent of the growth of East Lancashire's railways by 1914 (Fig. 1.3) should convey a sense of the "thickness" of the L & YR's local network, the diversity of its traffic hubs, and its wider options for strategic connections to inter-regional and national services, many operated by other railway companies such as the LNWR and Midland. One point which must be emphasised is that railways did not arrive as a standardised package by 1848 which could simply be superimposed ready formed on the East Lancashire environment. Railway engineering was still exploratory and experimental in the 1840s, and the options available to local companies were fluid and changed rapidly, so that technological development

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<sup>14</sup> R. W. Rush: *The East Lancashire Railway* (The Oakwood Press, 1983), and J. Marshall: *The Lancashire & Yorkshire Railway*, 3 vols. (David & Charles, Newton Abbot, 1969-1972).



was interactive with the geophysical and economic landscapes around Accrington. Indeed this study will highlight the success, which has never been sufficiently recognised in the academic historiography, of the northern engineers who made a railway system work well and profitably in the difficult East Lancashire terrain. Also it is worth stressing the confidence and pragmatism of the local communities which promoted, financed and managed this challenging and pioneering investment scheme less than 15 years after the locomotive trials at Rainhill (1829) and the opening of the world's first "modern" inter-urban railway, the Liverpool and Manchester (1830).

### Conceptual and methodological approach

The overall conceptual direction in this project is determined by its subject matter. It aims to provide a "comprehensive history of Accrington and district in the railway era, an approach which needs to be carefully defined. It is comprehensive in the sense that the intention is to achieve a synthesis of all the significant elements in the development process. Because the

process could be said to concern the whole of human history, and much of natural history too, this micro-study operates on a broad canvas to paint the big picture of a small, self-contained, area. The comprehensive approach to local history means that this project must aim to capture the essence of the whole urban and economic system as it really was, and to reveal the intertwined textures of its growth path in East Lancashire. Individual events therefore derive their meaning and significance from the broader developmental context rather than a single narrative strand. Cultural, economic, political, technological and geographical layers of development never existed as independent, self-contained, dimensions, but were enmeshed in complex, dynamic and reinforcing patterns of urbanisation and industrialisation. As far as this project is concerned, the types of history defined and classified by “culture”, “economy”, “religion”, “society”, “politics”, and so on, serve as useful, if limited, starting-points in the minds of researchers necessary to frame and order the details of historical experience. These labels will shape the kind of questions historians ask of the past and the answers they obtain, but they have no explanatory power in themselves. There is always much more to historical development than the facet it reveals to the individual observer from any single vantage point, and so explanation of specific events demands the synthesis of multiple layers and important relationships within comprehensive history.

This multi-strand approach must be distinguished from the “total” history which has sometimes been applied to relatively simple and stable peasant societies and achieved satisfactory outcomes there. In a complex urban context undergoing rapid and continual changes, it would clearly be both impracticable and tedious to produce an exhaustive (and exhausting) chronicle of every noteworthy recorded event in the life of Accrington’s factories, railways, churches, political institutions, football clubs and so on. Such an endeavour is also unnecessary here, because mere accumulation of detail would not illuminate the underlying growth patterns. Another distinction that must be stressed is that comprehensive history does not mean that there is any intention in the theoretical dimension of this thesis to construct a universal model of development, a grand (or grandiose) meta-narrative which claims to tell us everything worth knowing about industrialisation and urbanisation everywhere. This ambition would be the historical equivalent of the so far unfulfilled quest for a unified field theory in physics and represents castle-building in the air, an escape from engagement with the messiness and complexity of actual historical situations. The approach here was not inspired or led by any pre-existing commitments to theory but by the distinctiveness and intricacy of the empirical patterns observable.

It follows that this study seeks to steer its own course between two equal and opposite extremes of the historical spectrum, a tension which dates from nineteenth-century debates in the profession. On one side is the “hard” tendency which says that history should aspire to the status and procedures of an objective scientific discipline akin to the physical sciences. The task of the historian, especially the economic historian, is therefore to uncover and apply universal laws which govern human development. These laws may then be specified by abstract mathematical models which are disconnected from actual historical experience and based on necessarily simplified assumptions about human motivation and behaviour, sometimes invoking the one-dimensional, individualistic, “economic man” of neo-classical economics. These models appear to offer certainty by generating general correlations between historical variables which are then applied to the evidence by careful selection, collation, testing and refinement of the available quantitative data-sets, which, however, are often fragmentary or even non-existent, and certainly not recorded in a format designed to satisfy the curiosity of mathematically-inclined researchers.

An example of the search for scientific precision, which is significant for this research project and will therefore be explicitly discussed in subsequent chapters where appropriate, was the New Economic History, or cliometrics, which was fashionable in American universities over 30 years ago and is still influential with economists. Robert Fogel and his disciples aimed to quantify the contribution of railways to development by elaborating mathematical models of imaginary, contra-factual, economies, often based on highly questionable assumptions about alternative transport modes and unrepresentative selection of case-studies.<sup>15</sup> Unfortunately, one result of this “mathematical turn” is that, far from securing general consensus as the “hard” sciences did, economic history has increasingly become the domain of a coterie of specialists who often have little to say to the rest of the historical profession or the general public which they can even understand, let alone value. While it may be theoretically possible to reduce the development of East Lancashire to an elegant set of equations, of what use would that be to most historians or educated readers? Although this research project does use quantitative evidence, it does not seek to build abstract mathematical models to define an economic growth path, nor to reveal any ubiquitous “scientific” laws of development. Furthermore, because of the tight focus here on a compact district which was undergoing the two parallel and simultaneous processes of rapid

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<sup>15</sup> See R.W. Fogel: *Railroads and American Growth* (John Hopkins Press, Baltimore, 1964) for a key example of the cliometric approach, as developed in the Literature Review (Chapter 2).



industrialisation and transformatory transport innovation, it is possible to expose to detailed empirical scrutiny the assertion of Fogel and the cliometricians that railways were not of critical importance for economic growth. The railways serving East Lancashire, and in particular the ELR's self-contained and enduring territorial system, were intimately associated with this diverse industrial district, and focussed on its development, rather than having to balance too many competing demands in a huge network. Though this was not the original intention of the research project, they function as an ideal test-bed for Fogel's methods and claimed results which have troubled many historians but have not been disproved conclusively.

The other historical approach which this project seeks to avoid is the "soft" tendency which explicitly places the subjective perceptions and ideals of historical actors, and sometimes historians too, at the forefront of the discipline, and therefore is not interested in the "hard" objective facts which the economic historian simply has to acknowledge and assess. In recent decades, particularly, the "cultural turn" and associated "linguistic turn" have transformed the agendas of the arts and humanities in many American and British universities, and this has resulted in a surge of popularity in cultural history of various types. An extreme version of this approach is associated with radical post-modernist philosophies and their attendant retinue of "discourse", "identity", "representation", "text", "the other", "binary difference", and so on.<sup>16</sup> A widespread post-modernist assumption is that the identities of historical actors are mere psychological projections and self-inventions, internal coping or defence mechanisms in a harsh, threatening world. The primacy given to cultural issues is entirely valid and legitimate in its own domain of historical inquiry, where the interpretative focus is on the literary and visual representations of individual and collective identities, and their complex meanings, but when taken to extremes, "soft" cultural history appears to have little direct relevance to developmental studies in general, or this project in particular. Here the cultural narrative, although important, is not allowed to eclipse the other aspects of the process of development, and it is not treated as a discrete, autonomous, strand, isolated from any encounter with a distinctive economic and natural environment in the Accrington district and more widely in the Pennine uplands. These methodological issues will be more fully explored in the Conclusion in the light of the detailed evidence of the significance of local cultural expressions.

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<sup>16</sup> See Richard J Evans: *In Defence of History* (Granta Books, London, 1997) for a professional historian's critique of radical post-modernism and some of its historical practitioners, although the perspective in this project is slightly different, and informed by its specific geographical focus.

The “core” methodology in this project is implicitly or explicitly comparative to try to attain a holistic perspective on development. Individual events are compared across historical time and space to establish commonalities and contrasts. Distinct chronological sequences and geographical patterns are identified in the available statistical, institutional, cartographical and other sets of evidence. The development patterns so revealed provide a platform for theoretical exploration and innovative concepts, which can themselves be applied and tested in comparable historical contexts. Comparative methodology has the great virtue of revealing the play of historical contingency and the impact of human agency, either intentional or unforeseen, and of breaking the hold of attractive but ultimately lazy assumptions of economic inevitability or scientific determinism. As previously noted, Accrington was not bound to grow in the way it did, or at all. A further implication of the comprehensive approach to development adopted here is the necessity to cross recognised disciplinary boundaries in the humanities and social sciences, and also to roam freely amongst sub-disciplines and genres within history itself. Both inter-disciplinary and intra-disciplinary synergies are useful and fruitful for revealing new insights about the development process. Concepts, methods and/or sources are borrowed where appropriate from the following fields of enquiry, although the “core” questions and issues are derived from orthodox development history and economic theory: business history, institutional economics, urban history, urban geography, historical geography, transport studies, railway history (both academic and popular), local history, industrial archaeology.

The task of the historian aiming to write a comprehensive history of development is analogous to that of J.S. Bach as he composed his beautiful fugues, concertos and other contrapuntal music. Several distinct melody lines carried the polyphonic “voices” of the instruments, which in this project is equivalent to the narratives of development at various levels (technology, markets, institutions, environment, etc.) as told directly by the many historical actors, or at least their “unwitting testimony”. The challenge for the contrapuntal composer was to combine the melody lines and their voices into increasingly complex musical dialogues and sophisticated harmonies, which in this study are metaphors for the “deep” patterns and structures of development itself (although the historian reveals but does not create these). Bach’s whole musical landscape is both coordinated and energised by a coherent rhythmical framework, similar to the pulsating cycles of the development process as it moves through time. The hope is that this historical “composition” has managed to harmonise and integrate the multiple complex melodies of local development.

## **Structure of the thesis**

In terms of the structure of this “composition”, the arguments are built on the foundations of four “melodic” strands in the central empirical sections which progressively illuminate several distinct, though inter-related, dimensions of the growth path in and around Accrington during the railway era. The sequence of presentation of these evidential building-blocks is as follows: industrialisation patterns (Chapter 3); urbanisation patterns (Chapter 4); structural development of local railway companies (Chapter 5); trade patterns and traffic flows in East Lancashire (Chapter 6). Chapter 3 explores the complex sequences of local industrial development after the arrival of the railway, identifying specific links between transport services and the key sectors such as cotton textiles, coal and engineering. Chapter 4 investigates the spectacular rise of Accrington and the smaller towns and townships in the district during the railway era from the available demographic, cartographical and institutional evidence. Chapter 5 examines the impact of a distinctive natural and human environment on the institutional growth and corporate responses of the railway businesses serving East Lancashire, from the micro-companies in the 1840s and through the ELR and L & YR eras up to World War 1. Chapter 6 is a semi-statistical section which aims to reveal the expansion and pattern of local and inter-regional economic flows in East Lancashire during the railway era from the available traffic data, and the functional relationships between the major transport modes, especially the railways, the Leeds and Liverpool canal and the turnpike roads. The review of secondary literature (Chapter 2) paves the way for the four “core” evidence-based chapters and prefigures some of the theoretical and empirical modes of analysis in the thesis, but also highlights the inadequacy of most orthodox historical models when applied to East Lancashire’s complex development. Therefore the main theoretical section (Chapter 7) uses two promising, though unfashionable, developmental models as a platform for exploring alternative and innovatory approaches to describe and explain the rise of Accrington and district within the regional context. Finally, the Conclusion (Chapter 8) summarises and synthesises the main evidential findings and the growth concepts, and reflects on their significance for the big issues of the developmental process, and wider historical applicability.

## **CHAPTER 2: SELECTIVE REVIEW OF SECONDARY LITERATURE ON LINKAGES BETWEEN RAILWAYS AND DEVELOPMENT**

This literature review reflects the issues and scope of the entire research project as presented in the Introduction (Chapter 1). The central aim is to explore the complex interaction between the arrival of railways and the patterns of economic and urban development in Accrington and the surrounding townships between 1848 and 1914. Accrington itself served as the transport hub for this textiles, coal mining, brick making and engineering sub-region flanked by the larger towns of Blackburn and Burnley in East Lancashire. The East Lancashire Railway (ELR) and the successor amalgamated company, the Lancashire and Yorkshire Railway (L & YR), operated intensive passenger and freight services along highly-industrialised trans-Pennine transport corridors which connected the sub-region to Preston, Liverpool and the Flyde plain towards the west, to Bradford, Leeds and West Yorkshire towards the east, and across difficult moorland terrain towards the south, to Bury, Salford and Manchester.

The foregoing brief outline should indicate that this research project does not draw on a single well-established body of historiography, but is informed by several divergent and disconnected streams of secondary literature which have never before been synthesised in this way. These include, in order of presentation here: the historical material chronicling the growth of Accrington and the wider region, which may usefully be differentiated into academic and popular genres; studies of the role of transport innovations in economic growth; the historical literature on transport and urbanisation; urban historical geography; popular railway publications; and corporate railway histories. The main problems with these genres are not scarcity of material, but abundance, possibly over-abundance in some cases, and their highly variable quality, and so this review of secondary literature is compelled to be ruthlessly selective. However, in certain theoretical areas of investigation into development, there is nothing on which to build and therefore foundation blocks as well as superstructure must be laid which are very specific to this micro-study. Another sense in which this literature review is highly selective is that there is no intention to present an exhaustive account or comprehensive critique of the historiographical genres already outlined. The focus of this research project is not the general historical debates associated

with railways, industrialisation or urbanisation, but rather the particular path of development observable in East Lancashire during the railway era. Hence the following comments about the literature are written and should be read through this peculiar developmental lens, and the main question to ask is straightforward: is the work, of whatever genre, useful or helpful as far as the purposes of this micro-study are concerned?

### **Local and regional historiography**

As already suggested, the key omission in the scholarly literature is any theoretical or empirical consideration of the distinctive development trajectory of local economies in East Lancashire during the railway era. A corollary is that there has been no analysis in the academic literature of how precisely railways functioned as a stimulus of growth in such a remarkable economic landscape and historical era. However, the development of the textile industries in the West Pennine uplands from their Tudor origins through the overlapping domestic, putting-out and factory phases has been painstakingly documented in G.H. Tupling's highly empirical survey, *The Economic History of Rossendale*, long before proto-industrialisation became a fashionable academic concept. It stops chronologically at the eve of the railway age in the 1840s.<sup>1</sup> Hence Tupling provides a useful and essential starting-point for understanding the specific economic changes in the Accrington district after 1850. One of the surprising features of this still-admired study is that it shows how utterly non-urbanised the district was throughout the early modern era, and well into the first half of the nineteenth century, with demographic growth taking the form of a widely spread settlement pattern. There is no other comparable academic literature which indicates the development path of the Accrington district over an extended era before the arrival of railways, and the remarkable contrasts with what happened afterwards when sophisticated towns and their new industries emerged fully-formed in the mid-Victorian era without apparent precursors.

Within a wider regional context, aspects of early industrialisation, before the railway era, have been helpfully surveyed by John Swain, Suzanne Schwarz and Rosine Hart.<sup>2</sup> Swain confirms Tupling's findings for Rossendale by demonstrating the high participation in woollen cloth manufacture to supplement pastoral agriculture in the uplands around Colne

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<sup>1</sup> G.H. Tupling: *The Economic History of Rossendale* (Chetham Society, Manchester, 1927). This is still the only authoritative economic survey of the district in the Tudor and Stuart eras.

<sup>2</sup> John T. Swain: *Industry before the Industrial Revolution: North-East Lancashire, c. 1500-1640* (Chetham Society, Vol. 32, Manchester University Press, 1986); Suzanne Schwarz: "Economic Change in North-East Lancashire, c.1660-1760", *Transactions of the Historic Society of Lancashire and Cheshire*, Vol. 144, 1996, pp. 47-93; Rosine Hart: *Financing Lancashire's Industrial Development* (Ph.D. thesis, University of Central Lancashire, 2006).

and the forests of Pendle and Trawden during the Tudor and Stuart periods, and noting the absence of urban society.<sup>3</sup> Schwarz's complementary research highlights the gradual development of rural industrialisation, especially the shift from pastoral agriculture to woollen textiles, in Blackburn hundred in the late seventeenth and eighteenth centuries. There was a thickening of population throughout the sampled townships, with a fourfold increase estimated for the hundred between 1664 and 1801, but without concentration in major urban centres.<sup>4</sup> Hart shows the relative ease with which Lancashire's "broadly-based investing sector" was able to mobilise capital through co-operative networks at various social levels during the earlier stages of the Industrial Revolution. Investing partnerships emerged in bleaching, coal mining, engineering and especially among non-family firms in the textile industry as a "major source of funding between the 1770s and 1830s and beyond".<sup>5</sup> Geoffrey Timmins provides a useful synoptic survey of the complexity and diversity of Lancashire's industrial sectors, from their origins in the early modern era to recent de-industrialisation, with the emphasis firmly on patterns of regional development.<sup>6</sup> John Walton's essential overview similarly allows us to locate Accrington's experiences within the framework of Lancashire's dynamic economic and social structures over an extended period, while highlighting the regional contrasts within and beyond the county boundaries.<sup>7</sup> The research of Mary Rose, which explores the role of local and regional business networks in cementing the specialised industrial districts of "cotton" Lancashire, has a clear relevance to Accrington's growth. Within the context of the strategies pursued by community-based family businesses, she argues, "the notion of the Marshallian industrial district, based upon the self-sustaining reservoir of skills and network of interdependent specialist firms, becomes critical."<sup>8</sup> Steve Toms shows how important these informal networks were in framing investment strategies and diffusing technological innovation

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<sup>3</sup> J. Swain, op.cit., pp. 1-4, 196-208.

<sup>4</sup> S. Schwarz, op.cit., pp. 53. In the mid-eighteenth century Blackburn, Clitheroe, Colne and Whalley were the largest hundred townships, with populations of between 300 and 1,100 (ibid).

<sup>5</sup> R. Hart, op.cit., pp. 382, 388. Also significant were the building societies which channelled funds from a range of local investors into construction of handloom weavers' cottages (p. 373).

<sup>6</sup> Geoffrey Timmins: *Made in Lancashire: A History of Regional Industrialisation* (Manchester University Press, 1998).

<sup>7</sup> John K. Walton: *Lancashire: A Social History, 1558-1939* (Manchester University Press, 1987). Walton notes the sharp economic and cultural differences between the cotton districts around Manchester, the Merseyside region, and rural Lancashire north of the Ribble (ibid, p. 2).

<sup>8</sup> Mary B. Rose: *Firms, Networks and Business Values: The British and American Cotton Industries since 1750* (Cambridge University Press, 2000), p. 4.

within the highly fragmented cotton industry, such as the linkages, including interlocking directorships, between Lancashire's textile engineers and the ring spinning companies.<sup>9</sup>

The crucial gap in the local and regional historiography, both academic and popular, which this research project aims to address is the relationship between railways and the rapid, even dramatic, development of particular towns. Popular local history often displays nostalgic and antiquarian tendencies, similar to many of the railway enthusiasts' publications which will be discussed later, and so misses the larger picture of the growth of towns, seen as a whole. It has a much narrower research agenda and limited conceptual scope compared with the academic historiography already discussed. We lack a decent narrative history of Accrington, although David Hogg has produced a useful survey of Church and Oswaldtwistle up to 1914.<sup>10</sup> The industrial archaeology of the towns within Hyndburn has been comprehensively explored by Mike Rothwell in his *Industrial Heritage* series, and he has also written an extensive account of Oswaldtwistle's cotton industry.<sup>11</sup> Aspects of "cotton" Accrington were once popular dissertation subjects for university and college students.<sup>12</sup> The industrial legacy attracted negative anti-Victorian evaluations by the town's postwar planners (Allen and Mattocks) in *Industry and Prudence: A Plan for Accrington*.<sup>13</sup> Surprisingly, there is very little substantial research on Accrington's important pre-1914 engineering and brick making industries, and this relative neglect results in the exaggeration of cotton's role. There is a brief and badly-referenced historical overview of East Lancashire's textile engineering sector by Livesey which perpetuates these mistaken

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<sup>9</sup> Steve Toms: "Windows of Opportunity in the Textile Industry: The Business Strategies of Lancashire's Entrepreneurs, 1880-1914", *Business History*, Vol. 40, No. 1, Jan 1998, pp. 1-25, esp. 12. See also Steve Toms and Igor Filatotchev: "Corporate Governance, Business Strategy and the Dynamics of Networks: A Theoretical Model and Application to the British Cotton Industry, 1830-1980", *Organization Studies*, Vol. 25, No. 4, May 2004, pp. 629-651. Their Type 1 Network is applicable to Accrington's specialised industrial mini-district, c. 1850 (ibid, p. 638).

<sup>10</sup> D. Hogg: *A History of Church and Oswaldtwistle, 1760-1860, 1860-1914* (Local History Society, Accrington, 1971).

<sup>11</sup> Mike Rothwell: *Industrial Heritage: A Guide to the Industrial Archaeology of Accrington* (Accrington, 1979), other local towns in the same series, and *The Oswaldtwistle Cotton Industry, 1760-1960* (Accrington, 1974).

<sup>12</sup> For example, Kenneth Tindall: *The Growth and Development of an Industrial Cotton Town* (R.I.B.A. thesis, 1943); Margaret Clegg: *A Study of the Changing Industrial Structure in Two Cotton Towns: Accrington and Darwen* (University of Liverpool thesis, n.d.); D. Mercer: *The Industrial Development of Accrington* (De la Salle Training College thesis, Manchester, n.d.)

<sup>13</sup> J.S. Allen and R.H. Mattocks: *Industry and Prudence: A Plan for Accrington* (Borough of Accrington, 1950). They argue: "Physical planning of the nineteenth-century town had little to commend it", leading to Accrington's "mounting evils of bad housing, unhealthily-sited factories and lack of open space" (ibid, pp. 6, 146). However we might add that the absence of planning did not mean that urban growth was chaotic.

assumptions about Victorian Accrington's cotton-driven and "ill-balanced" economy.<sup>14</sup> Another major industry, coal, has been surveyed by Nadin at a sub-regional level.<sup>15</sup> There is, however, an absence of a clear overview of the sequence of sectoral innovation and diversification in East Lancashire. Local transport historians, Robert Rush, Geoffrey Timmins, and Mike Clarke, have researched the contemporary partners (not rivals) to railways, urban tramways, turnpike roads and the Leeds and Liverpool canal, respectively.<sup>16</sup> Meredith's thesis, *Transport Developments in East Lancashire, 1780-1860*, attempts to place the earlier technological innovations in a limited comparative context from the available traffic figures.<sup>17</sup> The pre-nineteenth century packhorse trails and causeys in the district have not been comprehensively surveyed, unlike the West Yorkshire Pennines, based on W. B. Crump's pioneering inter-war research into the highways of Halifax and Huddersfield.<sup>18</sup> We still lack, though, a strong sense of how an integrated, interdependent, system, which exploited each mode of transport for maximum mutual benefit, functioned in East Lancashire during the railway era. An interesting perspective on the historical geography of industrialising towns in the sub-region, specifically Accrington, Burnley and Nelson, is developed in F.P. Atkinson's thesis, *Common Elements in the Urban Morphology of Three Lancashire Mill Towns*.<sup>19</sup> However, the models of urban morphology, like the concentric ring theory, are crudely applied to the historical evidence and lack any sense of dynamic development, for example in response to transport innovations - Atkinson ignores the role of railways in Accrington's growth. He concludes: "The concentric pattern is very clear in the pre-1914 built-up area", but this is what is not clear to the historian who studies

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<sup>14</sup> D.A.J. Livesey: *The Textile Engineering Industry of NE Lancashire* (Cambridge University thesis, n.d., c. 1950s). Livesey states: "It (Accrington) is but one of the many nineteenth-century industrially ill-balanced towns whose historical and economic progress has been largely the product of one industry - the cotton trade" (ibid, p. 1). Hence Livesey misunderstands the reasons for Howard and Bulloughs' rise, and neglects the role of local railways.

<sup>15</sup> J. Nadin: *Coal Mines around Accrington and Blackburn* (Northern Mine Research Society, Keighley, 1999).

<sup>16</sup> R.W. Rush: *The Tramways of Accrington, 1886-1932* (Light Railway Transport League, London, 1961). G. Timmins: "Techniques of Easing Road Gradients during the Industrial Revolution: A Case Study of Textile Lancashire", *Industrial Archaeology Review*, XXV:2 (Nov. 2003), esp. pp. 102-103 (road pairs). Also G. Timmins: "Paving the Way: Advances in Road-building Techniques in Lancashire, 1770-1870", *The Journal of Transport History*, vol. 26 (March 2005), pp. 19-40. M. Clarke: *The Leeds-Liverpool Canal: A History and Guide* (Carnegie Press, Lancaster, 1990).

<sup>17</sup> C.P. Meredith: *Transport Developments in East Lancashire, 1780-1860* (M.A. thesis, University of Manchester, 1978).

<sup>18</sup> W.B. Crump: *Ancient Highways of Halifax Parish*, vols. 1-8 (Halifax Antiquarian Society, 1924-1928) and *Huddersfield Highways down the ages* (Tolson Memorial Museum, Huddersfield, 1949).

<sup>19</sup> F. Peter Atkinson: *Common Elements in the Urban Morphology of Three Lancashire Mill Towns* (M.Phil. thesis, University of Nottingham, 1972).



the actual contemporary maps of Accrington's pattern of development.<sup>20</sup> Hence, in summary of this section, because the local history material (with the significant exception of Tupling) lacks a synoptic overview of the development path in the Accrington district over an extended period, it misses how rapid, dramatic and far-reaching were the urban and industrial changes during the railway era.

### **General literature on economic development**

To explain these transformations in the West Pennine uplands, we need to consider the relevance and applicability of some of the concepts explored in the general historiography of economic development. Much of this literature helpfully explores the qualitative relationship between transport innovations and wider patterns of development. The traditional assumption has been that railways and other transport technologies were vital to stimulating, sustaining and strengthening economic growth. A popular economics textbook by Lipsey and Crystal states this relationship negatively: "The absence for whatever reason of a dependable infrastructure can impose severe barriers to economic development."<sup>21</sup> Douglass North discusses this linkage more positively in *Growth and Welfare in the American Past: A New Economic History*. He notes that in the context of USA history, where railroads were a pioneering technology in a pioneering civilisation, "improvements in transportation in the nineteenth century have occupied a central place in explaining a substantial part of the economy's development."<sup>22</sup> Kenwood and Lougheed's comparative overview, *The Growth of the International Economy, 1820-1990*, is more specific in listing the benefits for economic integration which new forms of transport and communication brought: "the exchange of a growing volume of goods ... the expansion of markets and the opening up of new sources of supply of many products ... the concentration of certain types of production in fewer centres, thereby encouraging specialisation and economies of scale ... a greater inter-regional flow of men and capital."<sup>23</sup> In this connection, too, Kenwood and Lougheed allude briefly to the frontier hypothesis which has been applied to the economic development of the USA, Canada and Russia: railways opened up "the untapped wealth of

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<sup>20</sup> Ibid, p. 196. See also his idealised concentric maps of the towns (Fig. 89).

<sup>21</sup> R.G. Lipsey and K.A Crystal: *Principles of Economics* (Oxford University Press, 1999, 9th edition), p. 568.

<sup>22</sup> Douglass C. North: *Growth and Welfare in the American Past: A New Economic History* (Prentice Hall, New Jersey, 1966). North states that American railroads were "the first billion-dollar industry by the time of the Civil War" and also that "it was given credit for inducing expansion in still other industries", citing iron, steel, machinery and timber (ibid, p. 108).

<sup>23</sup> A.G. Kenwood and A.L. Lougheed: *The Growth of the International Economy, 1820-1990* (Routledge, London, 1992, 3rd edition), pp. 12-13. See Chapter 1: "The Causes of Growth" for the key role of transport.

virtually empty territories".<sup>24</sup> Therefore there is the important "comparative advantage" argument of neo-classical economic theory: railways, by dramatically reducing transport costs and altering the structure of relative production costs, generated trade and other economic interactions between specialised producing and marketing centres. Specialisation, the central prediction of this model, is indeed observable in the cotton textiles industry, and also within individual firms in other sectors around Accrington during the railway era, but comparative advantage is not a fully satisfactory explanation of local industrial development because it misses the remarkable patterns of rapid diversification and innovation after 1850 and the sense that railways had opened up an amazing multitude of possibilities for local entrepreneurs which they were both able and willing to exploit.

Francois Crouzet, in *The Victorian Economy*, helpfully suggests another dimension of the impact of railways which cannot, unlike comparative advantage, be captured directly by market price and volume data: positive externalities in the non-rail economy. He distinguishes between the direct and secondary effects of railway development: "They enabled all other economic sectors to expand to such an extent that their influence pervaded the whole economy, even when their direct impact was much diminished. The direct and immediate effects of the actual construction of the railway network were only intense for a brief period during the 1840s."<sup>25</sup> He highlights the following specific beneficial externalities of rail activity: job creation; the growth of engineering workshops (with training spin-offs); greater human mobility; the spread of provincial stock exchanges and limited liability; and overseas railway investment (boosting exports of goods). The rise of mechanical engineering is clearly observable in and around Accrington after railways arrived in 1848, but there were other significant externalities Crouzet omits from this list, such as investment in deep-mined coal production, and concentration of consumer and business services within an industrial district. The expansion of fixed-shop retailing in the Manchester region, as Roger Scola shows in a pioneering and significant study, provided vital links between urban consumers of food and producers in the widening hinterland and depended on improvements to transport modes, including the rapid rail freight services which conveyed the liquid milk produced by Cheshire farmers to the city.<sup>26</sup> The existing

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<sup>24</sup> Kenwood and Lougheed, *op.cit.*, p. 13. Their colonial model, though, is not appropriate to East Lancashire's railways, which were not controlled by outside capital, nor built for the export of agricultural products.

<sup>25</sup> Francois Crouzet: *The Victorian Economy* (Methuen, London, 1982), p. 305.

<sup>26</sup> Roger Scola: *Feeding the Victorian City – the Food Supply of Manchester, 1770-1870* (Manchester University Press, 1992), pp. 71-79.

developmental literature does not fully explore how railways could have embedded similar beneficial externalities within a local urban industrial system, and so became indispensable to the way it functioned as a whole, nor the possibility that in other contexts railways could have perverse and unexpected economic effects. There is often the mistaken assumption that railways and transport innovations generally are bound to generate positive externalities, whereas this research project highlights the contingency and unpredictability of development paths in East Lancashire and beyond.

Dyos and Aldcroft, in their comprehensive synthesis of the economic cost-benefit impact of different transport modes in the UK from early modern times, rightly cautioned against the dangers of over-simplified statistical generalisations about the railway age and stressed the necessity of local studies: “The full historical significance of the railway, when that comes to be assessed, will have to be based, not only on national statistical aggregates which smother such idiosyncracies, but on the local history of the places touched by it.”<sup>27</sup> However they perpetuated another misleading assumption that there was a clean succession of transport modes, especially from canals to railways.<sup>28</sup>

A very different perspective on the contribution of railways to development was widely fashionable and prestigious in academic historiography over thirty years ago, especially in the USA. The New Economic History, or cliometrics, was touted as the scientific answer to problems of historical causality and significance, offering precision through quantification of data and correlation of time-series variables. The advent of computerisation appeared to open up the prospect of measuring objectively the contribution of railways (and technological innovation generally) to economic growth, rather than relying on subjective judgments and impressionistic evidence. This historical methodology has a counterpart in contemporary cost-benefit analysis which is still widely used to calculate the likely overall returns on major infrastructure investments like motorways, airports and high-speed railways.

The pioneer and leading advocate of the New Economic History in the USA, Robert W. Fogel, challenged the widespread assumption, in his controversial *Railroads and American*

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<sup>27</sup> H. J. Dyos & D. H. Aldcroft: *British Transport: An Economic Survey from the Seventeenth Century to the Twentieth Century* (Leicester University Press, 1969), p. 178.

<sup>28</sup> *Ibid*, especially in the section of Chapter 7 revealingly sub-headed: “Eclipse of the canals” (pp. 201-208).

*Economic Growth*, that this technology was indispensable to post-Civil War economic expansion and integration.<sup>29</sup> His calculations of social savings, or the cost differences between transporting passengers and freight by rail and by the next best alternative in a non-rail environment, yielded an estimate of \$560,000,000, or 4.7 per cent of Gross Domestic Product (GDP), in 1890. In other words, if we imagine counter-factually that railways were never invented, the American economy would have been nearly 5 per cent smaller in 1890, a significant though hardly catastrophic loss. This is a striking and provocative finding, and it certainly deserves attention in a research project of this nature. Fogel extrapolated this general result from social savings attributable to the shipment by rail of agricultural commodities from mid-West producers to eastern markets, which he calculated at \$73,000,000, or 0.6 per cent of GDP, in 1890. He assumed that, in the absence of railroads, a reasonably extensive canal network would have developed as a viable and cost-effective alternative mode of inter-regional transportation. This is arguably a plausible counter-factual hypothesis for the mid-West, where canals were competitive on costs with railroads, both in the shipment of bulky but relatively high-value commodities like grain, and in capital requirements for construction in a benign topography. Indeed, Fogel's methodology and selection of examples seemed designed to disadvantage railways from the outset and to present water transport in the best possible light. For example, he downplayed the time savings uniquely provided by rapid rail services, which would probably have been important for enlargement of internal trade in time-sensitive cotton goods and perishable dairy products in Lancashire, and ignored the significant backward linkages from railway demands to supply industries like mechanical engineering, and to the local and national economy more widely. Partly for these reasons, many economic historians have intuitively felt that Fogel's argument that railways were not *that* important for development is essentially wrong, although few have been able to respond effectively to his challenge to show why it is wrong in a specific context.

Similar, though milder, criticisms of choice and use of evidence apply to the work of Fogel's leading British disciple, G. R. Hawke.<sup>30</sup> In his *Railways and Economic Growth in England and Wales*, Hawke estimated the social savings attributable to rail freight services, based mainly on data from East Anglia, constituted 4.1 per cent of national income in England and Wales in 1865, and passenger services provided a further 2.6 per cent or 7.1

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<sup>29</sup> R.W. Fogel: *Railroads and American Growth* (John Hopkins Press, Baltimore, 1964).

<sup>30</sup> G.R. Hawke: *Railways and Economic Growth in England and Wales* (Oxford University Press, 1970).

per cent of savings, depending on arbitrary assumptions about the quality and comfort of travel by alternative modes. He concluded that: "Dispensing with the railways in 1865 would have required compensation for between 7 per cent and 11 per cent of the national income."<sup>31</sup> This estimate is much larger than Fogel's, and for an earlier date, so the cumulative savings by 1890 would presumably, according to the cliometric approach, have been huge. Hawke paid greater attention than Fogel to possible positive externalities of railway activity on other economic sectors like iron and construction, but was unable to calculate any significant additional gains. The many interesting but non-quantifiable questions concerning the wider contribution of railways to capital market institutions, business management, engineering innovation, and generally the structures of Victorian economic experience, were never addressed by the cliometricians.<sup>32</sup> To be fair to Hawke, though, he disavowed any attempt to write a "comprehensive history of the railways."<sup>33</sup> It is precisely these economic externalities which help to constitute a "comprehensive history" of Victorian Accrington, where railways were embedded in local economic institutions, such as engineering, and where rapid growth was inconceivable if railways had never arrived. Hawke's choice of East Anglia, which had rapidly de-industrialised well before the 1860s as it was absorbed as a dependent supplier into London's extensive urban system, was hardly representative of the national economy in general, and certainly not the swiftly industrialising districts of northern England and East Lancashire in particular.

The whole methodology is now widely seen as misconceived. The reliance on counterfactual historical worlds based on artificial assumptions, questionable extrapolations from atypical examples, and fragmentary or non-existent data sets, hardly suggests finality and objectivity in the quest for the economic truth about railways, slavery, or anything else. A recent econometric analysis of turnpikes in eighteenth-century England by Dan Bogart bizarrely and inexplicably projects social savings of at least 1.65 per cent of national income by 1815, which are based, not on direct transport cost data, but on the increase of property income in 11 sampled counties (though excluding Lancashire).<sup>34</sup> This sterile, artificial

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<sup>31</sup> Ibid, pp. 401, 416.

<sup>32</sup> Derek Aldcroft: "The Railway Age", *Refresh*, no.13 (University of York, autumn 1999), makes this criticism of Hawke (on-line at [www.ehs.org.uk/society/pdfs/Aldcroft%2013b.pdf](http://www.ehs.org.uk/society/pdfs/Aldcroft%2013b.pdf)).

<sup>33</sup> Hawke, op. cit., p. 411.

<sup>34</sup> Dan Bogart: "Turnpike trusts and property income: new evidence on the effects of transport improvements and legislation in eighteenth-century England", *Economic History Review*, vol. 62, Feb. 2009, pp. 128-152. Bogart's arbitrary "log-linear" equation assumes that turnpikes and canals have positive effects on property income everywhere, and includes an "urban" variable

exercise, which tells us nothing worth knowing about the role of turnpikes in dynamic local and regional economies, is typical of cliometric methodology. It is likely that a better approach is induction based on careful comparison of self-contained historical case-studies, not deductions of imaginary economies in parallel universes which are driven by neo-classical economic theory rather than the evidence from past experience. After the specific evidence has been presented from a district where transport systems really mattered in creating the modern industrial world, the New Economic History will be re-visited in Chapter 7, and its ambitious claims evaluated critically in the light of the main findings.

The survey of the orthodox developmental literature has so far identified the two relevant but limited issues of comparative advantage and beneficial externalities. Because neither of these theories works fully in an East Lancashire setting, this research project is compelled to explore some unfamiliar historiographical territory to define its conceptual framework, and to draw eclectically and selectively on other existing growth ideas. One of the major and intriguing questions for the project, which has never previously been addressed in depth for East Lancashire, concerns the “shape” of the local growth path itself, of whether it followed a staged or sequential pattern in time. In Walt Rostow's five-stage schema, presented in his well-known *The Stages of Economic Growth* in 1960, transport innovations may act as both catalysts and leading sectors during the “take-off” of economies into rapid self-sustained growth.<sup>35</sup> Initially, his work was highly controversial in a polarised Cold War context, partly because of the polemical intent of its sub-title: “*A Non-Communist Manifesto*”. More recently, it has been widely assumed that Rostow's model is now discredited as statistically inaccurate and over-rigidified, mainly because of the research of Nick Crafts, especially in his *British Economic Growth during the Industrial Revolution*.<sup>36</sup> Crafts failed to find a “take-off” phase in the *national* statistics for GB, but this misses the point that industrialisation was a strongly *regional* phenomena. Within regional economies there were clear examples of a transformatory discontinuity or “take-off”, as M. Berg and P. Hudson argued in an important article in 1992: “All expanding industrial regions of the late eighteenth century and early nineteenth century were, like the West Riding, dominated by

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which is defined as parishes with a population greater than 2,500, even though the extended parishes in northern England often had scattered, not urbanised, settlements (ibid, p. 140).

<sup>35</sup> W.W Rostow: *The Stages of Economic Growth: A Non-Communist Manifesto* (Cambridge University Press, 1960, 1<sup>st</sup> edition, 1971, 2<sup>nd</sup> edition). Rostow's five stages were, in order: the traditional (subsistence) society; the preconditions for take-off; take-off to self-sustained growth; the drive to maturity; the age of high mass consumption.

<sup>36</sup> Nick Crafts: *British Economic Growth during the Industrial Revolution* (Oxford University Press, 1985).

particular sectors in a way never experienced before.”<sup>37</sup> The authors stressed the value of regional and local studies to capture the radical industrial and social changes better than the conventional national accounting framework.<sup>38</sup> The contributors to a compendium volume on provincial manufacturing development showed how this could be done in detail for geographical contexts as diverse as the growing “proto-industrial” woollen and cotton textile communities of Lancashire, the woollen and worsted putting-out and factory-based industries concentrated in West Yorkshire, and the contrasting fate of the glass, iron and cloth districts of the Weald in Kent, Surrey and Sussex, which experienced prolonged de-industrialisation after 1650.<sup>39</sup>

Significantly, all the evidence suggests that mid-Victorian Accrington experienced a “take-off” into exponential growth after a long incremental “preconditions” stage. This dramatic step-change was closely associated with, but was not an inevitable result of, the arrival of railways in 1848. A similar, though later, developmental pattern is observable in the smaller surrounding towns of Rishton and Great Harwood as they became rail-connected. Hence it may be argued that if we strip away the ideological ambitions and the largely irrelevant econometric debates about national growth and investment rates, we are left with a conceptual core in Rostow’s approach which may have much to contribute to this research project’s understanding of the distinctive development trajectories of regional and local economies. Later in the theoretical section, Chapter 7, this argument will be elaborated by assessing whether Rostow’s model may be selectively rehabilitated and applied to East Lancashire during the railway era.

There is another fascinating and counter-intuitive question to ask about economic and urban growth in East Lancashire in this period which has never been asked before. Was there a geographical contour of development, a frontier of possibility and opportunity, which, when it moved, was transformatory? The classic statement of the frontier thesis was by Frederick J. Turner: “The existence of an area of free land, its continuous recession and

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<sup>37</sup> Maxine Berg and Pat Hudson: “Rehabilitating the Industrial Revolution”, *Economic History Review*, Vol. 45, No. 1, Feb. 1992, p. 38.

<sup>38</sup> *Ibid*, pp. 38, 44. See also Pat Hudson: *The Industrial Revolution* (Edward Arnold, London, 1992) for detailed examples of regional discontinuities.

<sup>39</sup> P. Hudson (ed.): *Regions and industries: a perspective on the Industrial Revolution in Britain* (Cambridge University Press, 1989). Of special relevance to the Accrington district is Chapter 2, John K. Walton’s interpretative survey of the theoretical and empirical historiography: “Proto-industrialisation and the first industrial revolution: the case of Lancashire”, pp. 41-68.

the advance of American settlement westward explains American development.”<sup>40</sup> Turner’s thesis, first stated in his seminar paper and article “The Significance of the Frontier in American History” in 1893, has since been criticised as an inadequate and highly selective explanation of American history which was coloured by late nineteenth-century ideologies of racism and nationalism, and these critical problems and limitations of Turner’s thesis will be outlined and addressed in greater detail in Chapter 7. As with Rostow, the main issue as far as this research project is concerned is the need to remove the contemporary and unnecessary accretions which obscure a clear perspective on the potential usefulness of Turner’s underlying geographical model. Turner’s essential point that a moving frontier in a favourable human and natural environment “did indeed furnish a new field of opportunity” has a clear relevance to the Accrington district.<sup>41</sup> With appropriate modifications for geographical context, therefore, it is worth exploring the concept that railways advanced a frontier of economic development into “untapped” East Lancashire. There is a further question to ask to complete this section of the literature review: does some hybrid of the “take-off” and “frontier” approaches, suitably modified, help us better understand the chronological and geographical contours of local development, and the role of railways in liberating and harnessing the economic potential of “virgin” industrial settlements in East Lancashire? It is indeed innovatory and challenging to adapt and combine in this way aspects of Turner and Rostow, both of whose models are widely assumed to be discredited. It is, however, worth reflecting on these unfamiliar growth ideas, both singularly and in combination, to describe and explain the subtle complexity of the rise of the district’s diversified yet highly specialised industries, its interdependent yet self-contained urban settlements. In Chapter 7, after presentation of the evidence, the “take-off” and “frontier” models will be critically examined for their suitability and usefulness as starting-points for pioneering theoretical explorations of the development path around Accrington.

### **Literature on British urbanisation and urban geographical models**

The British academic historiography, such as the classic and succinct survey by Michael Robbins in *The Railway Age*, and the more recent research of Jack Simmons incorporated in

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<sup>40</sup> F. J. Turner: “The Significance of the Frontier in American History”, *Annual Report to the American Historical Association* (Chicago, 1893), p.1. The whole article is available on-line at: <http://xroads.virginia.edu/~Hyper/TURNER/>. Turner’s thesis dominated both the academic historiography and history teaching in American schools and colleges for more than a generation, though it fell out of favour in the 1930s.

<sup>41</sup> *Ibid*, pp. 20-21.



*The Railways of Britain*, *The Victorian Railway* and *The Railway in Town and Country*, has usefully explored some aspects of the complex relationship between railways and Victorian civic development and concentration of population.<sup>42</sup> This literature has highlighted the transformatory impact of the era dominated by the railway in certain urban geographical contexts, but there are several significant weaknesses and omissions as far as this research project is concerned. The persistent academic and popular paradigm has been the railway-created or railway-dominated town, such as Crewe, Wolverton, Shildon and Swindon as junctions and railway workshops; Middlesborough, Fleetwood and Barrow-in-Furness as new industrial settlements or ports planned in conjunction with railway companies; Blackpool, Brighton, Scarborough, Southport and the many seaside resorts dependent on rail connections with their urban hinterlands; and the rings of dormitory suburbs and towns around the metropolitan hub generated by fast commuting services, such as London's Metroland. Hence the focus has been on direct functional linkages where urban settlement grew because railways were either employers or proprietors themselves, or mass movers of commuters or tourists. The possibility that indirect, more complex, embedded linkages between railways and local economies, such as just-in-time logistics, could also stimulate urbanisation by generating heavy freight flows has never been elaborated in the literature, but is very evident around Accrington .

A further major weakness in the historiography is that most urban studies are orientated towards big cities, not small towns and townships, and consequently they assume, wrongly at times, that railways were superimposed on an already built and dense environment.<sup>43</sup> It must be stressed that Accrington did not exist as a coherent town before the arrival of railways in 1848. More generally, it may be argued that British urbanisation is much misunderstood, assuming a southern pattern of continuity and organic growth on long-established civic and institutional foundations and missing the novelty and rapidity of urban change in the north of England, especially in the trans-Pennine districts. Moreover, there is nothing in the *English* or *British* urban historiography on the possibility that "frontier towns" like Accrington could emerge suddenly on internal lines of development advanced by railways within an area of existing settlement. The "frontier" thesis is usually associated with the American West, as outlined earlier, but the interest lies in its possible use as a

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<sup>42</sup> For example, Michael Robbins: *The Railway Age* (Routledge & Kegan Paul, London, 1962) and Jack Simmons: *The Railways of Britain* (Macmillan, London, 1986, 3<sup>rd</sup> edition), *The Victorian Railway* (Thames & Hudson, London, 1991) and *The Railway in Town and Country* (David & Charles, Newton Abbot, 1996).

<sup>43</sup> H.J. Dyos & M. Wolff: *The Victorian City: Images and Realities* (Routledge, London, 1973).

metaphor to describe urbanisation patterns in East Lancashire.<sup>44</sup> It would indeed be unusual and counter-intuitive to view Accrington as the Lancastrian equivalent of a “Wild West” settlement like Dodge City, but this is the direction in which the available primary evidence seems to be pointing.

The metropolitan-orientated academic literature has explored the destructive as well as creative potential of railways as they changed, more than any other agency, the configuration of the great Victorian city. Using solicitors' records of land transactions in five cities as key primary sources, John R. Kellett in *The Impact of Railways on Victorian Cities* has demonstrated that between 5 per cent and 9 per cent of the land area in the central zones of London, Liverpool, Manchester, Birmingham and Glasgow was acquired for use by railway companies. This resulted in the displacement of residents into new slum districts tightly hemmed in by approach lines, depots and other facilities, and also boosted land values, thereby deterring further rail penetration into city centres. Kellett's classic study of property ownership patterns and the urban land market explains the peripheral locations of the mainline terminal stations around London's core and the absence of north-south cross-rail links within Manchester (though west-east routes skirted the central commercial district).<sup>45</sup>

Railways also reorganised the relationship between workplace and residence in the cities, and from the 1860s they provided intensive conventional and underground commuter services into central London. Suburban railways, with limited electrification, had spread to Merseyside, Manchester, Birmingham and Tyneside by 1910.<sup>46</sup> Harold Perkin vividly depicted “The Commuter Age” as one of the central features of the Age of the Railway: “It was the railways which were to break up the compact, if immensely swollen, towns of the Industrial Revolution and scatter many of their inhabitants, beginning with the wealthiest, over the surrounding countryside, like seeds from an exploding seed-pod.”<sup>47</sup> The process of

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<sup>44</sup> Frederick J. Turner, op. cit.

<sup>45</sup> John R. Kellett: *The Impact of Railways on Victorian Cities* (Routledge, London, 1969).

<sup>46</sup> D.N. Smith: *The Railway and its Passengers: A Social History* (David & Charles, Newton Abbot, 1988), esp. Chapter 5.

<sup>47</sup> Harold Perkin: *The Age of the Railway* (David & Charles, Newton Abbot, 1971), p. 241 – see Chapter 9: “The Commuter Age”. In this standard survey, railways act as the key metaphor and medium of a wider social transformation: “This book has tried to show through the effects of transport on society, the beginnings and decline of a particular civilisation.....The Railway Age.....began in the old, pre-industrial society, dominated by the man on horseback, the landed aristocrat and country gentleman. It transformed it into the new class society, dominated by the man of the iron horse, the middle-class industrial capitalist” (ibid, pp. 308-309).

rapid suburban growth is closely described in H. J. Dyos' well-known *Victorian Suburb: A Study of the Growth of Camberwell*.<sup>48</sup> Camberwell was insignificant in the earlier nineteenth century but became a solidly respectable middle-class enclave in south London from mid-Victorian times. The arrival of commuter services during the 1870s and 1880s made suburban living accessible to clerks and white-collared workers in the City, and cheap workmen's trains increasingly attracted better-paid artisans. Land values ballooned along extending rail routes and empty building plots were swiftly converted into speculative housing developments. There was no significant local manufacturing industry. Camberwell's economy was based instead on the daily export of its labour to central London, across the Thames, and the resulting expansion of a local tertiary sector serving the new commuting population. Camberwell was fully integrated into metropolitan life – it had no independent economic or cultural existence. Whereas the growth of Victorian London, therefore, would have been inconceivable without its suburban rail systems, northern towns like Accrington sustained and strengthened their independent industrial bases and stood apart from the Manchester conurbation and its southern commuter belt during the railway era. Heavy freight traffic was much more significant than commuting flows in the economic experience of these towns. Victorian Accrington never resembled and never could resemble Camberwell.

Because of its metropolitan focus, a key omission in the historiography on patterns of transport and urbanisation is any consideration of how railways might function in a dispersed, de-centralised environment with multiple nuclei of growth, but without extensive suburbanisation and commuter flows. London-based centre-periphery models assume a radial pattern of transport routes which strengthens and extends the economic and cultural dominance of the metropolis over its hinterland. Urban geographers derive these models from W. Christaller's classic theoretical exploration of spatial economic networks, *Central Places in Southern Germany*, which developed a hierarchy of size, functional importance and dependency in the relationship between dominant urban centres, surrounding small market towns and satellite villages on a flat uninterrupted plain - indeed Christaller originally observed a pattern of hexagonal cells in the distribution of settlement in southern Germany.<sup>49</sup> Central-place models are hardly applicable to East Lancashire's distinctive

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<sup>48</sup> H.J. Dyos: *Victorian Suburb: A Study of the Growth of Camberwell* (Leicester University Press, 1961).

<sup>49</sup> Walter Christaller: *Central Places in Southern Germany* (Prentice Hall, New Jersey, 1966, translated edition, originally published in German, 1933).

urban experience and a radically different approach is necessary. Indeed, it may be argued that the urban system here serves as a useful test-bed for innovative theoretical enquiry, though we should not expect to observe pristine models.

One major recent contribution to the study of urbanisation patterns by Jon Stobart, *The First Industrial Region: North-West England, c. 1700-60*, is of interest and significance for this research project because it attempts a genuinely regional analysis of Cheshire and south Lancashire, even though the focus is on the period immediately preceding the classic Industrial Revolution phase and therefore it does not precisely coincide with the chronological parameters here.<sup>50</sup> Stobart uses Christaller's central-place theory and other externally-derived models to delineate the economic geography of much of north-west England and the configuration of its urban spatial networks, surprisingly, and paradoxically, finding that Chester was a key centre for the regional economy during the early modern period. He argues that pre-existing urban systems structured the "pace and space" of development by strongly promoting both local specialisation in minerals, manufacturing and services, and interdependent intra-regional commercial and trade networks, partly through the medium of transport improvements. The combination of sectoral specialisation and market integration resulted in rapid economic growth during and beyond the eighteenth century. Specific criticism will be made about the applicability, or otherwise, of Stobart's model to the observable patterns of East Lancashire's complex urban geography during the railway era in the theoretical section (Chapter 7).

Also relevant to the debate about northern urbanisation is Stephen Caunce's recent pioneering research suggesting that the urban industrial systems in Lancashire and West Yorkshire are part of an integrated west-east trading and commercial zone which has historically straddled the Pennine chain and has encouraged dispersed settlement patterns, complex industrialisation sequences, rapid town formation and the persistence of cultural

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<sup>50</sup> Jon Stobart: *The First Industrial Region: North-West England, c.1700-60* (Manchester University Press, Manchester, 2004). For a useful summary of this argument on regional urban hierarchies and sectoral patterns, see J. Stobart: "Regional Structure and the Urban System: North-West England, 1700-1760", *Transactions of the Historic Society of Lancashire and Cheshire*, Vol. 145, 1995, pp. 45-73. He concludes this article: "It was the system of towns, and not the qualities of individual centres, which drew together the production forces of the region, facilitated economic specialisation and generated regional growth" (ibid, p. 73).

fragmentation.<sup>51</sup> It is essential, therefore, to see towns like Accrington as part of this trans-Pennine economic matrix. The economic integration is powerfully implied by the succession of trans-Pennine transport links since Roman times— stone roads, hilltop packhorse trails, semi-paved causeys, canals, turnpikes, railways, and now the M62 motorway, and so the common assumption that the Pennine chain constituted an impenetrable barrier to commerce and human interchange is an historical myth. As Stephen Caunce summarises the evidence, “The continuous existence of a transport corridor is thus undeniable, and it has come into its own over the last three centuries”.<sup>52</sup> He usefully notes and analyses, too, the existence and patterning of urban clusters of various magnitudes and geographical scale in the trans-Pennine zone – certainly his concept of a mini-conurbation is observable in and around the Accrington hub by 1900, as will be elaborated in chapter 4 on urbanisation patterns.<sup>53</sup>

### **Popular railway literature**

The extensive literature on English railways per se (as distinct from the developmental genre) is largely peripheral to the conceptual issues in this project, but this does not mean that it is useless as a quarry of evidence. Its “unwitting testimony” may be valuable if chosen with care to illustrate the role of railways in East Lancashire as a transformatory agent. A key issue which the railway, and transport, historian must address when compiling and presenting this voluminous material is the deep divide between the popular and academic literatures which John Kellett highlighted in a critical review article for *Victorian Studies* as long ago as 1969, and which shows few recent signs of diminishing.<sup>54</sup> Kellett identified the inadequacies of most popular railway publications: “There is an expansiveness and self-indulgence in the writing. It is clear that they are books intended to be wallowed in rather than read, and certainly not to be studied, to be used for convenient reference or to serve as the basis for further work.” He also noted the obsession with rail technology: “The apparatus of transport is invested with infinitely more glamour than that of production.”<sup>55</sup> Little has changed since Kellett penned these remarks nearly 40 years ago. As Colin Divall remarked more recently in his inaugural address as Professor of

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<sup>51</sup> Stephen Caunce: “Urban systems, identity and development in Lancashire and Yorkshire: a complex question”, in Neville Kirk (ed.): *Northern Identities: Historical Interpretations of the North and Northernness* (Ashgate Publishing, Aldershot, 2000), pp. 47-70.

<sup>52</sup> *Ibid*, p. 52.

<sup>53</sup> *Ibid*, and personal conversation with Stephen Caunce.

<sup>54</sup> John R. Kellett: “Writing on Victorian Railways an Essay in Nostalgia”, *Victorian Studies*, Sept. 1969.

<sup>55</sup> *Ibid*, pp. 92-93.

Railway Studies at the University of York, "The enthusiasts' agenda has tended to hold to a rather narrow understanding of what transport is all about namely, movement and its corollary, operating vehicles."<sup>56</sup>

Much railway literature may stir and inspire a fascination with the thrill and romance of the speeding express train, the locomotive at full power, or childhood memories of holiday excursions, but it frustrates a quest to relate the technology of movement to its wider social and economic contexts, to understand the human needs the technology was seeking to serve, or even properly to see that world through the lens of railways. This technological obsession often leads to a myopic distortion of the historical record, a neglect of contextual analysis, and a hunt for heroes and villains among the ranks of railway engineers and locomotive designers. There is also the assumption of technological inevitability if a railway was built, it should have been built; if it was not, it should still have been built. The question of *why* a railway was or was not built is never addressed. An example of historical distortion is the obsession with the Race to the North on the West and East Coast routes in the 1890s and 1930s. This focus obscures the fact that the bread-and-butter revenue-earner for many railway companies was the humble pickup goods train, or for northern companies like the Lancashire and Yorkshire Railway, heavy freight trains carrying coal, minerals, cotton, bricks, foodstuffs, etc., on intensively-operated, intermediate-haul services, nor does it explain why the speed of certain prestigious express services was invested with such commercial significance for brief periods.<sup>57</sup> The L & YR ran its own express services in East Lancashire, notably the sharply-timed Tuesday and Friday specials which regularly conveyed businessmen from Burnley to Manchester in 50 minutes, but these were not prestigious in the sense that they were promoted nationally as emblems of corporate image, and perhaps because of their mundane, ordinary efficiency (but extraordinary in a way), their significance, and even existence, is missed in the enthusiasts' publications.<sup>58</sup> Another consequence of the technological fixation is a neglect of the role played by geology and topography in shaping long-term engineering paths, and the implication that engineering choices were the personal whims of designers. For example, steam locomotion was the

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<sup>56</sup> Colin Divall: "Going Places? Visitors, Enthusiasts and the Public History of Transport", *Institute Of Railway Studies*, York, March 1999, p.10 ([www.york.ac.uk/inst/irs/irshome/~qpers/inaugural.htm](http://www.york.ac.uk/inst/irs/irshome/~qpers/inaugural.htm)).

<sup>57</sup> For an example of the enthusiasts' approach, see O.S. Nock: *Railway Race to the North* (David & Charles, Newton Abbot, 1958). Even a more substantial analysis, A.J. Mullan: *Streamlined Steam – Britain's 1930s Luxury Expresses* (David & Charles, Newton Abbot, 1994), fails to engage adequately with these basic contextual issues.

<sup>58</sup> Bradshaw's Railway Guide, April 1910, p. 771.

right technological choice to work East Lancashire's rail network in a rich coalfield environment. In coal-poor France, there was every incentive to economise on fuel consumption through adoption of compound locomotives, and the highly-trained and well-rewarded footplate crews were able to maximise such savings. However, the L & YR never adopted compounds as a standard locomotive class, which suggests that total cost savings were marginal where coal was accessible and cheap.<sup>59</sup>

Yet another example of distortion of the past is the recent elevation of the engineer to superstar status. This has culminated in the hagiography surrounding Isambard Kingdom Brunel, voted the second greatest Briton of all time in a recent TV poll. A Channel 4 series, *Men of Iron*, and the accompanying book, celebrates Brunel as a romantic visionary who succeeded single-handedly in shaping the modern world of transport and communications on his own terms.<sup>60</sup> It glosses over Brunel's numerous expensive commercial and technological failures such as the South Devon "atmospheric" railway, the fact that personal ambition and obsession with total control overrode sound management practice and financial prudence, and the negligible long-term influence of his choice of track gauge and systems or aspects of bridge design. Brunel's role as post-modern icon may overshadow in popular consciousness the more prosaic but practical contribution of contemporaries like George and Robert Stephenson and Joseph Locke, whose railways functioned well, rewarded investors handsomely, and laid the basis for our national network. An important theme of this research project is that engineering achievements should be seen as intelligent responses to local human and natural environments. Engineers who ignored local conditions and attempted to impose inappropriate "grand visions" failed and deserved to fail - hence the contrast between Brunel's disasters in South Devon and the unsung achievements of the northern engineers who made a railway system work well and profitably in the very challenging terrain of East Lancashire, a major developmental issue which is worthy of expanded treatment later. We might add that an earlier generation of railway biographers, such as L. T. C. Rolt, offered a much more balanced and incisive assessment of the great nineteenth-century engineers, as in his *George and Robert*

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<sup>59</sup> George Hughes, the L & YR's Chief Mechanical Engineer, experimented with ten compound goods engines, but the design was never perpetuated. See Denis Griffiths: *Locomotive Engineers of the LMS and its Major Constituent Companies* (Patrick Stephens Ltd., Yeovil, 1991), p. 130.

<sup>60</sup> Sally Dugan: *Men of Iron: Brunel, Stephenson and the Inventions that shaped the Modern World* (Macmillan, London, 2003).

*Stephenson*.<sup>61</sup> Rolt is also highly readable, with a deep human sympathy, an eye for the telling anecdote, and a gift for technical exposition. He is arguably one of the few writers to have successfully straddled the deep divide between the enthusiasts' and academic literatures, especially in the history of railway engineering and the uses of technology.<sup>62</sup>

Apart from the technological focus, the "enthusiasts' agenda" displays a vivid nostalgic and personalised imagination, tinged by a sense of loss and latter-day decline and fall.<sup>63</sup> Much of the literature is evocative of the recent past, set in the glorious golden age of steam, and recreated through an antiquarian's love of precise though unsystematic detail, from engine numbers to signalbox styles. The heritage railway movement both feeds off and enlarges this demand for nostalgia. The ambience of preservation is usually the railway idyll of the 1950s and early 1960s, before the Beeching cull of branch lines and the elimination of steam. It would be fair to argue that the popular picture-book publications cater for the desire to escape from the present and return to the lost certainties of childhood.<sup>64</sup> The search for a personal past often mingles with technical description in the works of C. Hamilton-Ellis and O.S. Nock.<sup>65</sup> Mac Hawkins' remarkable *Then and Now* series contains juxtapositions of archive photographs of living railways with present-day scenes of transformation and dereliction shot from the same locations, so that the replacement of a busy country station by a supermarket car park stands as a metaphor for the eclipse of a much-loved mode of transport by a hated usurper.<sup>66</sup>

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<sup>61</sup> For example, L.T.C. Rolt's *Isambard K. Brunel, Thomas Telford, and George and Robert Stephenson* (Longmans, London, 1957-60).

<sup>62</sup> For examples of this attractive style, see his autobiographical *The Landscape Trilogy* (Sutton Publishing, Stroud, 2001). Rolt's classic study of British railway accidents: *Red for Danger* (John Lane The Bodley Head, London, 1955 1st edition, Sutton Publishing, Stroud, 1998 reprint) is superbly written to appeal to both the specialist and the general reader alike.

<sup>63</sup> In a sense, the tendency of the "enthusiasts' agenda" to subjectivism and self-absorption is shared by the academic discourses of post-modernism, though these American fixations have yet to infect academic railway historiography deeply in Britain. As the evidential base for the development process in this research project expanded, it became apparent that post-modernist philosophies and methods have nothing useful to contribute to the analysis of cultural history in East Lancashire.

<sup>64</sup> For example, David St. John Thomas & Patrick Whitehouse: *The Trains We Loved* (David & Charles, Newton Abbot, 1994). The authors proclaim: "This unashamedly nostalgic book celebrates the trains we loved those of our childhood and those that our parents perhaps told us about in vivid detail" (ibid, p. 9).

<sup>65</sup> O.S. Nock: *The Settle and Carlisle Railway* (Patrick Stephens Ltd., Yeovil, 1992) is revealingly subtitled as "A personal story". C. Hamilton-Ellis' largest work: *British Railway History* (Allen & Unwin, London, 2 vols., 1954, 1959) presents an unsatisfactory discontinuous narrative, frequently broken by reminiscences, in a badly-indexed format.

<sup>66</sup> Mac Hawkins: *The Somerset & Dorset Then and Now* (David & Charles, Newton Abbot, 1995), for example.



It would be fascinating to speculate whether the shift in popular representations of the railway, from the cutting-edge of modernity to icon of national heritage and former greatness, reflects a wider cultural disillusionment and scepticism about narratives of progress. However, to state that these nostalgic railway reconstructions draw on a "rural myth of continuity, community and classlessness", a vision which denies development, is misleading.<sup>67</sup> The cult surrounding that quintessential loss-making country railway, the Somerset and Dorset, is extraordinary, but so is the homage paid by enthusiasts to the gritty, grimy realities of the urban, industrial north-west of England in the 1960s, the final stronghold of steam and a vanished but hardly undeveloped world.<sup>68</sup>

### **Railway business history**

An important theme in this project is the development of local railway companies as active agents of economic change, as successful business institutions interacting with and transforming their geographical environment. It is widely accepted by business historians that railway companies were among the first modern functionally-organised corporate structures in British economic history, and they also integrated ownership of physical infrastructure with operation of passenger and freight services, unlike their immediate transport predecessors, the turnpike trusts and canal navigations. Railways' appetite for capital dominated the market for joint-stock investments during the mania years of the 1840s and 1860s. Historians inspired by Alfred Chandler's work on American business development, notably his *Railroads: The Nation's First Big Business* and, more widely, his *The Visible Hand: The Management Revolution in American Business*, hailed railways as precursors of the modern large-scale corporation, with its separation of ownership and control, functional specialisation of management and tendencies towards oligopoly and monopoly in certain consumer markets.<sup>69</sup> Douglass North acknowledges that the American railroad was "the kind of enterprise that required a corporate form of organisation and the solving of complex problems of efficient development", but speculates that this would have happened anyway, whatever the type of industry, and was simply a function of size as large-

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<sup>67</sup> Philip Payton: "An English Cross-country Railway: Rural England and the Cultural Reconstruction of the Somerset and Dorset Railway", in Colin Divall (comp.): *Railway, Place and Identity*, (Working Papers, Institute of Railway Studies, York, 1991), p. 19.

<sup>68</sup> The monthly enthusiasts' publications: *Steam Railway*, *Steam World* and *Heritage Railway* frequently pay photographic tribute to the last days of northern steam.

<sup>69</sup> Alfred D. Chandler: *The Visible Hand: The Management Revolution in American Business* (Harvard University Press, Massachusetts, 1977) and *Railroads: The Nation's First Big Business* (Columbia University Press, New York, 1965).

scale enterprise became dominant in many sectors of the USA economy by the end of the nineteenth century.<sup>70</sup>

Chandler's empirical approach to business history has inspired the recent rise of institutional economic theory which highlights internal information flows (both price and non-price), external social networks, transaction costs, and corporate values and ethics, to better explain why firms grow and prosper than the orthodox profit-maximising models of neo-classical economics.<sup>71</sup> Mark Casson, for example, usefully analyses some of the internal and external implications of company cultures in *Entrepreneurship and Business Culture: Studies in the Economics of Trust*: "Perhaps the single most important set of beliefs, however, relate to the question of who can be trusted...when few people can be trusted, transaction costs become very high...inter-firm relations are undermined because licensors cannot rely on licensees...to discourage slacking, complex and intrusive monitoring systems have to be established... in a high-trust culture, by contrast, complex interdependencies between firms can be sustained by arm's length contracts and within each firm the owner can rely on the loyalty and integrity of employees."<sup>72</sup> While there is broad sympathy with institutional economics in this research project, especially the welcome stress on distinctive corporate cultures, the problems for the historian seeking to understand railway business development in East Lancashire are essentially evidential. It is difficult to identify the precise role and significance of information flows, either formal or informal, internal or external (though we should note their existence), and impossible to quantify transaction costs, from the limited and unbalanced local railway company sources in the National Archives, which mainly record the Directors' decisions and viewpoints.

Unsurprisingly, contemporary writers were impressed and excited with the novelty of railways as corporate institutions, as reflected in John Francis: *History of the English Railway: Its Social Relations and Revelations* (1851) and William Acworth's magisterial survey of *The Railways of England* (1889). This institutional approach to railway history was strengthened as the railways self-consciously projected distinctive corporate images and identities by the late nineteenth century, generating strong loyalties and support in

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<sup>70</sup> Douglass North, op.cit., p. 114.

<sup>71</sup> See, for example, the symposium publication: Mark Casson & Mary B. Rose (eds.): *Institutions and the Evolution of Modern Business* (Frank Cass, London, 1998, paperback edition).

<sup>72</sup> Mark Casson: *Entrepreneurship and Business Culture: Studies in the Economics of Trust*, Vol. 1 (Edward Elgar, London, 1995), pp. 90-91.

contemporary literature. Frederick S. Williams: *The Midland Railway: A Narrative of Modern Enterprise* (1876-1888) was the first comprehensive treatment of any one of the largest pre-Grouping companies, its celebratory tone indicated in its subtitle. W. L. Steel: *History of the London and North Western Railway* (1914) similarly defined contemporary perceptions of the Premier Line. Occasionally the railway companies commissioned their official histories, as with E. T. MacDermot's authoritative and scholarly *History of the Great Western Railway* (1927-31).<sup>73</sup> As the foregoing list suggests, the more glamorous and publicity-conscious companies have attracted most attention in railway historiography and the utilitarian, hard-working, railways based in the industrial north of England have been relatively neglected, despite the scale of their engineering achievements and their significance for economic development. There is a slim pamphlet by Robert Rush on the important locally-based company, *The East Lancashire Railway*.<sup>74</sup> The ELR also merits a chapter in John Marshall's well-respected survey of the successor amalgamated company, *The Lancashire & Yorkshire Railway*.<sup>75</sup> Many details of the administrative and financial structures and the traffic and operational policies of the ELR remain obscure, little is known about its origins in three localised "micro-companies", nor do we yet have a clear sense of the relationship between internal institutional features of this distinctive company and its geographical environment. It is interesting that the L & YR seems to have perpetuated the shell of the ELR's localised identity and territorial control within its traffic and workshop arrangements long after formal amalgamation in 1859.<sup>76</sup> How typical was this of amalgamated companies and why did the L & YR practise these arrangements? This project intends to shed some light on these important institutional questions, to rectify an imbalance in the historiography, and to relate the growth of railway businesses to wider patterns of development in the East Lancashire region.

A bridge between institutional histories and historical geography is suggested in the David & Charles series: *The Regional History of Railways of Great Britain*, which repackages narratives of individual companies in a topographical framework, though not always systematically. H.P. White's volumes on southern England and Greater London generally

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<sup>73</sup> For fuller details of authors cited (especially MacDermot), see J. Simmons and G. Biddle: *The Oxford Companion to British Railway History* (Oxford University Press, 1997).

<sup>74</sup> R.W. Rush: *The East Lancashire Railway* (The Oakwood Press, 1983).

<sup>75</sup> J. Marshall: *The Lancashire & Yorkshire Railway*, 3 vols. (David & Charles, Newton Abbot, 1969-1972). Chapter 6, vol. 1, covers the ELR's history until amalgamation with the L & YR.

<sup>76</sup> The ELR's lines were managed by the L & YR's East Lancashire Division, based in Accrington. The ELR's works at Bury retained its autonomy and made its own engines after 1859 (Rush, op. cit., pp. 38-39).

succeed in enlarging our view of the linkages between railways and metropolitan growth, though the contrast with the distinctive urban patterns and absence of commuting in East Lancashire must be stressed.<sup>77</sup> D. Joy's volume on the Lake Counties offers a clear analysis of the diverse functions and changing markets for companies such as the Furness Railway across the sub-regions of Cumbria.<sup>78</sup> G. Holt's survey of north-west England is less satisfactory, presenting parallel chronologies of railways and economic development which rarely intersect to suggest interdependency, and misunderstanding the nature of local development.<sup>79</sup> Perhaps, in fairness, the sheer complexity and diversity of centres and functions in north-west England's railway network, with its mix of national strategic routes, inter-urban lines and local branches, makes it difficult to write a general regional synthesis.

In conclusion, this secondary literature review has identified a number of methodological issues and knowledge gaps which this micro-study aims to overcome. There are major holes to plug in the institutional historiography of Lancashire's railway companies, and it is a subsidiary aim of the project to give the ELR the recognition and respect it deserves among railway historians. The enthusiasts' publications must be approached with care, and their technological and nostalgic tendencies acknowledged, yet they may be quarried for their often copious detail on local railways which is unobtainable in the academic literature. In the light of the unresolved methodological difficulties already discussed, the New Economic History appears on initial examination to have little to offer the research project, and it seems likely that this "scientific" approach would distort the evidence about how railways and other transport modes functioned in East Lancashire. The suitability of conventional cliometric models will be fully assessed later once a detailed picture of local development has been presented in Chapters 3 to 6. The traditional qualitative approaches to the role of transport in economic development are more obviously useful to the project, for they provide a set of analytical benchmarks, such as comparative advantage and positive externalities, which can be used to assess the distinctiveness of East Lancashire's growth path, and also to establish a platform for further theoretical exploration. It follows that the

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<sup>77</sup> H.P. White: *A Regional History of the Railways of Great Britain*, vol. 2: *Southern England* (David & Charles, Newton Abbot, 1982) and vol. 3: *Greater London* (David & Charles, 1971).

<sup>78</sup> David Joy: *A Regional History of the Railways of Great Britain*, vol. 14: *The Lake Counties* (David & Charles, Newton Abbot, 1990).

<sup>79</sup> G.O. Holt: *A Regional History of the Railways of Great Britain*, vol. 10: *The North West* (David & Charles, Newton Abbot, 1978). He naively states: "Towns like Haslingden and Accrington seem to have grown naturally out of the hills around them, their prosperity depending almost entirely on the cotton industry" (ibid, p. 160). In fact, Accrington's economy became highly diversified during the railway era.

available economic statistics, such as passenger and freight volumes and receipts, will be collated and analysed in a comparative, not a counterfactual, framework, and sensitively used as evidence within their limitations. Finally, both the existing academic literature and the local histories are unhelpful or silent as guides to interpreting the relationship between railways and urbanisation in East Lancashire, and a search for alternative approaches to the London-based models is a key priority of this research project. The most promising, and unusual, of these “ways of seeing” East Lancashire’s development may use a hybrid of Rostow’s chronological “take-off” model and Turner’s geographical “frontier” thesis as a starting-point, and this line of theoretical enquiry will be explored and elaborated in depth in Chapter 7. Hence the approach adopted in this literature review has been deliberately eclectic, seeking to borrow, magpie-like, from a broad range of ideas if they serve the purposes of the research project. The challenge, though, is to progress beyond descriptive metaphors, however attractive, to a satisfactory explanation of the district’s remarkable growth during the railway era.

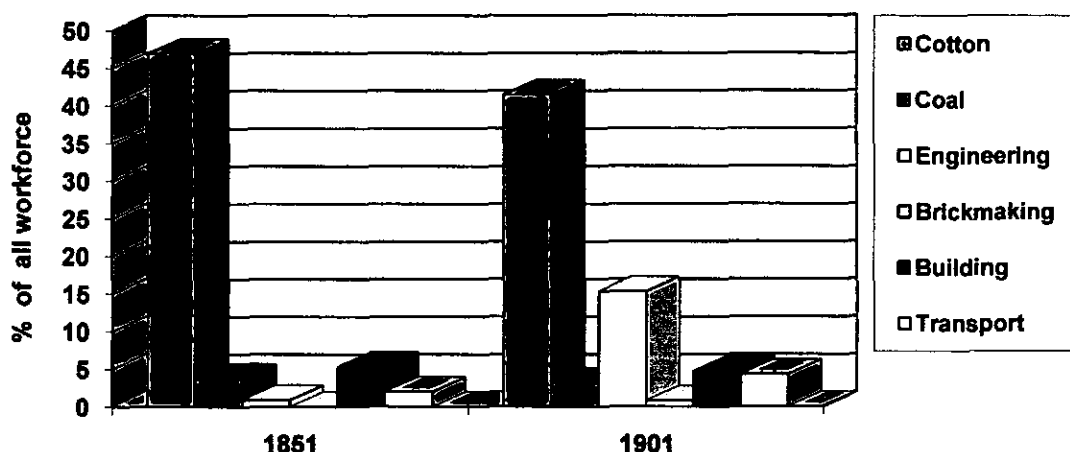
## **CHAPTER 3: INDUSTRIALISATION PATTERNS IN THE ACCRINGTON AREA, 1840s to 1914**

The intention of this section of the thesis is to illuminate the distinctive path of local industrialisation between the 1840s and World War I, rather than to present an exhaustive history of particular sectors. The expansion and transformation of the industrial base, as part of the drive to economic modernity in the trans-Pennine regions of northern England, was one of the most critical dimensions of the entire developmental process during the railway era which is the central concern of this research project. To understand this process, some reference needs to be made to economic activities preceding the railway age, for they set the stage for what happened when rail services arrived. Similarly, the industrial problems of the inter-war period illuminate the nature of the Victorian and Edwardian phases of development, and the scale and limitations of this achievement. The focus of this section will be on patterns and relationships between industrial sectors, local resources and transport innovations. The central contention here is that local industrialisation needs to be viewed as an interdependent, self-sustaining and self-reinforcing dynamic system, not a set of random and disconnected events, even though none of this was “planned” in a conventional sense. Industrialisation had major direct implications for urbanisation patterns in the Accrington district and trade and traffic growth more widely in East Lancashire, and the evidence for both of these inter-related aspects will be presented separately in Chapters 4 and 6, respectively.

### **Industrial structure**

Census data is essential to illuminate the developmental process and of particular importance in this section are the occupational aggregates which provide direct comparative evidence of industrial structure. Fig. 3.1 graphically summarises the main changes in the balance of Accrington’s workforce in six sectors between 1851 and 1901, showing the relative decline in the importance of the cotton industry and the spectacular rise of new sectors like engineering. Tab. 3.1 shows the 1851 totals and percentage shares (in brackets) for sectoral composition, consisting of cotton textiles, non-cotton manufacturing and extractive industries, and personal, consumer and commercial services (ie. the tertiary sector), together with an indication of detailed employment patterns in the cotton industry. Tab 3.1 and the 1851 data in Fig. 3.1 have been compiled from Walter Holmes’ Index for Old and New Accrington, as the townships did not merit a summary table in the 1851 Census report.

**Fig. 3.1: Comparison of Accrington's Industrial Structure, 1851 & 1901**



Sources: Walter Holmes: *1851 Census Index for Old and New Accrington* (Accrington, 1995), Local Studies Collection, Accrington Library, and 1901 Census Report, County of Lancaster, Table 35A, pp. 178-179.

**Tab. 3.1: Occupational Structure of Accrington (Old and New) in 1851**

<i>Cotton Textiles (inc. Finishing)</i>	<i>All Workers (% workforce)</i>	<i>Non-Cotton Industries</i>	<i>All Workers (% workforce)</i>	<i>All Services</i>	<i>All Workers (% workforce)</i>
Master employer & manufacturer	21 (0.4%)	Coal mining	211 (3.7%)	All transport *	112 (2.0%)
Carding & preparatory	132 (2.3%)	Stone quarrying & processing	34 (0.6%)	Domestic service	397 (7.0%)
Spinning	151 (2.7%)	Agriculture	112 (2.0%)	Dressmaking & Seamstress	125 (2.2%)
Weaving	1046 (18.5%)	Mechanical engineering	51 (0.9%)	Teaching	40 (0.7%)
Other factory processes	488 (8.6%)	Metal working & foundry	77 (1.4%)	Tailoring & drapery	166 (2.9%)
Calico printing, inc. engraving	704 (12.4%)	Building & construction	299 (5.3%)	Food, drink & hospitality	152 (2.7%)
Bleaching	48 (0.8%)	Brick making	2 (0.0%)	Professional: law /medicine/church	52 (0.9%)
Dyeing/dyestuffs	65 (1.1%)	Other trades (estimated)	505 (8.9%)	Other services (estimated)	670 (11.3%)
<b>1851 Totals:</b>	<b>2655</b>		<b>1291</b>		<b>1714</b>
<b>Accrington</b>	<b>(46.9%)</b>		<b>(22.8%)</b>		<b>(30.3%)</b>

Source: Walter Holmes: *1851 Census Index for Old and New Accrington* (Accrington, 1995), Local Studies Collection, Accrington Library.

\* 52 railway workers were recorded in 1851, 0.9% of the workforce.

The size of the total workforce in the Accrington townships in 1851 was 5,660, which was 54.6 per cent of the population of 10,374, and the equivalent ratio had barely changed by 1901 at 54.4 per cent. It is evident from this table that the cotton industry was by far the

largest economic sector in 1851, absorbing almost one half of the local labour market, though Accrington never in fact became a stereotypical northern industrial town with an employment structure dominated overwhelmingly by textiles, like Burnley. Within the cotton sector there was considerable diversity, and the importance of the finishing trades is readily apparent, especially calico printing's one eighth share of the workforce. Within the non-cotton sector, the most important industries were building and construction, and coal mining, supporting rapid concentration of local settlement and textile trades in the mid nineteenth century. The nascent, but promising, engineering and metal working industries cannot always be distinguished cleanly in the Census data. The statistics emphasise just how non-agricultural the local economy was in the 1850s, with farming (mainly dairying and sheep-grazing) a marginal 2 per cent of the workforce. The tertiary sector was developing to sustain the needs of the expanding manufacturing economy, and employed about 30 per cent of the local workforce in 1851, with a distinction emerging between business and commercial services such as transport, law and accountancy, and consumer-orientated retail activities, notably tailoring, dressmaking, and food and drink. This sector generated significant employment opportunities for women, especially, but far from exclusively, in domestic indoor service, 7.0 per cent of the 1851 workforce (including 157 housekeepers). The state at both local and national levels intruded minimally on the employment structure, with 1 tax collector, 2 inspectors of buildings or mines, and 3 police officers recorded in 1851, and even the limited educational services available were provided by religious institutions or self-employed teachers. The latter figures highlight how much future economic and social development would have to be led by the voluntary initiatives of the locality rather than the intervention of state agencies.

The 1901 workforce patterns for Accrington, the smaller surrounding towns and the Hyndburn district as a whole, collated from the official summary tables in the Census Report, are selectively summarised in Tab. 3.2 and Tab. 3.3, for male and female employees, respectively, with totals occupied in the major industries and services shown and percentage sectoral shares also calculated. These Census summary tables included separate totals of males and females aged over 10 in each town, and these allow crude gender-specific ratios for the engagement of the employable population in the labour market to be estimated and compared, but it is impossible to disaggregate participation rates further by age, marital status, relationship to head of household or other category without an extensive sampling exercise in the enumerators' returns.



**Tab. 3.2: Male Employment Structure in Accrington & Hyndburn, 1901**

<i>1901 Urban Authority</i>	<i>All Male Workers</i>	<i>Cotton (All)</i>	<i>Finishing Trades</i>	<i>Mechanical Engineering</i>	<i>Coal Mining</i>	<i>Building</i>	<i>Transport</i>	<i>Brick Making</i>
Accrington	14622	3183	1307	3595	754	1100	1014	198
Mun. Borough	100%	21.8%	8.9%	24.6%	5.2%	7.5%	6.9%	1.4%
Church	2116	794	434	249	92	165	149	12
UDC	100%	37.5%	20.5%	11.8%	4.3%	7.8%	7.0%	0.6%
Clayton-le-Moors	2580	748	130	126	509	169	105	155
UDC	100%	29.0%	5.0%	4.9%	19.7%	6.5%	4.1%	6.0%
Gt Harwood	3809	2307	15	80	204	233	135	38
UDC	100%	60.1%	0.4%	2.1%	5.4%	6.1%	3.5%	1.0%
Oswaldtwistle	4581	1752	255	330	582	278	199	53
UDC	100%	38.2%	5.6%	7.2%	12.7%	6.1%	4.3%	1.2%
Rishton	2250	1051	6	49	185	133	133	50
UDC	100%	46.7%	0.3%	2.2%	8.2%	5.9%	5.9%	2.2%
<b>1901 Totals:</b>	<b>29958</b>	<b>9835</b>	<b>2147</b>	<b>4429</b>	<b>2326</b>	<b>2078</b>	<b>1735</b>	<b>506</b>
<b>Hyndburn</b>	<b>100%</b>	<b>32.8%</b>	<b>7.2%</b>	<b>14.8%</b>	<b>7.8%</b>	<b>6.9%</b>	<b>5.8%</b>	<b>1.7%</b>

Source: 1901 Census Report, County of Lancaster, Table 35A, pp. 178-179.

**Tab. 3.3: Female Employment Structure in Accrington & Hyndburn, 1901**

<i>1901 Urban Authority</i>	<i>All Female Workers</i>	<i>Cotton (All)</i>	<i>Finishing Trades</i>	<i>Domestic Service</i>	<i>Dressmaker Seamstress</i>	<i>Food &amp; Drink</i>	<i>Teaching</i>
Accrington	8794	6532	109	563	509	429	212
Mun. Borough	100%	74.3%	1.2%	6.4%	5.8%	4.9%	2.4%
Church	1434	1200	65	55	48	55	17
UDC	100%	83.7%	4.5%	3.8%	3.3%	3.8%	1.2%
Clayton-le-Moors	1688	1388	0	103	69	48	27
UDC	100%	82.2%	0%	6.1%	4.1%	2.8%	1.6%
Gt Harwood	3007	2591	0	166	64	76	42
UDC	100%	86.2%	0%	5.5%	2.1%	2.5%	1.4%
Oswaldtwistle	3025	2586	6	83	83	87	54
UDC	100%	85.5%	0.2%	2.7%	2.7%	2.9%	1.8%
Rishton	1640	1361	0	58	82	45	25
UDC	100%	83.0%	0%	3.5%	5.0%	2.7%	1.5%
<b>1901 Totals:</b>	<b>19588</b>	<b>15658</b>	<b>180</b>	<b>1028</b>	<b>855</b>	<b>740</b>	<b>377</b>
<b>Hyndburn</b>	<b>100%</b>	<b>79.9%</b>	<b>0.9%</b>	<b>5.2%</b>	<b>4.4%</b>	<b>3.8%</b>	<b>1.9%</b>

Source: 1901 Census Report, County of Lancaster, Table 35A, pp. 178-179.

The cotton industry remained the largest employer in all the towns of the Hyndburn sub-region throughout the railway era, and it clearly dominated the labour market in Great Harwood, Oswaldtwistle and Rishton if female workers are included. In Clayton-le-Moors, Oswaldtwistle and Rishton, coal mining was the second largest source of employment. In Accrington cotton employed 9,715 men and women in 1901, which at 41.5 per cent of the total workforce (23,416) denoted a relative decline from 1851, and it is notable that the

textile finishing trades - calico printing, bleaching and dyeing - were concentrated here and in Church and Oswaldtwistle. However in Accrington the industrial base was much more diversified than in the smaller towns, and mechanical engineering had grown spectacularly since 1851 to provide about 25 per cent of male employment in 1901, which outstripped cotton's contribution of slightly over 20 per cent, and the sector generated better-paid, skilled jobs. The 1911 Census demonstrates the continued expansion of engineering (4,016 men, or 25.5 per cent of the male workforce), cotton (3,369 men, or 21.4 per cent), and coal (807 men, or 5.1 per cent), though there was little change in the relative balance of Accrington's "core" industries from 1901.<sup>1</sup> Brick making had emerged rapidly during the 1890s from a negligible base in the mid nineteenth century (when only 2 workers were recorded), though it was not a large employer in any of the towns except Clayton-le-Moors. The data also underlines Accrington's role as a centre of transport services for the district, with over 1,000 workers, or about 7% of the male workforce, in this sector. In 1911, 408 (or 2.6 per cent) of Accrington's men worked on the railways, and 509 (or 3.2 per cent) on the roads. Building and construction was a major employer in all of the expanding towns of the district, its contribution mainly reflecting the absolute size of the urban population.

Altogether, 14,622, or 89.4 per cent, of Accrington's 16,364 males aged over 10 were recorded as being in employment in 1901, and crude male participation rates were consistently very high across the Hyndburn district, averaging 88.7 per cent (a total workforce of 29,958 out of 33,762 employable males). A notable feature of the employment structure of the towns in East Lancashire was the high crude female participation rates, particularly, it appears, for unmarried women. Throughout Hyndburn in 1901, 19,588 of 38,168 females aged over 10 were engaged in the labour market, an average participation rate of 51.3 per cent, and rates in the small towns were sometimes considerably higher, reaching 55.3 per cent in Rishton and 60.3 per cent in Great Harwood. In Accrington there were 6,525 unmarried females, and 2,269 married or widowed women, recorded as being in employment in 1901, 47.9 per cent of all females aged over 10 (18,353). The cotton industry, especially weaving, was responsible for about 80 per cent of all female labour in Hyndburn, and an extraordinary 86 per cent in Great Harwood. This pattern is consistent with the national evidence of the growing importance of female labour in the cotton industry, which provided 48 per cent of all women employees in 1835 and

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<sup>1</sup> 1911 Census Report, County of Lancaster, Lancashire Record Office (LRO).

nearly 61 per cent by 1907.<sup>2</sup> Moreover, Michael Anderson noted that the Lancashire cotton industry employed huge numbers of women and girls and in 1851 across the county was responsible for nearly 38 per cent of all the adult women in employment, while in Preston alone 53 per cent of them were engaged in cotton manufacture.<sup>3</sup> In Hyndburn domestic indoor service was much less popular, averaging 5.2 per cent of the female workforce, while dressmaking, millinery and sewing, laundry and washing work, food, drink and hospitality, and teaching, provided a smattering of largely traditional employment, or self-employment, opportunities for local women, especially in the growing tertiary sector of the larger towns.

### **Cotton textiles**

During the eighteenth century the traditional domestic woollen industry had shown solid if undramatic progress at dispersed locations on the Rossendale uplands.<sup>4</sup> By the early nineteenth century it had been displaced by cotton manufacture, with a handful of carding and jenny mills located on water-power sites by steady-flowing moorland streams, eg. Woodnook Water and Warmden Brook. The Accrington district had from the 1760s been an important centre of technological innovation in the cotton industry, with pioneering and well-known developments of the spinning jenny by James Hargreaves at Stanhill, and block and later cylinder printing of calicoes by Robert Peel at Brookside and Foxhill Bank, Oswaldtwistle. By 1800 seven mills were recorded in the two Accrington townships. Communities of handloom weavers organised on a putting-out basis had multiplied at dispersed sites like Green Haworth, Huncoat and Manchester Road. Converted fulling mills, dyehouses and barns from the woollen era were used to centralise supply, finishing and warehousing functions. The trans-Pennine commercial links with the West Yorkshire woollen (and worsted) textiles economy dominated the textiles sector in East Lancashire and were critical for wider economic growth in the eighteenth century, and these links were maintained in the cotton era. Their importance is shown by the fact that woollen manufacture lingered much longer during the nineteenth century in more peripheral easterly locations in and around the upper Irwell Valley, and in the Pendle area around Colne.

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<sup>2</sup> Geoffrey Timmins: *Made in Lancashire: A History of Regional Industrialisation* (Manchester University Press, 1998), p. 226. As early as 1818, women comprised over half the national workforce in cotton factories (ibid, p. 135). See also J. Randall: *Women in Industrialising Society: England, 1750-1880* (Oxford University Press, 1990).

<sup>3</sup> M. Anderson: *Family Structure in Nineteenth Century Lancashire* (Cambridge University Press, 1971), pp. 22, 25. Preston's occupational structure was typical of Lancashire's towns.

<sup>4</sup> G.H. Tupling: *Economic History of Rossendale* (Chetham Society, Manchester, 1927), especially Chapter VI.

From the 1820s the advent of steam-powered mechanisation which exploited local coal reserves resulted in a migration of weaving and spinning factories to the limited supply of flatter land in valley bottoms, especially around the River Hyndburn. Access to reliable water supplies was still required by the new steam-driven factories for boiler feed and condensing purposes. The pioneer was Higher Grange Mill, opened in 1821 by Robert and Thomas Sykes who had previously co-ordinated and financed “putting-out” to handloom weavers. The mill was an interesting transitional development in this sense, and also in employing both steam and water power. Like most of the factories built during the following two decades, it integrated spinning and weaving operations under one roof. The most spectacular mill from this period was Broad Oak, an imposing four-storey structure built from locally-quarried sandstone (supplied by inclined tramroad from Higher Antley) and opened in 1837 by the Hargreaves brothers, local landowners who had prospered as calico printing entrepreneurs. By 1850, this integrated operation employed 755 workers. Four other smaller steam-powered mills were added in the 1840s, so that nine factories were operating in the Accrington townships when the railways arrived. Cotton’s growth was supported by important innovations in the local finishing trades: machine printing of calicoes at Broad Oak in Warmden Clough (from 1816), Plantation Mill (c. 1810) and at Baxenden (c. 1820), mechanised and steam-powered bleaching operations and later chemical manufacture at Hagg (c.1807) and Whitecroft (c.1820), and dyestuff processing and manufacture at several sites, using Frederick Steiner’s Turkey Red (from the 1830s) and later John Mercer’s patented “mercerisation” process. Hence there was considerable diversification and complementary activity within the local cotton textiles sector before the railway age, forming a distinctive industrial mini-district cemented by direct internal backward and forward linkages, and this was probably encouraged by the relatively high transport costs of extended supply and finishing chains. Furthermore, as Mary Rose observes more widely in Lancashire, informal partnerships of family firms and loose community-based “networks of trust” minimised transaction costs and the risks and uncertainties associated with a highly competitive cotton industry.<sup>5</sup>

The railway era after 1848 saw major development of this well-established industry. There was a significant investment boom in Accrington between 1850 and 1856, when 14 mills opened, 9 of which specialised in weaving. The largest was Melbourne Mill, erected

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<sup>5</sup> Mary B. Rose: *Firms, Networks and Business Values: The British and American Cotton Industries since 1750* (Cambridge University Press, 2000), Chapter 3, esp. pp. 65, 70, 74. She notes: “The development of networks and behaviour of individuals depended upon the social composition of their membership and the structure of the surrounding community” (ibid, p. 70).

in 1853-4 and which employed 1100 looms, 2 beam engines and 600 workers by the 1870s. The trade recession of the late 1850s temporarily interrupted new projects, which resumed in 1860 when two weaving sheds and one integrated operation were completed. The Cotton Famine then resulted in a serious slump in building activities in the early 1860s, although innovative public companies which attracted capital from small local investors, similar to the famous “Oldham Limiteds”, launched two projects. Ten new mills, including eight weaving sheds, were opened between 1865 and 1900. There was a final bout of weaving investment by limited liability companies, such as the Accrington Mill Building Company, which specialised in factory construction and leasing and which mobilised local pools of capital. Three medium/large mills were added between 1905 and 1913 (Peel, Queen and Hambledon), bringing Accrington’s pre-war totals to a zenith of 49 factories built and 36 operational sites.<sup>6</sup> Tab. 3.4 summarises the chronological development of Accrington’s cotton industries up to 1914, differentiating newly-opened factories by function – spinning, weaving, finishing, or integrated operations. Detailed information about the chronology of these textile sites, including the succession of functions, is available in Appendix A.

**Tab. 3.4: Chronology of Cotton Textiles Development in Accrington Area**

<i>Period</i>	<i>Spinning Mills built</i>	<i>Weaving Sheds built</i>	<i>Integrated Mills built</i>	<i>Finishing Works built</i>	<i>Ceased operation</i>	<i>Operational sites in total</i>
Pre-1820	7			4	1	10
1820-29			1	1		12
1830-39			2		1	13
1840-49		1	2			16
1850-59		9	5		2	28
1860-69	1	5	1	1	2	34
1870-79		2				36
1880-89		1			1	36
1890-99	1	2			3	36
1900-14		3			3	36
<b>Totals:</b>	<b>9</b>	<b>23</b>	<b>11</b>	<b>6</b>	<b>13</b>	<b>(cumulative)</b>

*Source:* Mike Rothwell: *Industrial Heritage: A Guide to the Industrial Archaeology of Accrington* (Accrington, 1979)

Tab. 3.4 suggests clear patterns of investment, with spinning and calico printing pioneering development in the early days, followed by the era of integrated production after

<sup>6</sup> See Mike Rothwell: *Industrial Heritage: A Guide to the Industrial Archaeology of Accrington* (Accrington, 1979) for most of this chronology of development. There were 50 factories built and 37 working sites by 1914 if the two Woodnook Spinning Mills operated jointly by the Accrington Cotton Spinning and Manufacturing Co. (1861) Ltd. (the “Co-op”) are counted as separate units.

1820, and then the spectacular mid-Victorian boom in specialised weaving sheds after the arrival of the railway, even though these three stages overlap to some extent. New weaving investments were sustained at a less frenetic pace from 1870 to the eve of World War 1, when some of the existing integrated units decided to concentrate on weaving, which meant that spinning declined in importance. If anything, the table understates the growth of “cotton” Accrington because it tells us nothing about the overall scale of operations at each textile site identified. The final generation of weaving sheds like Peel Mill (1905), with 1232 looms and 500 employees, overshadowed the size and capacity of a typical 1850s development like Paxton Mill, which had 489 looms and 252 operatives by 1883. However, coherent time-series data on both the installed capacity (spindles and looms) and the output of Accrington’s cotton industry is apparently unavailable, so the number of factories has to serve as a proxy for the general trends.

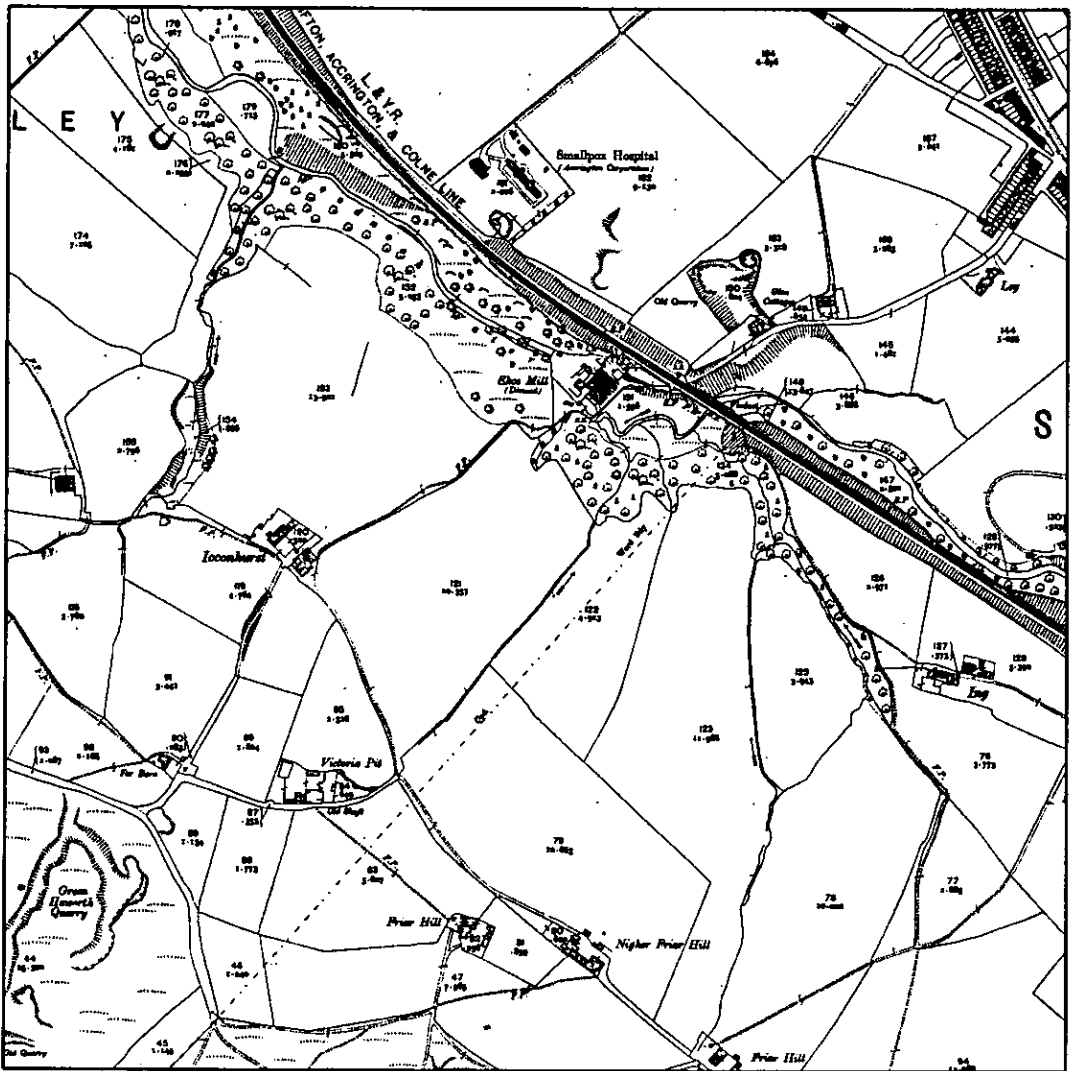
The railway tended to pull industrial location westwards from the original nucleus around the River Hyndburn. Eventually a heavily built-up corridor formed extending for about 1 mile from Accrington to Church where the majority of new mills were concentrated (see the OS maps in Chapter 4, Fig. 4.3 and Fig. 4.4, depicting the mid 1840s and early 1890s, respectively, to compare sites of cotton and other industrial sectors, together with associated settlement clusters). There is no evidence that any local cotton factories created direct rail links via industrial sidings, but they were located close to goods facilities at Accrington station, permitting easy access for local carriers. One significant reason why local cotton mills declined to invest in their own railway sidings and relied instead on road feeder services was that the physical infrastructure of the radiating arms of the T-shaped rail network was elevated at least 15 feet above ground level in the urban landscape, and much more than this around Accrington Viaduct. William Woodruff, in his popular autobiographical account of his Blackburn childhood, *The Road to Nab End*, provided striking “unwitting testimony” of how efficiently integrated short-distance horse-drawn road haulage was with longer-distance rail freight services to benefit East Lancashire’s hard-driven cotton industry, as late as the 1920s:

“ By mid-morning the stream of clogs had been replaced by a stream of horse-drawn carts, clippety-clopping their way to the railway station with mountains of grey cloth. The long columns ...passed within an arm’s length of our front door...With marked regularity the buckles smacked against the sides. The journey to the station was a race in which the whip was not spared.”<sup>7</sup>

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<sup>7</sup> William Woodruff: *The Road to Nab End* (Abacus, London, 2002), pp. 10-11.

**Fig. 3.2: Shoe Mill site, Baxenden (EDINA Digimap Tile 19sd7626)**



*Source:* OS County Series 1:2500 (Lancashire and Furness), 2<sup>nd</sup> Edition, published 1911

The history of Shoe Mill in Baxenden underlines the importance of accessibility to the railway. It was an early (pre-1800) water-powered spinning factory located in an isolated spot in the upper reaches of Priestley Clough, by Woodnook Water, as depicted on Fig. 3.2 (EDINA Digimap).<sup>8</sup> The arrival of the railway seemed to herald progress and prosperity for the mill, which in 1852 was re-constructed and leased to the celebrated textile machinery inventor and entrepreneur, James Bullough. It acquired a loomshop with 98 looms and a steam engine to complement its water-wheel. In the 1850s this small mill was apparently used as a test-bed by Bullough for his innovations such as the “Slasher” sizing machine. However a fire in 1860 resulted in closure, partial re-opening for rubber manufacture and

<sup>8</sup> Fig. 3.2, Fig. 3.3 and Fig. 3.5 are extracted from the EDINA Digimap database of historical OS maps. © Crown Copyright and Landmark Information Group Limited, 2009. All rights reserved.

piecemeal demolition which reduced the building to a ruin after 1880.<sup>9</sup> Why was no attempt made to re-start cotton manufacture on the site after the fire? Why did industrial activity retreat from the upper valley, despite the early promise? The simple fact was that Shoe Mill was too distant (over 2 miles) from the transport hub at Accrington station. The irony was that the line from Manchester ran adjacent to the mill, but the difference in vertical levels at this point in the valley (about 40 feet) made direct rail access impracticable. Investment in lifting mechanisms and widening of the trackbed to bring goods from the valley floor to a high-level railway siding was difficult to justify given that the cramped site limited the scope to expand the mill's operations further. This surprising example of a factory which was bypassed by rail infrastructure despite what appears to be a line-side site underlines the importance of the detailed local topography and spatial constraints, which make generalisations about the railway's relationship with industrial investment based on simple mapping of sites hazardous and, at times, misleading.

The marked shift from integration of spinning and weaving to concentration on weaving after 1850 remains to be explained.<sup>10</sup> It may be argued that the arrival of the railway in East Lancashire enabled and perhaps induced a geographical separation of "cotton" Lancashire into specialised weaving and spinning belts, along the lines of comparative advantage. Transport costs appear to have been an insignificant proportion of yarn and total costs, around 1 per cent and 0.5 per cent respectively. Bury Brothers ran two medium/large weaving mills in Accrington (Union and Fountain) – their ledger, stock and investment accounts for 1866-1923 are preserved at Lancashire Record Office.<sup>11</sup> Carriage costs fluctuated between £668 8s (Jan-Jun 1910) and £988 8s (Jul-Dec 1913), but averaging £770 - £780 per half-year in the 1907-1914 era, with little evidence of an inflationary trend in the medium term. Unfortunately railway freight charges were not recorded – the carriage cost entries are not disaggregated. Yarn costs were £83,274 3s in Jan-Jun 1907 and £87,413 5s in Jan-Jun 1913, with total expenses being £147,495 18s and £159,329 7s, respectively. Transport costs were 0.53 per cent of total costs in both half-years and 0.94 - 0.96 per cent

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<sup>9</sup> M. Rothwell, *op. cit.*, p.8. The interpretation of Shoe Mill's demise is mine, derived from site observations.

<sup>10</sup> The historical debate between L. Sandberg and W. Lazonick has focussed on the *consequences*, not the *causes* of vertical disintegration. See A. Marrison: "Indian Summer, 1870-1914", in Mary B. Rose (ed.): *The Lancashire Cotton Industry: A History since 1700* (Lancashire County Books, Preston, 1996), pp. 253-263.

<sup>11</sup> Bury Brothers: Private Ledger, 1866-1923, Private Stock Book, 1901-1923, DDX 812, LRO.



of yarn expenses. Tab. 3.5 summarises the cost trends and ratios for these two representative weaving sheds between 1907 and 1914:

**Tab. 3.5: Cost Structure of Bury Brothers' Union & Fountain Mills, 1907-1914**

<i>Half-year</i>	<i>Carriage Costs</i>	<i>Yarn Costs</i>	<i>Wage Costs</i>	<i>Total Costs</i>	<i>Carriage/ Total Costs</i>
Jan-Jun 1907	£782 14s	£83274 3s	£22305 14s	£147495 18s	0.53%
Jul-Dec 1907	£672 3s			£143512	0.47%
Jan-Jun 1908	£649 16s			£125507 6s	0.52%
Jul-Dec 1908	£542 11s			£109118	0.50%
Jan-Jun 1909	£886 9s	£70457 8s	£22227 1s	£137386 14s	0.65%
Jul-Dec 1909	£727 5s			£137486 3s	0.53%
Jan-Jun 1910	£668 8s			£138702 10s	0.48%
Jul-Dec 1910	£760 1s			£143625/7s	0.53%
Jan-Jun 1911	£840 1s	£86899 10s	£21105 4s	£152063 11s	0.55%
Jul-Dec 1911	£859 5s			£155744 1s	0.55%
Jan-Jun 1912	£827 3s			£138156 18	0.60%
Jul-Dec 1912	£943 5s			£150485 1s	0.63%
Jan-Jun 1913	£840 11s	£87413 5s	£22888 5s	£159329 7s	0.53%
Jul-Dec 1913	£988 8s			£174481 2s	0.57%
Jan-Jun 1914	£692			£172625 3s	0.40%
Jul-Dec 1914	£678 5s			£135686 11s	0.50%
<b>Averages:</b>	<b>£772 8s</b>	<b>£82011 2s</b>	<b>£22131 11s</b>	<b>£145087 17s</b>	<b>0.53%</b>

*Source:* Bury Brothers' General Trade Account, Jun 29, 1907 – Feb 27, 1915, DDX 812, LRO

Relatively low transport charges, therefore, discouraged internal integration of spinning and weaving, but encouraged specialised weavers to obtain yarn supplies within and between the Lancashire sub-regions, from Blackburn, Bolton, Oldham and other spinning centres. Time savings were more significant than savings in direct transport costs for flows of both material inputs and finished products. It may be suggested that rapid rail freight services uniquely permitted “just-in-time” logistics and minimised working capital embodied in stock inventories within the cotton industry. It is highly significant that the Lancashire & Yorkshire Railway proudly boasted that it could collect spun yarn from customers in the morning and return it to them as finished cloth by the evening. Indeed, the railway ran several sharply-timed intermediate-haul freight services within and beyond East Lancashire every weekday, designated as “Express Goods” in their working timetable, such as one train which in 1869 left Accrington at 10.40am and arrived in Salford at 12.35pm, and another train which departed from Sandhills (Liverpool) at 9.45pm and reached

Accrington by 11.45pm.<sup>12</sup> Hence the sophisticated and integrated transport system (including horse-drawn road cartage) meant that production of yarn and cloth could be co-ordinated geographically without the necessity to internalise all the processes within the same firm. It is highly likely that “cotton” Lancashire pioneered these time-sensitive logistical systems during the railway era, well before the Japanese made them fashionable, and that its local economies simply could not have functioned as efficiently or at all without high-speed freight services on the rail network. Time was money in Victorian Lancashire.

### Coal mining

Coal provided an initial opportunity for rapid economic growth because the outcropping of the Upper Mountain Mine (UMM) and Lower Mountain Mine (LMM) on the northern flanks of the West Pennine Moors made reserves readily accessible and cheap to exploit. However, seams were relatively thin (up to 3 feet depth) and heavily faulted, so that production costs rose sharply once the easily-worked deposits were exhausted.<sup>13</sup> This acted as a long-term constraint on the development of East Lancashire’s mining industry and a deterrent to extensive investment in a marginal coalfield. Coal mining grew in tandem with the spread of steam-powered technologies in the Accrington area, so forming the classic combination of textiles and extractive industries which characterised Lancashire’s industrial “take-off”. Before the steam age, as Tupling says, the local industry was “of minor importance”.<sup>14</sup> Eighteenth-century workings were sporadic and short-lived, concentrated along remote moorland valleys like Priestley and Tag Cloughs where seams were exposed. The organised exploitation of coal reserves dates from the early nineteenth-century when three companies acquired the leases and copyhold rights in the Manor of Clitheroe: Hargreaves, Ashworth and Co., founded in 1805, who were active in Accrington, Baxenden and Rossendale; the Altham Colliery Co., which was operating in the village before 1824; and Simpson and Young, who developed mining in Oswaldtwistle after 1837.<sup>15</sup> Initially, shallow drifts and bell-pits multiplied as the local market for domestic and industrial coal expanded, but by the mid-nineteenth century deeper, larger-scale and more capital-intensive operations were necessary. An example was Baxenden New Pit,

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<sup>12</sup> L & YR Working Timetable, 1 Nov 1869, National Railway Museum (NRM).

<sup>13</sup> A.E. Trueman: *Geology and Scenery in England and Wales* (Pelican Books, Harmondsworth, 1972 revised), chap. 12, and Geological Map: Rochdale, Sheet 76, 1 inch/mile (OS published for Institute of Geological Sciences, 1971) display cross-sections of the structure of the Rossendale Forest Anticline.

<sup>14</sup> G.H. Tupling, *op.cit.*, pp.226-227.

<sup>15</sup> J. Nadin: *Coal Mines around Accrington and Blackburn* (Northern Mine Research Society, Keighley, 1999), pp. 10-12.

developed from 1846 in association with the building of the railway from Manchester to Accrington. Railway Pit, as it was known, had a 194 ft shaft to the LMM, as well as drift workings in the UMM from Manchester Rd. At Broadfield, Thomas Simpson sank a shaft 191 ft deep to the LMM in 1848. An industrial tramroad carried some of the coal to Moscow Mill, Oswaldtwistle. Great Harwood Pit had two shafts 200 ft and 110 ft deep sunk to the LMM in 1856. Scaitcliffe Pit reached the UMM in Accrington with a 186 ft shaft in 1859, later deepened to the LMM at 540 ft.<sup>16</sup>

By the late-nineteenth century, firms were investing heavily in sophisticated deep-mining techniques and plant, with the introduction of fan ventilation, powerful compound winding and pumping engines, and longwalling to replace the traditional pillar-and-stall method in the largest collieries. Huncoat colliery had two shafts 852 ft and 871 ft deep sunk to the UMM and LMM in 1889-92. Moorfield in Altham reached the UMM and LMM with two shafts at depths of 852 ft and 871 ft in 1881.<sup>17</sup> The Moorfield and Whinney Hill complex employed 300 miners in the early twentieth century. The Hargreaves and Co's Calder Colliery in Altham was the final major development, with a 1000ft shaft to the LMM in 1903-08, but flooding problems delayed construction and restricted output. By this time the mining firms had demonstrated considerable ingenuity and adaptability in meeting the diverse needs of domestic and industrial consumers: fireclay; benzol; coal-gas, supplied from Moorfield colliery to local brick makers; high-value anthracite; cheap engine slack (which dominated the output of the Great Harwood collieries).<sup>18</sup> An important specialist product was coke.<sup>19</sup> A major customer was the railway itself, because early steam locomotives burned coke, not coal. Bee-hive ovens were built at Railway Pit, Baxenden, in 1850 (probably to supply the East Lancashire Railway directly), Aspen colliery, Church, about 1869 (where the extensive remains are preserved), Town Bent pit in Oswaldtwistle, about 1890, Moorfield in Altham in 1885, Huncoat colliery in the early 1890s, and Martholme (Great Harwood), about 1912.

There were several rail-served collieries in the district, either by short sidings from the main Blackburn-Burnley and Accrington-Haslingden lines, or by complete industrial rail systems in the Huncoat and Altham area. The following sites are known to have had direct

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<sup>16</sup> Ibid, and M. Rothwell, op.cit., pp. 21-27.

<sup>17</sup> An underground gas explosion at Moorfield colliery in 1883 killed 64 miners, the worst industrial tragedy in the "Hyndburn" district.

<sup>18</sup> Sales Book, Martholme Colliery, Feb 1866-Mar 1867, fortnightly summaries, CYC 2/17/LRO.

<sup>19</sup> F.K. Illingworth: *History of Coke-Making in NE Lancashire* (Accrington, n.d.).

rail connections: Railway, Hole-in-the-Bank and Victoria pits in Baxenden; Aspen colliery in Church, which also had loading facilities on the Leeds and Liverpool canal; Martholme pit near Great Harwood; Huncoat and Moorfield collieries, which shared an extensive industrial rail network with the brickworks, as shown on Fig. 3.3 (EDINA Digimap).

**Fig. 3.3: Industrial Railways around Huncoat (EDINA Digimap Tile 19sd73se)**



*Source:* OS County Series 1:10560 (Lancashire and Furness), 3<sup>rd</sup> Edition, published 1912-1914

However, the mines developed by the Altham Colliery Co. in the earlier nineteenth century show a different pattern, with tramroads running to staithes on the Leeds and Liverpool canal.<sup>20</sup> The largest pits used their own railway wagons, as confirmed by the fact that George Hargreaves & Co spent £33 8s on repairing its stock of wagons in the half-year up to 1895 and valued them at £843 3s in March 1896, and in 1916-17 the firm spent £59 12s

<sup>20</sup> Ordnance Surveys, 1890-91 and 1909 (1:10560 scale). Also M. Rothwell, *op.cit.*, p. 28.

on railway wagon wheels, forgings and springs and £751 10s altogether on the Huncoat Railway Department.<sup>21</sup>

What explains the contrast with cotton's absence of direct rail connections? Transport costs were a much higher proportion of total expenses for bulky commodities like coal. Direct rail linkages, using proprietary rolling stock, eliminated transshipment and transfer costs, and minimised handling charges. Another important reason was that industrial sidings were much more practicable at many colliery sites over one mile distant from Accrington centre, where the rail infrastructure was more nearly level with the ground. As with cotton sites, the detailed local topography shaped industrial transport systems on the coalfield. Railways therefore became vital for bulk commodity flows to wider markets, expanding coal output and sales up to World War 1. In April 1870, the five pits operated by G. Hargreaves and Co. in the Accrington area (Railway, Woodnook, Victoria, Hole-in-the-Bank, Cat Hall) sold 12,815 tons 3 cwt of coal worth £3,971 14s. In March 1887 output and sales had grown slightly to 13,048 tons 18 cwt and £4,058 18s respectively. By April 1916 Woodnook, Broad Oak, Scaitcliffe, Huncoat and Calder collieries were producing 19,171 tons 15cwt of coal earning revenue of £15,434 14s. Total output and sales in the financial year 1916-17 were 248,896 tons 14 cwt and £199,933 1s, a considerable increase on 1889-90's totals of 120,421 tons 16 cwt and £47,698 2s, respectively.<sup>22</sup> Unfortunately, no figures are available for the intervening Edwardian period, so it is impossible to say exactly when the output and revenue of Accrington's mines reached their zenith, although it is known that Lancashire mining production as a whole peaked at 26,184,033 tons in 1907, more than trebling over 50 years (1858: 8,000,000 tons).<sup>23</sup> Price data, calculated from the above tonnage and revenue totals, show no clear direction for the 1870-90 period, and high inflation is evident during World War 1 (1870: 31p per ton, 1885: 32p per ton, 1917: 87p per ton).

In contrast, the mining industry in the Blackburn area apparently collapsed in the mid-nineteenth century because railways brought in cheap coal from Wigan and the South

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<sup>21</sup> G. Hargreaves and Co. Ltd: Revenue Account, Accrington District, 1895-1921, NCHa 1/1, LRO. The fact that this colliery company should maintain an in-house railway operation suggests a desire to control and contain costs.

<sup>23</sup> G. Hargreaves & Co: Coal Ledger, Rossendale and Baxenden, 1870-1890, NCHa 2/1, LRO, and Coal Account, Accrington District, Apr.1916-1932, NCHa 2/2, LRO.

<sup>24</sup> J. Lane & D. A. Anderson: *Mines and Miners of S. Lancashire, 1870-1950* (Anderson & Lane, Parbold, n.d.), Introduction.

Lancashire coalfield, undercutting high-cost local producers.<sup>24</sup> For example, the Cunliffe collieries at Little Harwood were abandoned in the mid-1840s, though it was still economical to use them for fireclay extraction, and attempts to re-start production with deeper shafts in the Little Harwood and Whitebirk areas during the 1870s and 1880s were short-lived and unprofitable.<sup>25</sup> By 1901 there were 754 miners recorded as resident in Accrington Municipal Borough, 5.2 per cent of the total male workforce. The equivalent figures for Blackburn were only 253 and 0.6 per cent, respectively.<sup>26</sup> Why was Blackburn's mining collapse not reproduced in the Hyndburn area around Accrington, despite their similar geological conditions and geographical proximity? Accessible reserves around Accrington were less intensively exploited before 1850, so production could be sustained without sharp rises in labour and capital costs. The combination of containable costs, strong and rising local demand, and the market opportunities opened up by rail services then gave firms in the district the incentive to invest incrementally in deep-mined production. The comparison of Blackburn's and Accrington's mining histories reveals the different trajectories of their industrial development, which makes the timing of the arrival of railways a critical issue for economic historians. If railways had reached Accrington significantly before or after the 1840s, there would have been little incentive to develop local reserves and the town would have become a coal importer like Blackburn rather than a site of growing coal production and investment.

Before the railway era high transport costs in districts not penetrated by canals severely restricted the catchment area served by mining companies. For example, in the mid-1860s, before the area had direct rail connections, most of the customers for the output of Martholme colliery came from within an 8-mile radius of Great Harwood, and nearly all the production of Great Harwood colliery was consumed within the township itself.<sup>27</sup> The limited catchment areas and delivery loads of mines without direct rail or canal links is evident from Tab. 3.6, showing extracts from the daily Sales Ledger of Martholme colliery:

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<sup>24</sup> L.W. Thomason: *The Growth and Decline of the Blackburn Coal Industry* (Blackburn, n.d.), p.59. However there is little statistical evidence to support this contention, or that flagstone, gritstone and fireclay output expanded at ex-coalmining sites.

<sup>25</sup> Mike Rothwell: *Industrial Heritage: A Guide to the Industrial Archaeology of Blackburn* (Hyndburn Local History Society, 1986), p.11. Rothwell notes that the peripheral Blackburn mines, like Lower Darwen colliery, on the boundary with Oswaldtwistle, were more successful than the town centre sites.

<sup>26</sup> 1901 Census Report, County of Lancaster, Table 35A, p.178. The 1901 figures for Burnley were 2510 & 8.2%.

<sup>27</sup> Sales Ledgers, Martholme Colliery, 1866-67, CYC 2/17, LRO, and Great Harwood Colliery, 1865-67, CYC 2/18, LRO.

**Tab. 3.6: Martholme Colliery Sales, around Great Harwood, 1 June 1866**

<i>Customer</i>	<i>Location</i>	<i>Weight</i>	<i>Grade</i>	<i>Price (ton)</i>
Hindle Hunter & Co	Sabden	3t 12cwt	Mixed	7s 6d
Bleakley & Mitchell	Primrose (Mill?)	5t 13cwt	Slack	5s 6d
Solomon Longworth	Whalley	7t 17cwt	Slack	5s 6d
William Thompson	Billington	1t 2cwt	Best	9s 2d
Thomas Mercer	Holden	1t	Best	9s 2d
Jabez Saunderson	Bolton	1t 3cwt	Best	9s 2d
Bleakley & Mitchell	Primrose (Mill?)	2t	Slack	5s 6d
William Gerred	Gt. Harwood	1t	Mixed	7s 6d
John Hargreaves	Clitheroe	1t	Mixed	7s 6d
John Howarth	Billington	18cwt	Mixed	7s 6d
James Peel	Pendleton	1t	Mixed	7s 6d
Adam Howard	Bashall	16cwt	Mixed	7s 6d
Joseph Baines	Chipping	12cwt	Mixed	7s 6d
Henry Holden	Dutton	18cwt	Mixed	7s 6d
William Sagar	Waddington	1t 1cwt	Mixed	7s 6d
William Ireland	West Bradford	1t 4cwt	Mixed	7s 6d
Harrisons, Camidge & Co	Sabden	1t	Slack	5s 6d
Thomas Hayhurst	Clitheroe	1t 5cwt	Mixed	7s 6d
James Green	Whalley	18cwt	Best	9s 2d
Edward Eccles	Oakenshaw	1t 2cwt	Mixed	7s 6d

*Source:* Sales Ledger, Martholme Colliery, 1866, CYC 2/17, LRO.

Railways widened markets geographically within Lancashire, but it is unlikely that much locally-produced coal was “exported” from the county, given the high local demand. The precise nature of coal markets in the railway era, and the split between local and regional consumption, eludes identification from available records. It is certain, however, that railways generated new short-haul traffic flows for coal within East Lancashire, with scope for intermediate-haul services to destinations beyond. On the East Lancashire Railway’s public timetable for January 1858, coal trains are indicated as running short distances in both directions on the Accrington-Salford route, for example, a service which left Ramsbottom at 3.20pm, stopped in Bury briefly, and arrived in Ringley Road at 4.30pm. Another coal train departed from Preston at 7.30am for Ormskirk, arriving at 8.30am. The evening coal service on this section left Ormskirk at 8.45pm and returned to Preston at 9.30pm.<sup>28</sup> These services were continued by the Lancashire and Yorkshire Railway whose working timetable for November 1869 covering its East Lancashire division specified several coal trains (or mixed coal and general merchandise), eg. one which left Accrington

<sup>28</sup> ELR 1858 timetable, RAIL 981/74, Public Record Office (PRO). Unusually, this timetable published both passenger and goods services.

at 12.35pm and arrived in Ramsbottom at 1.10pm. The service then left Ramsbottom at 2.15pm and returned to Accrington at 3.30pm. Another coal train is shown as leaving Accrington at 5.25pm and arriving in Colne at 5.55pm, which is remarkably swift, though there is some uncertainty in the source about the precise nature of this service.<sup>29</sup> In summary, railways provided a sophisticated minerals transportation system which both expanded the local market base of the mining firms and stimulated them to seek out and win new and more distant customers, including the railway companies themselves.

### **Mechanical Engineering**

Although in popular (and some historians') perceptions the East Lancashire economy was uniformly dominated by cotton, in the long term mechanical engineering became the most significant of Accrington's industries. Cotton remained the largest employer throughout the railway era, though not for Accrington's men by 1901, as already shown. However, engineering had a huge impact on the local economy in terms of value-added production, high male wage levels and general wealth creation, and by World War 2 it outstripped cotton in employment terms too. Mechanical engineering became much less significant in both absolute and relative terms in the neighbouring towns of Blackburn and Burnley. Whereas in Accrington in 1901 24.5 per cent of the male workforce was employed in engineering, the comparable proportions for Blackburn and Burnley were 8.6 per cent and 6.3 per cent, respectively, and the differences widened further during the inter-war period.<sup>30</sup> Hence their industrial structures and labour markets were overwhelmingly driven by cotton, making them more vulnerable than Accrington to world trade cycles and the rise of overseas competition. Much is still obscure, however, about the origins and pattern of diffusion of the engineering industry within Lancashire's textile districts in the first half of the nineteenth century, though it is well-known that the Manchester area was an early centre of innovation and enterprise in tool making and general machine building, which was associated with James Nasmyth, Richard Roberts and Joseph Whitworth in particular. There is clear evidence in Accrington of organic growth of engineering from cotton, with railways accelerating and amplifying the connections.

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<sup>29</sup> L & YR Working Timetable, 1 Nov 1869, National Railway Museum (NRM).

<sup>30</sup> 1901 Census Report, County of Lancaster, Table 35A, p. 178. See also D.A.J. Livesey: *The Textile Engineering Industry of NE Lancashire* (Cambridge thesis, n.d, c.1950s), and Mike Rothwell: *Industrial Heritage: A Guide to the Industrial Archaeology of Blackburn* (Hyndburn Local History Society, 1986).



By the 1840s a thriving nascent engineering culture had developed in the locality from the needs of the cotton industry for millwrighting and repairs, much of which was internally organised in firms. However mills contracted out more specialist work to local foundrymen and freelance mechanics or metal workers. Slater's Directory for 1848 lists 2 iron and brass founders, 4 iron and tin-plate workers, and 14 smiths operating in the Accrington district. The earliest and most important of these engineering workshops was Spring (or Accrington) Foundry, which had been started by William Morris and Robert Fletcher in 1827. After 1837 the firm was run by Alexander Christie and later by John Christie and partners. John Christie is listed in 1848 as "millwright and engineer, and agent for Macintosh and Co's patent India rubber joint rings".<sup>31</sup> The firm also built complete steam engines, including one for Albert Mill in Accrington, c. 1860.<sup>32</sup> The formation of the Accrington Mechanics Institution as a mutual improvement society in 1845 attests to the existence of a community of engineers concerned to discuss the latest ideas and to pass knowledge and skills to the next generation of apprentices.<sup>33</sup> It is highly likely that the existence of such a pool of skilled labour encouraged the East Lancashire Railway (ELR) to base engine maintenance and repairs in Accrington after 1848. The engineering sector was not highly specialised or differentiated in the 1840s, so that transfers of knowledge and skills to railways were entirely possible. The millwright who set or serviced the valve-gear of stationary engines could without much difficulty have learned to work on the similar mechanisms of locomotives. Equally, there are indications of transfers in the other direction to benefit wider non-rail engineering after railways arrived in Accrington.

The formation of the Globe Works in 1853 by John Howard and James Bleakley is a crucial event in Accrington's history, for it marks the start of the transition from craft-based general engineering activity servicing the local economy into a highly specialised mass production sector supplying standardised products to national and export markets. John Howard, who was born in Rock Street, Bury, in 1815, was successively an apprentice, foreman and manager at Walker & Hacking's engineering works in Bury.<sup>34</sup> It seems almost certain that this was the same (or very closely related) firm as Richard Walker & Brothers

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<sup>31</sup> Slater's Commercial Directory of Lancashire, 1848 (Accrington Public Library).

<sup>32</sup> M. Rothwell, *op.cit.*, pp.29-35, for basic chronology of engineering firms.

<sup>33</sup> Rev. C. Williams: *Jubilee Memorial of Accrington Mechanics Institute* (Accrington, 1895).

<sup>34</sup> R.S. Crossley: *Accrington Captains of Industry* (Accrington, 1930) and *Chronological Notes and Men of Mark* (Accrington, 1924) for biographical data on local engineers.

who produced many of the ELR's locomotives in the 1840s and early 1850s.<sup>35</sup> The Walker names were listed in local directories as "Engineers, Millwrights and Machine Makers", they had the same work address in Bury: "Vulcan Works, Butcher Lane", and they shared offices at "2 Newall's Buildings, Manchester."<sup>36</sup> Although the history of Walker Brothers remains obscure and no company records have apparently survived, the Bury connection yields a tantalising glimpse of the transfer of knowledge and practices, such as commonality of components and standards necessary for batch production, from railways to textiles engineering. It is certain that there was a diffusion of locomotive engineering expertise and technique from Manchester to Bury, for in November 1847 the ELR Directors' Minutes recorded that Richard Walker & Brothers were building 10 engines "which, when completed, were to be similar in all respects to the Company's engines made by Sharp Brothers & Co. of Manchester."<sup>37</sup> It seems highly likely, therefore, that there was a precision engineering frontier which advanced northwards from Manchester through Bury to Accrington, in parallel with the extension of railways, and which combined with local pools of technical knowledge and skilled labour to generate rapid growth of the engineering sector. More detailed research and new archival discoveries are needed to confirm this suggestion.

Why John Howard chose Accrington to set up his loom-making, millwrighting and repairs business remains unknown. It is entirely possible that if Howard had chosen to locate in another industrial community like Ramsbottom, nearer Bury, then Ramsbottom rather than Accrington would have become a major textile engineering centre. Initially his business was a modest affair, with four employees in a cluster of wooden huts in the Fountain and Scaitcliffe Street area, adjacent to Accrington station. In 1857, James Bleakley, the principal investor, withdrew from the partnership, taking his working capital, again for unknown reasons.<sup>38</sup> Another investing partner, James Bullough, joined in 1857 to form the well-known firm of Howard and Bulloughs. Bullough brought commercial acumen and financial stability to the partnership, as well as inventive experience and patent rights – he had worked with William Kenworthy at Brookhouse Mill in Blackburn on

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<sup>35</sup> R. W. Rush: *The East Lancashire Railway* (The Oakwood Press, 1983), esp. pp. 40-46.

<sup>36</sup> Heap's Bury Directory, 1850, pp.18-19, and Worrall's Bury & Bolton Directory, 1871, p.162 (and subsequent directories), Bury Central Library. It is interesting that William Walker & Sons and Richard Walker were listed in Rogerson's Bury Directory in 1818 (p.96) as "woollen manufacturers", both of 25 Stanley Street. Bury Archives, in Bury Library, hold local company records, but none for Walker Brothers or other contemporary engineering firms.

<sup>37</sup> ELR Directors' Minutes, 1 Nov. 1847, RAIL 176/6, PRO. See also R. W. Rush, op. cit., on the Walker engines.

<sup>38</sup> Deed of Dissolution of Co-partnership, James Bleakley and John Howard, 24 Feb.1857, DDPSL 3/38/2, LRO. There is a reference to an indenture of 21 July 1853, by which Howard and Bleakley covenanted with each other for a term of 14 years.

improvements to the power-loom, such as an automatic weft stop motion and roller temple (1841). In 1852 Bullough patented an improved sizing machine known as the “Slasher”, which in the late 1850s became the main product of Globe Works.<sup>39</sup> During the 1860s the firm developed standardised mass production of weaving and spinning machinery, with 500 employees in 1866. In 1862 John Bullough, James’ son, joined the business, assuming control after the deaths of Howard in 1866 and his father in 1868.<sup>40</sup> The firm continued to grow rapidly, particularly after mass manufacture began in 1878 of a ring-spinning machine based on patent rights bought from F. J. Rabbeth, an American inventor.<sup>41</sup> Howard and Bulloughs exported its innovative technology to textile manufacturers in North America, Brazil, Europe, Japan, and especially India, where import-substituting industry was developed in the late nineteenth century. Overseas order books after 1871 are replete with many entries for Indian customers such as the Sri Ramachenden South and West Mills (for Rabbeth ring frames, 1886), Rajputana Textiles, and the Anglo-Indian South and West Co.<sup>42</sup> Ironically, the firm, which was the leading manufacturer and exporter of ring-spinning machinery in the world, won relatively few customers in “cotton” Lancashire, although they were prepared to offer long-term support to the Milnrow ring spinners to offset the risks of early technological adoption.<sup>43</sup> Indeed, Accrington’s rise from relative obscurity to become the centre of a world-class industry within a few years was spectacular. The town’s strong connections with overseas markets are also indicated by the presence of two machinery exporting agencies in 1882: William Lancaster of Willow Iron Works, Dale Street, and Wuchner and Muller, exporters of cotton spinning and weaving machinery, Avenue Parade. Wuchner and Muller were still listed in the 1912 directory as machinery exporters, as well as Meynell Hy and Co. Ltd., St. James Street.<sup>44</sup>

By 1900 Howard and Bulloughs was a high-profile multinational engineering operation controlled from the Globe Works headquarters in Accrington. Using its extensive range of

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<sup>39</sup> S. Halstead and C. Duckworth (eds): *Aspects of Accrington* (Wharncliffe Books, 2000), pp.31-51, on the Bullough dynasty.

<sup>40</sup> Confirmed by Deed of Co-partnership (for 7 years), John Howard and John Bullough, 16 Apr. 1863, DDPSL 3/38/3, LRO.

<sup>41</sup> Inventory of Patents, July 1863-Dec 1887, DDPSL 3/36/1, LRO. The Rabbeth Spindle was patent no. 2095.

<sup>42</sup> Howard and Bullough: Indian, Russian and Continental order book, Apr 1871-July 1906, DDPSL 3/4/1, LRO.

<sup>43</sup> Steve Toms: “Windows of Opportunity in the Textile Industry: The Business Strategies of Lancashire’s Entrepreneurs, 1880-1914”, *Business History*, Vol. 40, No. 1, Jan 1998, p. 12. He notes the interlocking directorship of Samuel Tweedale: “The capital equipment manufacturers’ relationships with spinning companies were crucial in the diffusion process” (ibid).

<sup>44</sup> Slater’s Commercial Directory for Lancashire, 1882, and Barrett’s Directory of Blackburn and District, 1912.

catalogues and network of overseas agents, it marketed in industrialising economies throughout the world a comprehensive range of preparatory and spinning machinery, such as carding, intermediate and roving equipment, twist, weft and doubling ring frames, and beaming, sizing and air-drying machines.<sup>45</sup> It is significant that no power-looms were manufactured by Howard and Bulloughs at this stage, because the evidence suggests that East Lancashire's textile engineers in their Edwardian "golden era" concentrated on different product portfolios and markets, Northrops in Blackburn producing automatic looms under licence from the USA for local and regional customers, while Butterworth and Dickenson in Burnley specialised in traditional non-automatic Lancashire looms and associated preparatory equipment.<sup>46</sup> In 1893 a subsidiary operation, the Howard and Bullough American Machinery Co., was started at Pawtucket, Rhode Island, possibly to circumvent tariff barriers in a key export market.<sup>47</sup> In 1894 the firm was converted from a private limited company (formed with George Bullough as the major shareholder after John died in 1891) to a public limited company, with a capital of £750,000 (later increased to £1,250,000). Massive physical extension and reconstruction of Globe Works and acquisition of redundant mills in the Scaitcliffe area occurred in the 1880s and 1890s, with associated housing development in Higher Antley, so that a distinct factory zone was formed. The firm dominated the industrial landscape of Accrington and increasingly its labour market, with 3,500 workers by 1902 and 5,000 by World War 1.<sup>48</sup> It also made a major contribution to the development of technical education, building up and perpetuating that local base of engineering know-how and transferable skills which had greatly benefited the company's rise in its early days. For many years John Bullough encouraged apprentices at the Globe Works to attend night schools and science classes run by the Accrington Mechanics Institute. From 1882 they were taught mathematics, electro-magnetism, applied mechanics, machine construction, technical drawing and cotton spinning in the company's well-equipped Science and Technical School in Richmond Street. Together with other industrialists, Howard and Bulloughs supported the establishment of a Municipal Technical College in 1895 by Accrington Borough Council, later transferring responsibility for the firm's classes to the new institution, along with generous gifts of fittings, machinery and

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<sup>45</sup> D.A.J. Livesey: *The Textile Engineering Industry of NE Lancashire* (Cambridge thesis, n.d, c.1950s), p.28.

<sup>46</sup> Illustrated Catalogue of Cotton Preparing, Spinning, Doubling and Manufacturing Machinery made by Howard and Bullough Ltd., Accrington, 1900, DDPSL 3/37/3, LRO, and other specialist catalogues in the same series.

<sup>47</sup> Catalogue of Howard and Bullough American Machine Co., Accrington Public Library.

<sup>48</sup> M. Rothwell, op.cit., and S. Halstead and C. Duckworth, op.cit.

equipment.<sup>49</sup> Indeed, Accrington became a sending centre for engineering expertise as Howard and Bullough's trained apprentices helped to set out and equip new textile factories throughout the world. A similar pattern of diffusion of knowledge and skills from a local base applied to non-textiles engineering: one of the most distinguished alumni of the Technical College was O.V.S. Bulleid, born in New Zealand in 1882 but who lived with relatives in Accrington during the 1890s. He rose to become Personal Assistant to Sir Nigel Gresley on the London and North Eastern Railway and then an innovative Chief Mechanical Engineer for the Southern and the Irish Railways after 1937.<sup>50</sup> It is tempting to speculate on what influence his early technical education in Accrington had on the subsequent direction of his engineering career.

The non-textiles engineering sector also prospered in the railway era, displaying remarkable depth, diversity, versatility and ingenuity. Similar to the textile engineers, local firms tended to avoid directly competing with each other by specialising in niche industrial and/or domestic markets, although there were interesting continuities with the adaptable "generalist" engineering of the 1840s. Again, the importance of the local base of engineering talent, pools of capital and informal commercial networks is evident. In 1855 C. Whittaker and Co. took over a failed mill on Dowry Street and converted it to an engineering works engaged in general castings and contract work. Christopher Whittaker, from Oswaldtwistle, had previously been apprenticed as a mechanic at Broad Oak Mill. From 1876 the firm specialised in machinery for the brick making industry, supplying local, national and export markets (see next section), but also built sophisticated, powerful stationary steam engines, such as a 400 horsepower horizontal compound for Peel Mill (c.1906) and a 350 horsepower compound for Queen Mill (c. 1913) in Accrington, and a horizontal tandem compound for Sykeside Mill in Haslingden.<sup>51</sup> The firm, which was converted into a limited company in 1897, employed 200 workers by 1900. Around 1860 Peter Pilkington, a local engineer at Broad Oak Printworks, established Dowry Works, which after 1865 manufactured a patented double-acting steam hammer. Pilkingtons, now a limited company, moved to a new works in Bamber Bridge in 1903. John Blake, an Accrington millwright who had worked for Christies at Spring Foundry and then for Broad Oak Mill, built a machine works on Oxford Street in 1866. He invented an hydraulic ram

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<sup>49</sup> Rev. C. Williams, *op.cit.*, p.32, and E. Stones: *The Development of Education in Accrington, 1790-1903* (Accrington, 1957).

<sup>50</sup> Brian Haresnape: *Bulleid Locomotives* (Ian Allen, Shepperton, revised edition, 1985), pp.6-7.

<sup>51</sup> C Whittaker & Co's plans and detailed drawings of foundations, cylinders, crosshead and other components of the Sykeside Mill engine, many dated April 1907, DDX 2098/8163, LRO.

for pumping water supplies, which was the firm's celebrated main product for many years. Alfred Anderton from Darwen built Antley Boiler Works in 1867-68, making Lancashire boilers for local industrial clients such as Albion Mill (1880), Oak Vale Mill (1893) and Peel Mill (1906).<sup>52</sup>

Engineering for domestic customers showed a similar pattern of both diversification and specialisation. In 1862 local engineers J. Ramsbottom and J. Haworth began the manufacture of liquid meters as "The Accrington Water Meter Co." The firm was later joined by James Kenyon, an Accrington chemist, and James Entwistle, a local draper, who continued the business alone after dissolution of the original partnership in 1866 as a general engineering contractor and steam hammer manufacturer. In 1873 Entwistle and Kenyon launched a range of washing and wringing machines and in 1889 their famous Ewbank carpet sweeper. In 1890-92 the firm moved into the Ewbank New Works on Hyndburn Road, which was progressively extended to expand production of domestic appliances. The firm became a limited company in 1897, with 270 employees by 1913. A number of other firms, some short-lived, manufactured products for the expanding domestic market, such as Lang Bridge, who made iron bedsteads and kitchen ranges in the 1860s at Paradise Works; Taylor and Wilson, washing machine manufacturers (1866-77, also at Paradise Works); the Excelsior Washing Machine and Iron Foundry Co. (1874-1879, at Croft Street Ironworks); the Star Foundry Co. Ltd., who made the Star washing machine (1875-77); and the Whittaker Brothers (Henry and William), who from 1886 produced washing machines, mangles, step ladders, etc., at Pioneer Foundry. An interesting late, if short-lived, offshoot of textile engineering during the railway era was the manufacture of motor cars by "Hitchon Gear and Automobile Co. Ltd.". The firm was founded in 1905 with a share capital of £8,010 by Alfred Hitchon, a managing director at Howard and Bulloughs and an engineer who specialised in gear mechanisms for textile machinery. It exhibited the "Hitchon Weller £160 two-seated car with patented transmission gear and 9 brake horsepower engine" at the Olympia Automobile Show in February 1905. It moved from Moscow works, Church, to purpose-built premises on Charter Street, Accrington, in

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<sup>52</sup> M. Rothwell, *op.cit.*, and R.S. Crossley, *op.cit.*, for basic chronological and biographical data. Slater's 1882 Directory lists 2 boiler makers, 15 engineers and millwrights, 14 iron and brass founders, 14 iron and tinplate workers, 11 machinists, 2 mangling machine manufacturers, 21 smiths, 1 temple maker and 3 wringing machine manufacturers in the Accrington area, though the categories overlap. Barrett's 1912 Directory includes 1 agricultural engineer, 13 smiths, 1 boiler maker, 9 iron and brass founders, 1 consulting engineer, 3 electrical engineers, 8 engineers and millwrights, 8 iron and tinplate workers, 11 machine makers, 1 roller maker, 2 washing and wringing machine makers, and 5 metal and machinery brokers.

1906. By 1907, the firm, which was under-capitalised relative to high experimental costs and initial losses of over £400, had apparently ceased production.<sup>53</sup> It is well-known that many of the early motor car manufacturers were experimental extensions of bicycle and light engineering in the West Midlands, notably around Coventry, but it is unusual to find evidence of transfers of capital and technical expertise from textile to motor engineering within East Lancashire, although perhaps not altogether surprising in view of Accrington's fertile and innovative industrial base. As already suggested, local engineers were willing to seek out and exploit new market opportunities, and, even though their efforts were not rewarded with long-term success in this case, arguably the potential existed for the motor industry to "take off" in Accrington. Certainly this potential was demonstrated along the trans-Pennine corridor by the success of Leyland trucks and buses near Preston and Jowett cars in Bradford in the early twentieth century.

Locational decisions in the engineering sector were informed by excellent rail connections to domestic and overseas customers. Transport costs for high-value, though heavy, products were a more significant proportion of total expenses than in the cotton industry. Hence most engineering firms were sited within a short distance of Accrington station to minimise transshipment and handling costs, but lacked sufficient incentive to invest in direct rail connections. Indeed the main Globe Works site of Howard and Bulloughs on Scaitcliffe Street was directly opposite to the main goods depot and handling facilities near the Manchester platforms at Accrington station, and the firm also shipped its products from another rail-connected warehouse further west adjacent to its Charter Street operation. For the half-year to June 1893, carriage and cartage expenses were £945, or 5.5 per cent, of Howard and Bulloughs' total expenditures of £1,7048 3s. The equivalent figures for Jan-June 1900 were £3,868 10s, or 3 per cent of £130,889 2s. In Jan-June 1907 the firm spent £5,003 10s on transport services, 2.6 per cent of total expenses of £191,250 10s.<sup>54</sup> Tab. 3.7 shows transport charges in relation to both total expenditures and machine sales revenue between 1893 and 1907, and also the breakdown of sales reveals the predominance of ring frames in the firm's product portfolio during the 1890s, although there was increasing diversification by the early 1900s:<sup>55</sup>

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<sup>53</sup> Balance sheets, Hitchon Gear and Automobile Co. Ltd., 1905, DDPSL 3/38/27, LRO, which encloses a 4-page leaflet advertising the Hitchon Weller car, with detailed technical illustrations of the gearbox and transmission, etc. – a rare and unexpected discovery.

<sup>54</sup> Howard and Bullough: balance sheet, expenditures and receipts, Jun.1893-Dec.1907, DDPSL 3/21/1, LRO. Impersonal ledgers, 1871-1909, DDPSL 3/20/1, LRO, give much higher carriage expenses chargeable to customers for equivalent periods.

<sup>55</sup> *Ibid* for source of these statistics.

**Tab. 3.7: Howard & Bulloughs' Expenditures and Sales, 1893-1907**

<i>Half-year</i>	<i>Carriage &amp; Cartage</i>	<i>Total Expenses</i>	<i>All Machine sales</i>	<i>Ring frame sales</i>	<i>Carding engine sales</i>	<i>Other sales *</i>
Jan-Jun 1893	£945	£17048 3s	£11525 4s	£9712 17s	N.A.	N.A.
Jul-Dec 1893	£816 11s	£28617 15s	£23434 16s	£15649 1s	£7785 14s	£3836
Jan-Jun 1900	£3868 10s	£130889 2s	£155278 14s	£47357 19s	£42788 17s	£65131 18s
Jul-Dec 1900	£4416 5s	£155534 12s	£175902 1s	£56999 12s	£43335 9s	£52520 7s
Jul-Dec 1906	£3739 8s	£176670 4s	£31249 12s	£10285 8s	£7572 16s	£9292 10s
Jan-Jun 1907	£5003 10s	£191250 10s	£44497 11s	£15724 3s	£9811 1s	£12910 4s
<b>Averages:</b>	<b>£3131 11s</b>	<b>£142231 14s</b>	<b>£73648</b>	<b>£25954 17s</b>	<b>£22258 15s</b>	<b>£28738 4s</b>

*Source:* Howard & Bulloughs expenditures & receipts, Jun.1893-Dec.1907, DDPSL3/21/1, LRO

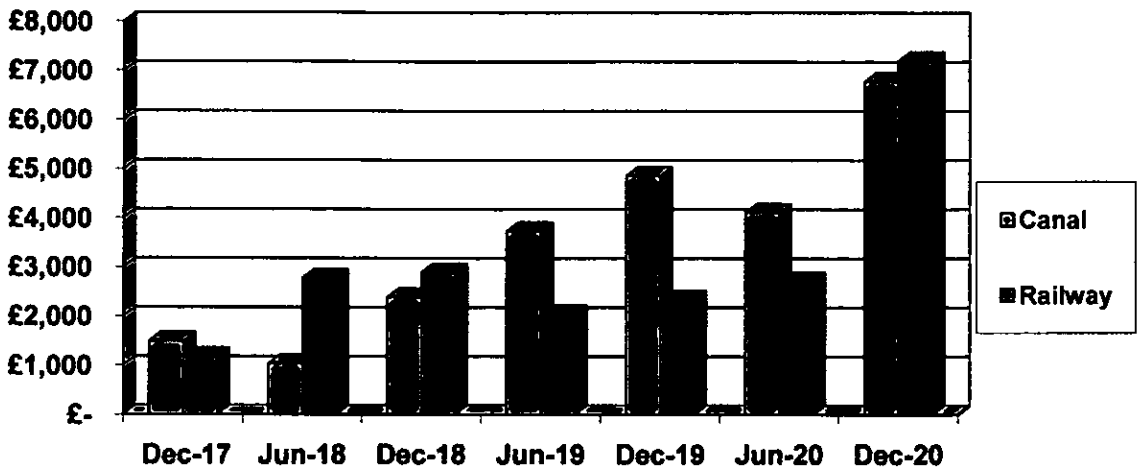
\* "Other sales" includes drawing, slubbing, intermediate, roving machinery for spinning preparation.

Interestingly, there is photographic evidence that Howard and Bulloughs also transported machinery from a warehouse in Church along the Leeds and Liverpool canal. Their credit ledger supports this, and also reveals a fairly even split between the canal and railways in the carriage and cartage costs of finished products.<sup>56</sup> In the period July 1917-Dec 1920, Howard and Bulloughs paid yearly annual averages of £6,039 12s to the Lancashire and Yorkshire Railway, and £6,970 7s to the Leeds and Liverpool canal. Fig. 3.4 shows the generally rising trend of transport costs over this inflationary period, and the marked short-term seasonal fluctuations in half-yearly total payments by Howard and Bulloughs to both carriers. There is some evidence, too, that these payment cycles were synchronised but counteracting, so that more of the firm's products were shipped by canal when usage of rail services fell, and vice versa. These cycles were influenced by the time-sensitivity of customer deliveries, a comparison of the adequacy of handling facilities, the ability to accommodate large or unwieldy loads within the restricted rail loading gauge, especially through tunnel sections, and capacity constraints on the railway network at peak periods of the year, such as summer holidays. Howard and Bulloughs was therefore able to optimise its use of the two modes of transport to convey its products to export markets reliably, economically and efficiently. Fundamentally, the railway and the canal were complementary in East Lancashire. The railway was a stimulus for engineering and other sectors, generating an enormous volume of business which could not all be carried by the railway itself. Some freight flows *had* to go by canal.

<sup>56</sup> Howard and Bulloughs' credit ledger, 1917-1930, DDPSL 3/31/1, LRO, lists payments made to named suppliers from I to L. The entries are confusingly laid out and the "balance carried forward" items are ambiguous, though they have been included within the calculations of the half-yearly totals paid to both canal and railway.



**Fig. 3.4: Howard & Bulloughs' Half-Yearly Transport Payments, 1917-1920**



*Source:* Howard & Bulloughs' credit ledger, 1917-1930, DDPSL 3/31/1, LRO

### **Brick making**

There were clear linkages between engineering and the spectacular rise of brick making in the 1890s, the final significant sectoral development in the railway era. Temporary brick yards multiplied in the 1860s and 1870s, usually to supply local building projects during a period of rapid urbanisation. Two more permanent brick works, Higher Antley and Hollins, were operating in the late 1870s, again for the local construction market.<sup>57</sup> A major boom followed breakthroughs in mechanised crushing, grinding, and conveyance equipment, which permitted mass production from local mudstones and shales. The problem was that the compacted clays in the Accrington area formed hard, dry, striated structures which were difficult to excavate and process into plastic clay. However, the rocks, especially around Whinney Hill, were rich in iron oxide, which produced a distinctive and highly marketable brick renowned for its hardness, durability, finish and colour. Hence, there was every incentive for local technical advance to unlock the potential of the mudstones and shales.<sup>58</sup> Speculative capital was attracted to the area by the availability of the raw materials, which had been exposed by the removal of overlying layers of sandstones and gritstones during earlier quarrying activities, easy access to coal and coal-gas for fuel, the technology and know-how of local engineers, and by excellent rail communications to national markets. Large undertakings were sited close to the material deposits, which were supplied by industrial tramways or mechanised overhead conveyances.

<sup>57</sup> M. Rothwell, *op.cit.*, for chronology of brick making.

<sup>58</sup> M. Jackson: *The Accrington Mudstones: A Field Study* (Accrington 1973)

The Accrington Brick and Tile Company Ltd. was the first of this new wave of brick makers in the late nineteenth century. It was incorporated in March 1887 with a capital of £5,000 (later raised to £30,000), subscribed by local investors, such as Henry Stephenson, a Burnley brick maker, Joseph Haythornthwaite, a Church potato merchant, James Heap, an Accrington accountant, and Richard Sharples, a solicitor also from Accrington.<sup>59</sup> With two large Staffordshire coal-fired continuous kilns, a gas-fired tunnel kiln for terracotta work, and 130 workers in 1898, the firm manufactured engineering and facing bricks, tiles and specials. By 1900, about fifteen brickworks were operating in the wider Hyndburn district, but the speculative boom was over. A number of under-capitalised or inefficient producers then disappeared, especially during recessions in the building trade. By the end of World War 1, only four firms survived: the Accrington Brick and Tile and the Whinney Hill Brickworks (which were merged and branded as "Accrington NORI"), Huncoat Brickworks (which traded as "REDAC"), and Clarkes in Rishton ("NORDEN"), which specialised in firebricks made from fireclay, a by-product of local collieries.<sup>60</sup>

C. Whittaker & Co. Ltd. was the key local engineering firm, acting as consultants and supplying their machinery (including steam engines) to local brick makers. For example, in 1905 they were engaged by the Accrington Brick and Tile Company to design and manufacture a mechanical belt conveying system.<sup>61</sup> They also managed briefly a speculative brickworks in Baxenden. From this local base, Whittakers was able to expand into national and export markets, as evidenced by the succession of engineering plans which are preserved at the Lancashire Record Office. Indeed, the company became a major global player, with a customer base as diverse as Franz Hensmann of Cologne, Ghilardi and Co. of Genoa, and E. Rombouts Technisch Bureau (Rotterdam) in Europe, the Natal Indestructible Brick Co. and the Greenwood Park Estate, Durban, in South Africa, and Mashanov and Moskalenko, Vladivostok, in Russia.<sup>62</sup> Clearly, the expertise developed in overcoming the technical challenges posed by intractable local stone deposits gave Whittakers major competitive advantages. They advised potential customers that: "the arrangement and

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<sup>59</sup> Memorandum and Articles of Association of Accrington Brick and Tile Company Ltd., in Local Studies Collection, Accrington Public Library.

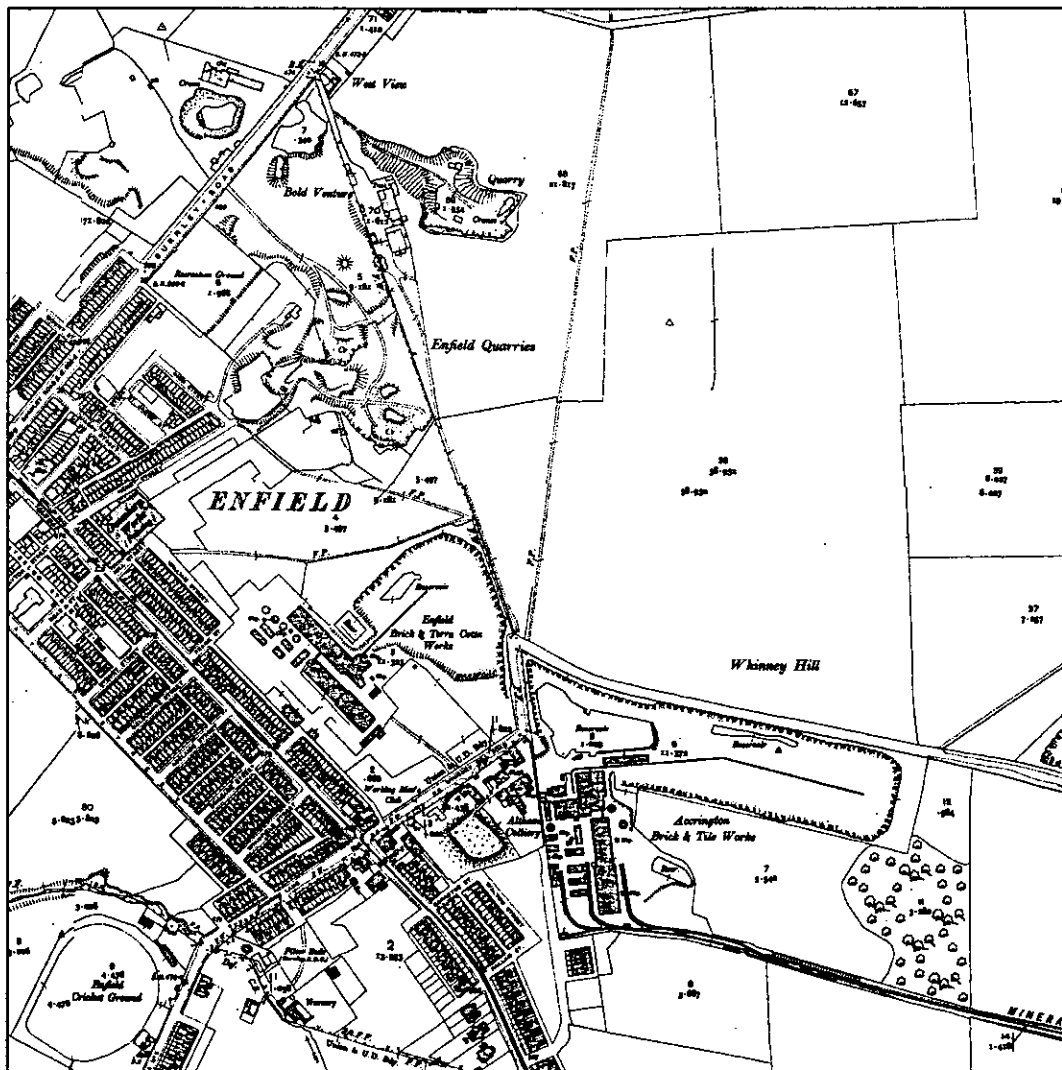
<sup>60</sup> P.J. Hudson and L. Gregory: "Brick making in Accrington", *Lancashire History Quarterly*, vol.3, no.2, Jun. 1999, pp.80-84.

<sup>61</sup> Engineering plan, C. Whittaker & Co. Ltd., c.1905, DDX 1219/1/29, LRO. There is also a folder of loose plans produced for the Accrington Brick and Tile Co., n.d., at the LRO (DDX 1219/2/65).

<sup>62</sup> Loose plans of C. Whittaker & Co. Ltd. in DDX 1219/1 series, LRO. There are other engineering records of Whittakers at LRO too, not fully catalogued yet (eg. DDX 1866/6877, DDX 2098/8163, DDX 1862/9469), but demonstrating their versatility and range of clients.

nature of a Brick Plant ought to be adapted to the nature of the material at your disposal.” To facilitate this, they boasted a “well-equipped laboratory...to make chemical analysis of clay, shale, marl, fireclay, etc., at reasonable charges” and superintended by a Fellow of the Institute of Chemistry. Interestingly, they stressed the rail connections which enabled business contacts and clients to visit their premises in Dowry Street: “Accrington is on the Lancashire and Yorkshire Railway, about 21 miles from Manchester, and has through carriage accommodation with London by several train lines.”<sup>63</sup>

**Fig. 3.5: Accrington Brickworks Rail System (EDINA Digimap Tile 19sd7530)**



Source: OS County Series 1:2500 (Lancashire and Furness), 2<sup>nd</sup> Edition, published 1911

<sup>63</sup> Illustrated Catalogue of Brick, Tile and Pipe-making Machinery, C. Whittaker & Co. Ltd., Local Studies Collection, Accrington Library.

Brick making, like coal, relied on direct rail connections, especially in the Huncoat and Altham areas. Fig. 3.5 shows that from the mid-1890s, firms such as the Accrington Brick and Tile and the Whinney Hill works invested in branch lines from the Accrington–Burnley route and internal rail systems (including their own shunting locomotives) to minimise carriage and transshipment costs for bulk flows of heavy products to distant customers. To reduce capital and operational costs the branch lines serving these brickworks were shared with the collieries in the Huncoat area, where the detailed topography, including availability of flat land and low elevations, made an intricate industrial rail system and direct connections to the main network practicable (see also Fig. 3.3 depicting the extensive industrial sidings from the L & YR’s system east of Accrington centre).<sup>64</sup> A considerable range of products - Accrington reds, tiles, terracotta specials, engineering and fire bricks, chimney pots, sanitary ware - reflected the diversity of national industrial and residential markets served, though firms did not specialise in particular markets to the same extent as in cotton and engineering. Local demand was certainly a critical factor in the origins of brick making, but was not large enough to explain its subsequent spectacular rise in the 1890s, for Accrington’s builders used bricks economically and selectively for internal walls and engineering purposes. The irony was that Accrington, which was famous as a brick maker, remained resolutely a stone town before 1914, at least in its building facades.

To summarise the evidence which has been presented of local industrialisation patterns in this chapter, activity in the four key sectors of cotton textiles, coal mining, mechanical engineering and brick making displayed several remarkable and defining characteristics during this period, which need to be analysed as part of an integrated development trajectory rather than viewed separately. Firstly, there was an acceleration of growth after a lengthy period of solid but unspectacular progress which, nevertheless, was essential to signal the area’s potential for railway development. In Walt Rostow’s language, the local economy was transformed as it moved from a preparatory “preconditions” stage to a sustained “take-off” after the railway arrived in 1848.<sup>65</sup> During the most dramatic phase of this growth in the mid-Victorian years, the railway corridor attracted a huge amount of new industrial investment. Secondly, a complex combination of diversification and specialisation emerged as Accrington’s economic base expanded, within both existing and

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<sup>64</sup> OS Map, 1909 (6 inches/mile) shows these rail connections clearly. P.J. Hudson and L. Gregory’s article, *op.cit.*, includes a photograph of a 0-4-0 engine belonging to the Accrington Brick and Tile Co., called “NORI”, and a billhead for Henry Stephenson & Sons, Huncoat Brickworks, depicting private sidings linked to the Accrington-Burnley main line.

<sup>65</sup> W.W. Rostow: *The Stages of Economic Growth* (Cambridge University Press, 1960).

new sectors. This distinctive, and apparently paradoxical, phenomena cannot be readily explained by conventional economic theory such as comparative advantage, which predicts that trade stimulates specialisation, not diversification as well.<sup>66</sup> Furthermore, the new sectors were not simply offshoots of textiles, but relied on differentiated market niches and specialised pools of skilled labour. Thirdly, a noticeable slackening of growth after 1900 is observable as the town's industrial trajectory became solidified and, arguably, ossified. Key sectors, notably cotton, had reached the limits of development and, with the benefit of hindsight, were even over-developed. Mobile and flexible capital in the early days, including opportunities to hire space and power in mills and workshops, now became "frozen" in place by heavy "sunk" costs in plant and equipment. It was difficult for industrialists to cut capital costs in response to a temporary slump in demand, or to unwind existing investments completely in favour of more profitable prospects. The effects of capital rigidity were re-inforced in Accrington's case by the concentration and congestion of industry in a confined geographical zone which was itself bisected by an immobile railway infrastructure, so that firms simply ran out of space to move or expand within the urban perimeter. The structure of urban space, which will be elaborated in the following chapter, contributed to a little-studied form of industrial "lock-in" and path dependency by 1914.<sup>67</sup>

A key fourth feature which persisted throughout the railway era was an independent, self-contained, economic foundation. Control of the key industries lay with Accrington's many business leaders, not with external interests on "colonial" lines. Labour, capital, technical knowledge, commercial networks, natural resources and, at the start of the process, many markets were all available locally. Accrington stood apart from Manchester because of geo-physical factors and traded with the metropolitan hub on its own terms when railways presented the opportunities. This local foundation long pre-dated railways, but railways arguably *strengthened* the sense of economic independence. Fifthly, as the local industries experienced "take off" from the pre-existing base, there was the rapid growth of commerce with other towns in Lancashire and beyond, and by the late nineteenth century Accrington traded extensively in overseas markets, within but also beyond the British Empire. Accrington was connected to a regional railway network which created new opportunities for economic interaction with urban and industrial centres, especially along the trans-

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<sup>66</sup> See any standard economics textbook, such as R.J. Lipsey and K.A. Crystal: *Principles of Economics* (Oxford University Press, 1999, 9th edn.), on the comparative advantage argument.

<sup>67</sup> It has been fashionable in recent historiography to invoke the phenomena of institutional rigidity and path dependency to explain the decline of key sectors of British industry, but the geographical dimensions have received scant attention. See, for example, T.R. Whisler: *The British Motor Industry, 1945-1994* (Oxford University Press, 1999).

Pennine corridor, and also enabled the town to “do its own thing” in terms of product portfolios and markets served, as it looked eastwards to the textiles and minerals trades of West Yorkshire and the ports beyond, and westwards to Preston, Liverpool and access to Imperial and Atlantic economies. Hence another apparent paradox is that both independence and interdependence characterised Accrington’s economic relationships with the outside world. A sixth feature was that, in terms of local economic structure, a complex sense of *embedded* development was increasingly evident during the railway era. This term perhaps best describes the town’s rapid passage through a recognisable sequence of sectoral expansion and innovation which, nevertheless, did not supersede or eclipse the earlier industrial stages. The result was agglomeration of related, though not always similar, key “export” industries, supported by a parallel concentration of supply and service chains, so that Alfred Marshall’s external economies of scale operated powerfully at a local, not just a regional, level.<sup>68</sup> The clustering of firms in a Marshallian industrial district happened first in the cotton industry, as discussed helpfully by Steve Toms and Igor Filatotchev, but significantly extended beyond the textiles sector and characterised small innovatory firms during the railway era.<sup>69</sup> The business culture of this industrial district encouraged many enterprising responses to the opportunities of the railway era.

In conclusion, railways unlocked the potential inherent in the local economic landscape of the 1840s and energised subsequent development during the Victorian era, but did not determine its direction, like the force released when the lid of a “jack in the box” is opened. Railways enabled Accrington to rise as a town of national, even international, industrial importance, but maintained linkages to its local economic origins and distinctive resource endowment, so that globalisation and localisation were complementary forces. By 1900, the town looked outwards to world markets for its growing prosperity and yet continued to stand on a locally-controlled industrial base, which relied on a sophisticated transport system for its efficient functioning. Subsequent chapters will explore the nature of this transport system in more detail, and its contribution to related aspects of the developmental process in East Lancashire, notably rapid urbanisation and traffic and trade growth.

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<sup>68</sup> Alfred Marshall: *Industry and Trade* (London, 1919) develops the idea of industrial districts.

<sup>69</sup> Steve Toms and Igor Filatotchev: “Corporate Governance, Business Strategy and the Dynamics of Networks: A Theoretical Model and Application to the British Cotton Industry, 1830-1980”, *Organization Studies*, Vol. 25, No. 4, May 2004, pp. 629-651. They observe: “From 1830 the majority of firms participated in what resembled the Marshallian industrial district, with a high degree of specialisation by process” (ibid, p. 638).

## **CHAPTER 4: URBANISATION PATTERNS IN ACCRINGTON AND THE HYNDBURN DISTRICT, 1840s to 1914**

The intention of this chapter is to delineate the main features of urban development in Accrington and the surrounding smaller towns and townships during the railway age, rather than to present an exhaustive chronology of a specific town. Urban communities grew dramatically in terms of population, physical size, functions and status after the arrival of the East Lancashire Railway in the area in 1848. The railway directly and indirectly stimulated the rise of Accrington from provincial obscurity to a confident, prosperous town of major industrial significance by the late Victorian era. The economic foundations of this remarkable set of events were elaborated in Chapter 3, but here the focus is on how the growth was organised in terms of urban patterns at various levels of geographical scale. The unusual urban systems in East Lancashire have received little attention in academic historiography, but arguably they deserve recognition as a new genre and object of research for urban historians and geographers. This chapter will draw on several diverse but converging strands of primary and secondary evidence which serve to substantiate and expand these propositions. In order of presentation here, they consist of, firstly, comparative demographic data for Accrington, the surrounding townships and the wider context in Lancashire, secondly, the cartographical patterns of urbanisation, and, thirdly, the chronological sequence of local institutional development, including the significant, but often overlooked, patterns of church growth in response to settlement changes, although the evidence cannot always be cleanly separated into these three categories. Selective references to local literary creations will also be made here where appropriate to illuminate some cultural responses to the underlying structures of urban transformation.

### **Census evidence for demographic trends in Accrington and beyond**

The population evidence from the Census may be analysed at the level of individual units, or in wider comparative terms. For the micro data it is vital that the enumeration boundaries are stable if chronological trends are to be established. Obviously, precise figures are sensitive to changes in collection methods and registration districts by Census officials, but for Accrington it is noteworthy that the boundaries did not alter significantly after the two township districts were combined in 1851 – indeed the timing of this administrative change seems significant in terms of contemporary recognition of urban growth. The population totals for Accrington and the surrounding smaller towns and

townships of Hyndburn between 1801 and 1931 are tabulated in Tab. 4.1, with percentage decennial increases, or decreases, calculated (in brackets).<sup>1</sup>

**Tab. 4.1: Census totals for Accrington & Hyndburn Townships, 1801-1931**

<i>Census Year</i>	<i>Accrington</i>	<i>Altham</i>	<i>Church</i>	<i>Clayton-le-Moors</i>	<i>Great Harwood</i>	<i>Huncoat</i>	<i>Oswaldtwistle</i>	<i>Rishton</i>
1801	3077 *	328	323	1130	1659	450	2710	1051
1811	3266 * (+6.1%)	383 (+16.8%)	474 (+46.7%)	1423 (+25.9%)	1676 (+1%)	514 (+14.2%)	3512 (+29.6%)	1084 (+3.1%)
1821	5370 * (+64.4%)	439 (+14.6%)	752 (+58.6%)	1963 (+37.9%)	2104 (+25.5%)	629 (+22.4%)	4960 (+41.2%)	1170 (+7.9%)
1831	6283 * (+17%)	413 (-5.9%)	979 (+30.2%)	2171 (+10.6%)	2436 (+15.8%)	502 (-20.2%)	5897 (+18.9%)	919 (-21.5%)
1841	8719 * (+38.8%)	349 (-15.5%)	1545 (+57.8%)	2602 (+19.9%)	2273 (-6.7%)	467 (-7%)	6643 (+12.7%)	916 (-0.3%)
1851	10374 (+19%)	426 (+22.1%)	2035 (+31.7%)	3292 (+26.5%)	2548 (+12.1%)	598 (+28.1%)	7654 (+15.2%)	800 (-12.7%)
1861	17688 (+70.5%)	416 (-2.3%)	3208 (+57.6%)	4679 (+42.1%)	4070 (+59.7%)	839 (+40.3%)	9246 (+20.8%)	1196 (+49.5%)
1871	21788 (+23.2%)	401 (-3.6%)	4448 (+38.7%)	5390 (+15.2%)	4910 (+20.6%)	854 (+1.8%)	10287 (+11.3%)	2577 (+115.5%)
1881	31435 (+44.3%)	395 (-1.5%)	4850 (+9%)	6694 (+24.2%)	6281 (+27.9%)	930 (+8.9%)	12206 (+18.7%)	4056 (+57.4%)
1891	38603 (+22.8%)	427 (+8.1%)	5870 (+21%)	7155 (+6.9%)	9073 (+44.5%)	956 (+2.8%)	13296 (+8.9%)	6010 (+48.2%)
1901	43122 (+11.7%)	785 (+83.8%)	6463 (+10.1%)	8153 (+13.9%)	12015 (+32.4%)	1286 (+34.5%)	14192 (+6.7%)	7031 (+17%)
1911	45029 (+4.4%)	923 (+17.6%)	6888 (+6.6%)	8868 (+8.8%)	13815 (+15%)	1494 (+16.2%)	15714 (+10.7%)	7441 (+5.8%)
1921	43595 (-3.2%)	930 (+0.8%)	6746 (-2.1%)	8579 (-3.3%)	13605 (-1.5%)	1380 (-7.6%)	15125 (-3.8%)	7018 (-5.7%)
1931	42991 (-1.4%)	902 (-3%)	6187 (-8.3%)	7909 (-7.8%)	12789 (-6.0%)	merged with Acc.	14218 (-6.0%)	6633 (-5.5%)

*Source:* British Parliamentary Papers, Census Reports, 1801-1931. \* The populations of the Townships of Old and New Accrington are combined in the table, 1801-1841.

The basic outline of Accrington's demographic growth is clear from Tab. 4.1. The population more than trebled between 1801 (3,077, combining Old and New Accrington) and 1851 (10,374). It then more than quadrupled during the next half century, reaching 43,122 in 1901, and from a much higher base than in 1801. Growth rates accelerated in the railway era, spectacularly so between 1851 and 1861, with a 70.5 per cent increase (7,314 in

<sup>1</sup> Included Altham, Church, Clayton-le-Moors, Huncoat, Gt Harwood, Oswaldtwistle, Rishton.



absolute terms), compared to 19 per cent (1,655) in the 1840s. The Cotton Famine years (1861–65) slowed but did not arrest this growth during the following decade (23.2 per cent or 4,100), and very high decennial rises resumed in the 1870s (44.3 per cent or 9,647), easing gradually in proportionate and absolute terms in the 1880s (22.8 per cent or 7,168) and 1890s (11.7% or 4,519). There was a marked deceleration of growth around the turn of the century, with population expanding a modest 4.4 per cent (1,907) in the Edwardian era to reach an all-time peak of 45,029 in 1911. The Census data provides striking evidence of Accrington's movement from incremental growth to "take-off" in the railway era.

Tab. 4.1 does not suggest that Accrington's expansion after 1851 was at the expense of the surrounding townships – in fact, there were multiple nuclei of rapid growth in the district, and Accrington's boom in the 1850s seems to have lifted growth rates generally. Great Harwood's population "took off" in two phases between 1851 (2,548) and 1861 (4,071), and between 1881 (6,281) and 1901 (12,015) – a near fivefold increase over the half-century. The timing of the latter stage of development was directly related to the building of the East Lancashire loop line in the 1870s between Blackburn and Rose Grove by the Lancashire and Yorkshire Railway, which was opened throughout in 1878. The loop was built primarily to relieve pressure of traffic on the main west-east line, but also provided several small industrialising communities – Great Harwood, Simonstone, Padiham – with direct rail access.<sup>2</sup> Rishton directly benefited from the building of the original East Lancashire Railway, and grew in spectacular fashion between 1851 (800) and 1891 (6,010), with an explosive decennial increase of 115.5 per cent during the 1860s. Most of the other townships sustained steady though less dramatic growth throughout the railway era. It is interesting that Church and Oswaldtwistle "took off" during the canal era and, combining their totals, more than doubled (126.3 per cent increase) in population between 1801 (3,038) and 1831 (6,876) and slightly outstripped Old and New Accrington (1801: 3,077; 1831: 6,283; 104.2 per cent increase) – their textiles and chemical industries clearly were able to take advantage of more direct access to the Leeds and Liverpool link, suggesting that a change of route, or building of a feeder branch, by the canal company would have tilted the balance of growth in favour of the Accrington townships in the early years of the nineteenth century. Semi-rural and semi-agricultural Altham was the only community to experience a slight fall in population after the arrival of the railway, amounting to 7.3 per cent between 1851 (426) and 1881 (395), but the brick making boom in the 1890s boosted decennial

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<sup>2</sup> John Marshall: *The Lancashire and Yorkshire Railway*, 3 vols. (David & Charles, Newton Abbott, 1969-1972), vol. 2, pp. 32-37.

growth rates in both Altham (83.8 per cent increase) and Huncoat (34.5 per cent increase). It is striking, too, that population generally peaked throughout the district in 1911, and a remorseless decline set in during the years of economic depression after World War I. Another point worth noting is the relative importance of Accrington at the heart of the entire Hyndburn district. This is shown by the steady rise in its proportionate share of Hyndburn's population, from 28.7 per cent in 1801, 37.4 per cent in 1851, 43 per cent in 1871 to a peak of 47.4 per cent in 1891, slightly declining thereafter to 46.3 per cent in 1901 and 45 per cent in 1911. Accrington was never in fact large enough to realise the fears of the surrounding towns and townships of being swallowed by "Greater Accrington".

Because there were no relevant summary tables for 1851, a limited sampling exercise was conducted on the Census data for the Accrington enumeration districts as a first step in analysing urban demographic structure in the early railway era according to age group, gender, marital status and place of birth. The purpose of this was simply to test that local demographic patterns reflected the established historiographical findings for industrialising communities in Lancashire and northern England, rather than to draw any novel conclusions, and the exercise did confirm this. The sample consisted of 211 entries drawn from randomly selected households and streets in the enumerators' returns for the townships of Old and New Accrington, as reproduced and collated in Walter Holmes' Census Index. The results shown in Tab. 4.2 are suggestive rather than conclusive, because the sample, which constituted 2 per cent of Accrington's total population of 10,374 in 1851, lies at the limits of statistical significance. A much more extensive and elaborate sampling and testing procedure would be necessary to raise confidence levels in the accuracy and representativeness of the findings, especially if the exercise were to be extended to later Census years when absolute population sizes were much larger, but given the agreement with existing general findings, this seemed unnecessary. Summary tables of Accrington's demographic composition are available for the later periods. Details of occupational structure are discussed separately as part of industrialisation patterns in Chapter 3.

The detailed sample data on demographic structure in Tab. 4.2 suggests that most of the population growth within the Accrington townships and the surrounding communities in Hyndburn was either "organically" generated by a surplus of birth over death rates, or by short-distance movements from other districts in East Lancashire and the countryside beyond up to a radius of about 15 miles from Accrington. There was a small trickle of

**Tab. 4.2: Summary of Census Sample Results for Accrington in 1851**

Total 1851	Ages						Gender		Status		
	0-5yr	6-15	16-30	31-45	46-60	>60yr	Male	Female	Single	Married	Widowed
n=211	45	52	55	34	17	8	88	123	30	66	11
100%	21.3%	24.6%	26.1%	16.1%	8.0%	3.8%	41.7%	58.3%	14.2%	31.3%	5.2%

Total 1851	Origins								
	Accrington	Rest of Hyndburn	Rest of E. Lancs	Rest of Lancs	Rest of Yorkshire	Rest of England	Scotland	Wales	Ireland
n=211	90	20	42	25	4	19	2	0	9
100%	42.7%	9.0%	19.9%	11.8%	1.9%	9.0%	0.9%	0%	4.3%

Source: Walter Holmes: *1851 Census Index for Old & New Accrington* (Accrington, 1995), Local Studies Collection, Accrington Public Library.

long-distance migration in 1851, but little evidence of a major influx from within the UK, and none from foreign sources. Irish-born inhabitants constituted about 4 per cent of the sample, which is in line with demographic studies of the effects of the Potato Famine in Ireland in the 1840s on Lancastrian towns. Michael Anderson, for example, found that the Irish as a proportion of the population of Preston increased from 3.3 per cent in 1841 to 7.4 per cent in 1851, and the decennial increase in Lancashire as a whole was from 106,000 to 192,000, so that they constituted the largest single group of long-distance migrants in the county.<sup>3</sup> In 1851, over 50 per cent of the sampled local residents were born in Hyndburn (mainly in Old and New Accrington itself rather than the surrounding townships), over 70 per cent in the whole of East Lancashire, and over 80 per cent in the entire county. Hence the labour resources to supply the needs of Accrington's industrialisation were readily and locally available. This pattern is consistent with the evidence of other studies, beginning with Redford's pioneering research in the 1920s, and confirmed more recently in a survey article by Pooley and Turnbull for *Local Population Studies*, that indicates that most migration into Lancastrian towns, and more widely in England, was of short distance only.<sup>4</sup> Anderson, using a sample size of 6,741 for Preston in 1851, found that 42 per cent of the 3,345 immigrants were born within a 10 mile radius of the town, 28 per cent came from a distance of between 10 and 30 miles, while only 30 per cent had birthplaces more than 30

<sup>3</sup> M. Anderson: *Family Structure in Nineteenth-Century Lancashire* (Cambridge University Press, 1971), p. 39. G. Timmins: *Made in Lancashire: A History of Regional Industrialisation* (Manchester University Press, 1998), p. 226, notes the Irish impact on unskilled labour supply.

<sup>4</sup> A. Redford: *Labour Migration in England* (Manchester University Press, 1926); C. G. Pooley & J. Turnbull: "Migration and mobility in Britain from the eighteenth to the twentieth centuries", *Local Population Studies*, no. 57, autumn 1996, pp. 50-71. "Most movement undertaken in all time periods was short-distance and contained within regional migration systems" (ibid, p.55).

miles distant.<sup>5</sup> William Turner's analysis of textile workers migrating to Accrington in 1851 indicates that their birthplaces were clustered within a 15 mile radius, with about 74 per cent of unskilled calico printers being born within 10 miles, and only 7.7 per cent of professionals and 5.5 per cent of skilled operatives were classified as long-distance immigrants.<sup>6</sup> It is evident, too, from Tab. 4.3 that the Accrington area had a "young" population in 1851, with 16-30 years being marginally the most common age group, about 25 per cent of the total sample, and large proportions of infants and children. Only about 4 per cent of Accrington's residents were aged over 60. There was a notable gender imbalance in the sample in favour of females and a relatively high proportion (14 per cent) of single people of marital age, many of whom were young unmarried women.

It is apparent from the demographic evidence that the Hyndburn sub-region comprised more than a random, disaggregated cluster of individualistic towns and townships. It had formed a sophisticated if unconventional urban system which developed into a mini-conurbation of over 100,000 people by 1911, with its own internal economic logic, although it must be stressed that it never existed as a registration or political district in the nineteenth century. We can use the data selectively to trace the rise of Hyndburn in relation to other towns and cities, and Lancashire as a whole county, in Tab. 4.3.

**Tab. 4.3: Selected Population Totals within Lancashire, 1801-1911**

<i>Census Year</i>	<i>Accrington</i>	<i>Hyndburn sub-region</i>	<i>Blackburn</i>	<i>Burnley</i>	<i>Preston</i>	<i>Manchester and Salford</i>	<i>Liverpool</i>	<i>County of Lancashire</i>
1801	3077	10728	11980	3305	11887	84020	77653	672731
1851	10374 (237.1%)	27727 (158.5%)	46536 (288.4%)	31853 (863.8%)	69361 (483.5%)	401321 (377.6%)	375955 (384.1%)	2057301 (205.8%)
1871	21788	50655	76339	49780	85427	504175	493405	2849259
1891	38603	81390	120064	87016	107573	703507	517980	3957906
1901	43122 (315.7%)	93047 (235.6%)	129216 (177.7%)	97043 (204.7%)	112982 (62.9%)	865830 (115.7%)	704134 (87.3%)	4437518 (115.7%)
1911	45029	100172	133052	106322	117088	945690	746421	4825089

*Source:* British Parliamentary Papers, Census Reports for England and Wales, 1801-1911. The boundaries of registration districts and their designations were not fully stable over this period.

<sup>5</sup> M. Anderson, *op. cit.*, pp. 34-38.

<sup>6</sup> William Turner: "Patterns of migration of textile workers into Accrington in the early nineteenth century", in D. Mills & K. Schurer (eds): *Local Communities in the Victorian Census Enumerators' Books* (Leopard's Head Press Ltd, Oxford, 1996), pp. 246-252.

Tab. 4.3 summarises the comparative context of Accrington's and Hyndburn's demographic development within Lancashire, 1801-1911, with percentage population increases over the previous half-century in brackets (ie. 1801-1851 and 1851-1901). The table shows that Hyndburn grew more slowly than Lancashire as a whole in the first half of the nineteenth century, with increases of 158.5 per cent and 205.8 per cent respectively. Between 1851 and 1901 Hyndburn's population increased by 235.6 per cent, while Lancashire managed a less dramatic 115.7 per cent, although it was one of the fastest growing English counties in the nineteenth century. We can observe, too, that Hyndburn grew much more slowly than Manchester, Liverpool and Preston between 1801 and 1851, but much more rapidly than the regional centres during the following half-century. Finally, Accrington's rise may be compared with its larger neighbours, Blackburn 5 miles to the west and Burnley 6 miles to the east. Blackburn and Burnley's growth rates easily outstripped Accrington in the first half of the nineteenth century, phenomenally so in the case of Burnley (1801: 3305 population; 1851: 31853; 863.8 per cent increase). It is probable that the arrival of the Leeds and Liverpool canal had propelled these two towns into their own "take-offs" which moderated during the railway era, allowing Accrington to recover lost ground. Her population more than quadrupled between 1851 and 1901, which easily exceeded the growth rates of Blackburn and Burnley. Accrington was always the smallest town, but was never in danger of being absorbed into the urban systems of either Blackburn or Burnley. Accrington maintained its demographic distinctiveness as an independent, self-contained, entity during the railway era.

More detailed comparisons of demographic structure in East Lancashire's towns are possible using the Census summary tables, as selectively extracted and collated in Tab. 4.4. It shows the gender and age-group balance in terms of both absolute sizes and proportionate shares (in brackets) for the urban sanitary districts of Accrington, Darwen, Haslingden and Nelson in 1891. Both Darwen and Nelson grew into cotton weaving towns of comparable size to Accrington by 1900, and they were, like Accrington, relatively late developers in Lancastrian terms, spectacularly so in the case of Nelson, which virtually quadrupled its total population between 1881 (10,381) and 1901 (40,104). Haslingden was a small established textiles town 5 miles south of Accrington which had grown steadily rather than dramatically from its origins in the dispersed woollen manufacturing communities of the Rossendale Forest in the early modern era, as described in Tupling's authoritative history.<sup>7</sup> Tab. 4.4 shows remarkable consistency, both in the age composition of these four towns,

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<sup>7</sup> G.H. Tupling: *Economic History of Rossendale* (Chetham Society, Manchester, 1927).

with the predominance of young adults and children (63.4 per cent of Accrington's population and 66.6 per cent of Nelson's were under 30), and in the surplus of females over males across the age spectrum, particularly in the 15-29 and smaller over 60 categories.

**Tab. 4.4: Age and Gender Structure of Selected East Lancashire Towns, 1891**

<i>Town</i>	<i>&lt;5yrs</i>	<i>5-14</i>	<i>15-29</i>	<i>30-44</i>	<i>45-60</i>	<i>60-69</i>	<i>&gt;70yrs</i>	<i>Gender Totals</i>
Accrington	2297	4274	5197	3713	1987	635	226	18329 males
	(12.5%)	(23.3%)	(28.4%)	(20.3%)	(10.8%)	(3.5%)	(1.2%)	(100%)
Age Totals	2374	4451	5884	4040	2405	783	337	20274 females
	(11.7%)	(22%)	(29%)	(19.9%)	(11.7%)	(3.9%)	(1.7%)	(100%)
	4671	8725	11081	7753	4392	1418	563	38603 both
	(12.1%)	(22.6%)	(28.7%)	(20.1%)	(11.4%)	(3.7%)	(1.5%)	(100%)
Darwen	1949	3811	4802	3043	1771	470	179	16025 males
	(12.2%)	(23.8%)	(30.0%)	(19.0%)	(11.1%)	(2.9%)	(1.1%)	(100%)
Age Totals	2022	3873	5607	3598	2149	659	259	18167 females
	(11.1%)	(21.3%)	(30.9%)	(19.8%)	(11.8%)	(3.6%)	(1.4%)	(100%)
	3971	7684	10409	6641	3920	1129	438	34192 both
	(11.6%)	(22.5%)	(30.4%)	(19.4%)	(11.5%)	(3.3%)	(1.3%)	(100%)
Haslingden	1014	1953	2479	1741	950	342	112	8591 males
	(11.8%)	(22.7%)	(28.9%)	(20.3%)	(11.1%)	(4.0%)	(1.3%)	(100%)
Age Totals	1015	2115	2835	1947	1177	382	163	9634 females
	(10.5%)	(22.0%)	(29.4%)	(20.2%)	(12.2%)	(4.0%)	(1.7%)	(100%)
	2029	4068	5314	3688	2127	724	275	18225 both
	(11.1%)	(22.3%)	(29.2%)	(20.2%)	(11.7%)	(4.0%)	(1.5%)	(100%)
Nelson	1476	2668	3201	2113	1074	285	98	10915 males
	(13.5%)	(24.4%)	(29.3%)	(19.4%)	(9.8%)	(2.6%)	(0.9%)	(100%)
Age Totals	1568	2684	3525	2294	1228	359	127	11785 females
	(13.3%)	(22.8%)	(29.9%)	(19.5%)	(10.4%)	(3.0%)	(1.1%)	(100%)
	3044	5352	6726	4407	2302	644	225	22700 both
	(13.4%)	(23.6%)	(29.6%)	(19.4%)	(10.1%)	(2.8%)	(1.0%)	(100%)

*Source:* British Parliamentary Papers, Census Report for England and Wales, 1891, Table 3: Ages in Urban Sanitary Districts (in Lancashire), pp. 332-337.

As with the 1851 Census sample, the disaggregated findings for 1891 confirm that Accrington's demographic regime reflected the general experiences of industrial towns in East Lancashire and elsewhere. Moreover, it is worth stressing the obvious, though often overlooked, point that this period was characterised by massive and sustained demographic expansion which was widely spread throughout the country, with recorded population totals of England and Wales doubling from 8.89 million in 1801 to 17.93 million in 1851 and rising a further 81 per cent to 32.53 million by 1901, so that Accrington would have been anomalous not to have benefited from continuous growth.<sup>8</sup> What is less self-evident is, firstly, the intimate association between migratory inflows, organic increases and industrial

<sup>8</sup> British Parliamentary Papers, Census Reports for England and Wales, 1801, 1851, 1901.

development, and, secondly, the structuring of this growth as rapid urban formation in the early railway era. In other contexts, railways could have unexpected effects, precipitating outward migration and collapse of local industries and labour markets, or they could leave demographic regimes and/or economic structures essentially unchanged. They were not bound to generate, or support, the three parallel processes of demographic increase, industrialisation and urbanisation, and it is clear that their simultaneous occurrence in Accrington and throughout Hyndburn hinged on the unlocking of untapped economic potential by the railways after 1848.

### **Cartographical evidence of Accrington's growth**

A sequence of five extracts from on-line cartographical databases (Figs. 4.1 – 4.4 and Fig. 4.7) shows how Accrington's demographic growth was organised into patterns of settlement and industry from the 1780s to the Edwardian era, including the boundaries of the built-up areas, factory sites and associated housing clusters, the railway and road networks, and street patterns. The three OS Maps are also available in Appendix D in larger A3 format for detailed study. Taken collectively, they depict patterned, not planned, development. The railway, more than any other agency, defined this pattern of urbanisation after 1848, although topographical constraints persisted.

The first piece of cartographical evidence, Yates' Map of Lancashire, c. 1786 (Fig. 4.1), strongly suggests that geophysical factors had encouraged settlement to disperse before the nineteenth century. Many of the farms and homesteads depicted, such as those in the hamlets of Green Haworth and Stanhill, would have been engaged in the domestic production of woollens, and later cotton goods, especially in their damp basement loomshops. Richard Ainsworth's survey of the local farm and manor houses from the early modern era, such as Lower and Higher Antley Halls, Dunnishop, High Riley, The Hollins, Woolhurst Bank, Duckworth Hall and the impressive Dunkenhalgh residence of the Petre family, reinforces the sense of Yates' map, suggesting the scattering of settlement in the Pennine uplands, the absence of a dominant aristocratic centre, and the dispersal of land ownership among the gentry and middling mercantile orders.<sup>9</sup> Ainsworth also noted that stone rather than wood was "naturally the almost universal building material", which reflected local availability of supplies and medieval deforestation.<sup>10</sup> The homesteads were

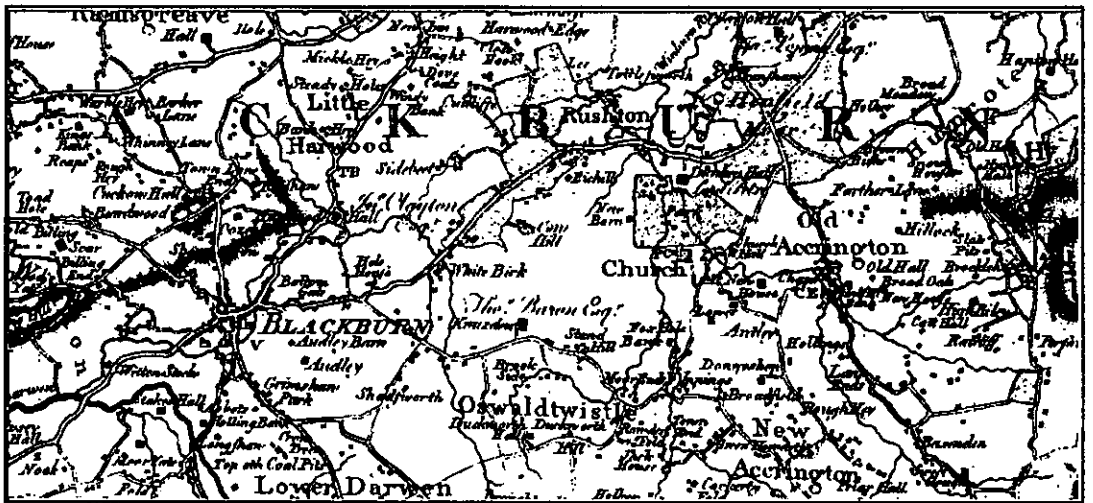
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<sup>9</sup> Richard Ainsworth: *The Old Homesteads of Accrington and District* (Accrington, 1928). Ainsworth claimed, without full explanation: "It is in these old homesteads that the history of our district for the most part centres, particularly during the Tudor and Stuart periods" (p. 1).

<sup>10</sup> *Ibid*, p. 3.

usually located close to the many streams which steadily drained the West Pennine moorlands, such as Woodnook Water and Warnden Brook in the Accrington area, and these streams were also clearly pulling the early carding, jenny and fulling mills to peripheral and isolated water power sites, for example Shoe Mill and Rothwell Mill in Priestley Clough. The configuration of the ancient packhorse trails, such as the King's Highways along Willows Lane, Hollins Lane and Sandy Lane, served and reflected the scattered economic pattern, and it is evident that these trails climbed steeply onto the moorland tops and ridgelines to the east and south rather than following the valley bottoms, which did not form passable through routes in this era.<sup>11</sup>

**Fig. 4.1: Extract from Yates' Map of Lancashire, c. 1786**



Source: LRO, Preston, available on-line at [www.lancashire.gov.uk/environment/oldmap/yates/](http://www.lancashire.gov.uk/environment/oldmap/yates/).

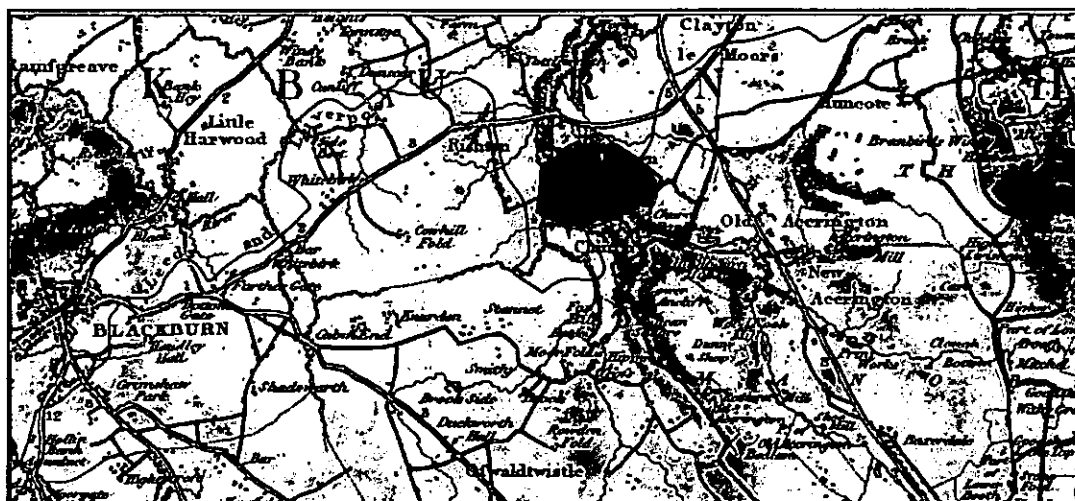
There is an implication in Fig. 4.1 of openness and possibility in this de-centralised human environment in the Pennine uplands, before the arrival of the major transport innovations, and the sense that the future path of development would be shaped by historical contingency rather than economic inevitability. Without the benefit of hindsight, it is difficult to see anything here that resembles urbanisation in the classic Victorian mould. However, neither were the Pennine uplands classically rural in the sense of dependency on agriculture, for domestic textile manufacturing was the main source of income, sometimes supplemented by dairying and sheep-farming which remained marginal activities. Tupling strongly reinforces these evidential findings about how remarkably non-urban the Rossendale Forest and its northern fringes around Accrington were in early modern times,

<sup>11</sup> John Goddard: *The King's Highway* (Hyndburn Local History Society pamphlet, 1993).



noting that: “The workers in wool were widely scattered over the whole Rossendale district.....even the so-called ‘town’ of Haslingden, which is so frequently mentioned in the registers, was a mere village of three or four streets.”<sup>12</sup> This basic pattern persisted into the early nineteenth century, after the arrival of the turnpike roads and canal, as suggested by Greenwood’s county survey of 1818 (Fig. 4.2).

**Fig. 4.2: Extract from Greenwood’s Map of Lancashire, c. 1818**



Source: LRO, Preston, available at [www.lancashire.gov.uk/environment/oldmap/greenwood/](http://www.lancashire.gov.uk/environment/oldmap/greenwood/).

In 1825 Edward Baines’s well-respected Directory commented briefly but significantly: “Accrington (Old and New) form one considerable village”.<sup>13</sup> Tab 4.5 selectively extracts demographic data from Baines’ Directory for the parish of Whalley, and includes calculations of decennial population increases (percentages in brackets) and an approximate indication of data totals for the Hyndburn district excluding Great Harwood and Rishton. Baines’ statistics summarised in this table clearly show the absence of urban concentrations in the extended parish of Whalley in the period 1801-1821. The multitude of townships (48) and chapelries (13) here re-inforces the point that as population grew in the East Lancashire uplands in the pre-railway era, it continued to be widely dispersed. It must be noted that the term “township” did not in any way imply a recognisable urban “core”, but was simply an administrative sub-division of parishes in areas where they were too large to

<sup>12</sup> G.H. Tupling, *op. cit.*, pp. 178-179. See the accompanying maps facing p. 179 (woollen workers in early eighteenth century) and p. 212 (cotton and woollen mills, c.1844).

<sup>13</sup> Edward Baines: *History, Directory and Gazetteer of the County Palatine of Lancaster, Vol. 2* (Liverpool, 1825), p. 637, 678. Pigot & Co’s *National Commercial Directory, 1828-29 - Cumberland, Lancashire, Westmoreland* (Manchester, 1829) used near identical language: “Accrington (Old and New) form one considerable and populous village” (p.81).

function effectively. Many of them in northern England had limited and scattered settlement, and were themselves divided into several hamlets for practical purposes. See Appendix B for a direct reproduction of Baines' entries about Whalley parish to supplement the evidence of Tab. 4.5.

**Tab. 4.5: Data Extracts from Whalley parish in Baines' 1825 Directory**

<i>Whalley (parish)</i>	<i>1801 persons</i>	<i>1811 persons</i>	<i>1821 persons</i>	<i>1821 families</i>	<i>1821 houses</i>	<i>1821 estimated annual value</i>
Accrington, New (township)	2246	2381 (+6.0%)	4109 (+72.6%)	704	746	£4089
Accrington, Old (chapelry)	831	885 (+6.5%)	1261 (+42.5%)	221	229	£1551
Altham (chapelry)	328	383 (+16.8%)	439 (+14.6%)	74	74	£2975
Church Town (chapelry)	323	474 (+46.7%)	752 (+58.6%)	145	110	£996
Clayton-le-Moors (township)	1130	1423 (+25.9%)	1963 (+37.9%)	349	211	£1578
Huncoat (township)	450	514 (+14.2%)	629 (+22.4%)	121	116	£1584
Oswaldtwistle (township)	2710	3512 (+29.6%)	4960 (+41.2%)	850	815	£7799
<b>District Totals</b>	<b>8018</b>	<b>9572</b> <b>(+19.4%)</b>	<b>14113</b> <b>(+47.4%)</b>	<b>2464</b>	<b>2301</b>	<b>£20572</b>

Source: E. Baines: *History, Directory and Gazetteer of the County Palatine of Lancaster, Vol. 2* (Liverpool, 1825), p. 636.

The next map in the sequence, the Ordnance Survey of 1844-46 (Fig. 4.3) provides a snapshot of Accrington's growth on the eve of the arrival of the railway, which is shown as under construction.<sup>14</sup> It still demonstrates the importance of water resources for early industrialisation, with dispersal of industry and settlement along the streams, but clustering of spinning and weaving mills had also emerged on the flatter land drained by the River Hyndburn, with associated development of insanitary dwellings for their workers arranged around courtyards or, less commonly, back-to-back. This cluster stretched on an axis from north-west to south-east along both sides of the Whalley-Manchester turnpike. An alternative focus of growth was evident on the south-east moorland fringes along Warmden Brook associated with the Broad Oak Printworks. Further west, the pull towards the Leeds and Liverpool canal had created another cluster of industry and settlement in Church and Oswaldtwistle, but, significantly, there was no comparable canal-related development in the immediate Accrington district simply because it took a northerly route through Clayton-le-

<sup>14</sup> All OS Maps in this chapter are extracted from the EDINA Digimap on-line database. © Crown Copyright and Landmark Information Group Limited, 2009. All rights reserved.

**Fig. 4.3: OS Survey of 1844-46, Accrington (EDINA Digimap Tile 19sd72ne)**



*Source:* OS County Series 1:10560 (Lancashire and Furness), 1<sup>st</sup> Edition, published 1848-1849

Moors which bypassed the townships by two miles. The key point to underline about the Accrington district by the mid-1840s is that decades of incremental growth had created and “thickened” a decentralised pattern of industrial colonies, settlement clusters and smaller hamlets on the moorland fringes and tops without generating an observable urban “core”. There was not even a small town here in embryonic form before the railway arrived.

The Ordnance Survey of 1890-91 (Fig. 4.4) illustrates Accrington’s dramatic and sudden physical expansion in the railway era. The massive triangular junction where rail routes from the west, south and north-east converged and where the station, engine shed, goods depot and other facilities were concentrated in a distinct public transport hub, had given the

**Fig. 4.4: OS Survey of 1890-91, Accrington (EDINA Digimap Tile 19sd72ne)**



*Source:* OS County Series 1:10560 (Lancashire and Furness), 2<sup>nd</sup> Edition, published 1894-1895

town a nucleus for growth and also pulled industry and settlement westwards. Fingers of development along the main highways, Burnley Road to the north and Manchester Road to the south, were emerging, while the detached industrial colony in the south-east was relatively static. While the concentrating tendencies of the transport presence are readily apparent, there were outlying pockets of settlement and industry on the moorland plateaux or by streams on their fringes which persisted stubbornly throughout the railway era. In the wider Accrington area the hilltop hamlet of Green Haworth, complete with public house, Anglican school and Methodist chapel, remained a viable community up to 1914 and beyond, but further south the moorland settlements in the Musbury clough, nearer Haslingden, and at Haslingden Grane by the turnpike road to Blackburn, went into sharp

economic and demographic decline in the second half of the nineteenth century.<sup>15</sup> In the upper reaches of Priestley Clough, near Baxenden, the early (pre-1800) textile developments at Shoe and Rothwell Mills ceased operations, even though the Accrington-Manchester railway ran through the valley, while the remote Broad Oak printworks by Warmden Brook on Accrington's eastern moorland flank prospered in the railway era. On Oswaldtwistle Moor, most of the early cotton mills gradually closed after 1850 and activities migrated to lower and flatter land near the railway, but one mill stubbornly persisted in splendid isolation at the head of Cocker Lumb Clough beyond 1900.<sup>16</sup>

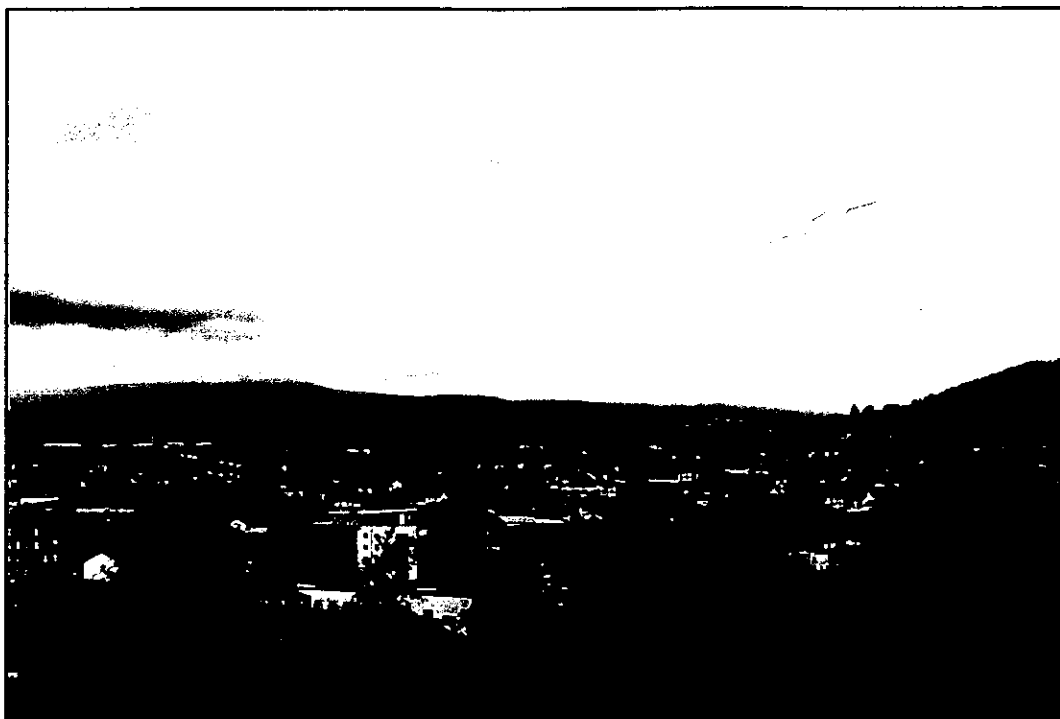
Within the cotton industry, the concentration of weaving mills around the hub of Accrington station is apparent on Fig. 4.4. The most dramatic industrial development, however, was the growth of a textile engineering quarter on the south-west fringe of the built-up area associated with the Globe Works of Howard and Bulloughs, stimulating a terraced house-building boom in the Lower and Higher Antley areas. Like most of Accrington's working-class accommodation dating from the late nineteenth century, these terraces of "two-up, two-down" houses were well-built from locally-quarried sandstone, clad with slate roofs, regulated by byelaws, supplied with running water, sanitation and gas by the municipal authority, and located within easy reach of workplaces, corner shops, pubs, schools and churches. Enough of them still survive to define a classic northern Pennine townscape, as the recent photograph in Fig. 4.5 illustrates. Much of the railway infrastructure was considerably elevated within the townscape, running at least 15 ft above ground level on solid embankments and bridging structures, and reaching an altitude of over 60 ft along Accrington viaduct which dominated the urban centre. The three arms of the T-shaped rail network reinforced the effects of geo-physical features such as steep slopes and deeply-incised streams to disrupt the coherence of the grid-iron street pattern and to impede movement within certain parts of the town, such as in Woodnook along Nuttall Street, as captured photographically in Fig. 4.6. The sheer physical presence of immovable railway infrastructure isolated certain residential pockets from the town centre and solidified the boundaries of neighbourhoods which were implicit in the topography. For example, the Accrington-Manchester rail arm towards the south reinforced Woodnook Water's tendency to bisect the Manchester Road/ Hollins Lane area and part of Woodnook and Lower Antley.

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<sup>15</sup> Gladys Sellers: *Walks on the West Pennine Moors* (Cicerone Press, Milnthorpe, 1983, revised), pp. 92-110.

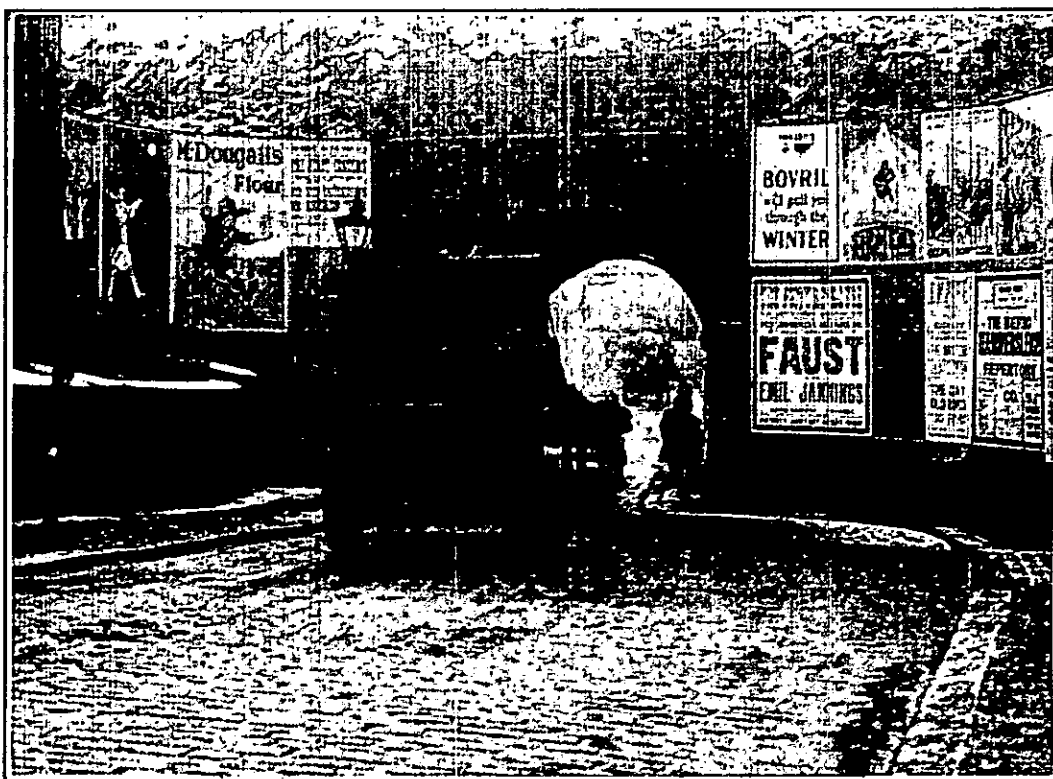
<sup>16</sup> For most of these examples, see M. Rothwell: *Industrial Heritage: A Guide to the Industrial Archaeology of Accrington* (Accrington, 1979), and *The Oswaldtwistle Cotton Industry, 1760-1960* (Accrington, 1974).

**Fig. 4.5: Accrington's Townscape, July 2009 (author's image)**



The photograph, taken from Bullough Park looking northward over the urban core, shows the legacy of Victorian factories and terraced houses, and Accrington's confinement within its upland setting.

**Fig. 4.6: Railway Bridge at Nuttall Street, Woodnook, c. 1920s**



*Source:* Local Studies Collection, Accrington Library. The narrow overbridge, with high flanking embankments (re-built in 1936), shows the "barrier" effect of rail infrastructure within the town.

The three elements of the topography, the railway presence, and the limited need for workers and consumers to travel far regularly, or even short distances within such a compact town, all contributed in varying proportions to the introspective neighbourhood identities and independent sense of community which were distinctive features of urban cultures in East Lancashire, and which council ward structures reflected and solidified.<sup>17</sup>

The final map in the sequence, the Ordnance Survey of 1909 (Fig. 4.7), depicts the mature, intensively-developed, town towards the end of the railway era. There was limited ribbon development of solid stone-built housing along Whalley Road, Burnley Road and Manchester Road, consisting of both larger terraced properties with front gardens for better-off artisans and foremen, and detached villas for middle-class professionals and factory managers. These growing fingers of settlement enlarged the built-up perimeter to the north, north-east and south and were probably related to the extension of urban tramway services along these routes towards Clayton-le-Moors, Huncoat and Haslingden during the 1880s and later, initially steam-hauled, then electrified in 1907.<sup>18</sup> The tramways were certainly a convenience for those prepared to pay for a reasonably cheap (about 1d per mile), but respectable, alternative to walking in and out of Accrington centre, but they were hardly a necessity for intra-urban movement. Like many other Pennine communities, Accrington long remained a compact “walking” town built around the daily rhythms of journeys to work, school and the shops on foot (often in clogs), and at weekends the attractive countryside was just as accessible for leisure pursuits, shaping strong pedestrian traditions in urban East Lancashire.

Hence there was nothing here which even vaguely resembled true suburbanisation on the London or south Manchester models, which depended on sophisticated road or rail commuting services.<sup>19</sup> Neither was there a well-defined concentric zone pattern beloved of urban geographers and often perceived as the defining attribute of the classic Victorian city. The more appropriate model in this context is segmental development around transport and factory nuclei. In particular, a factory enclave towards the west with easy rail access had

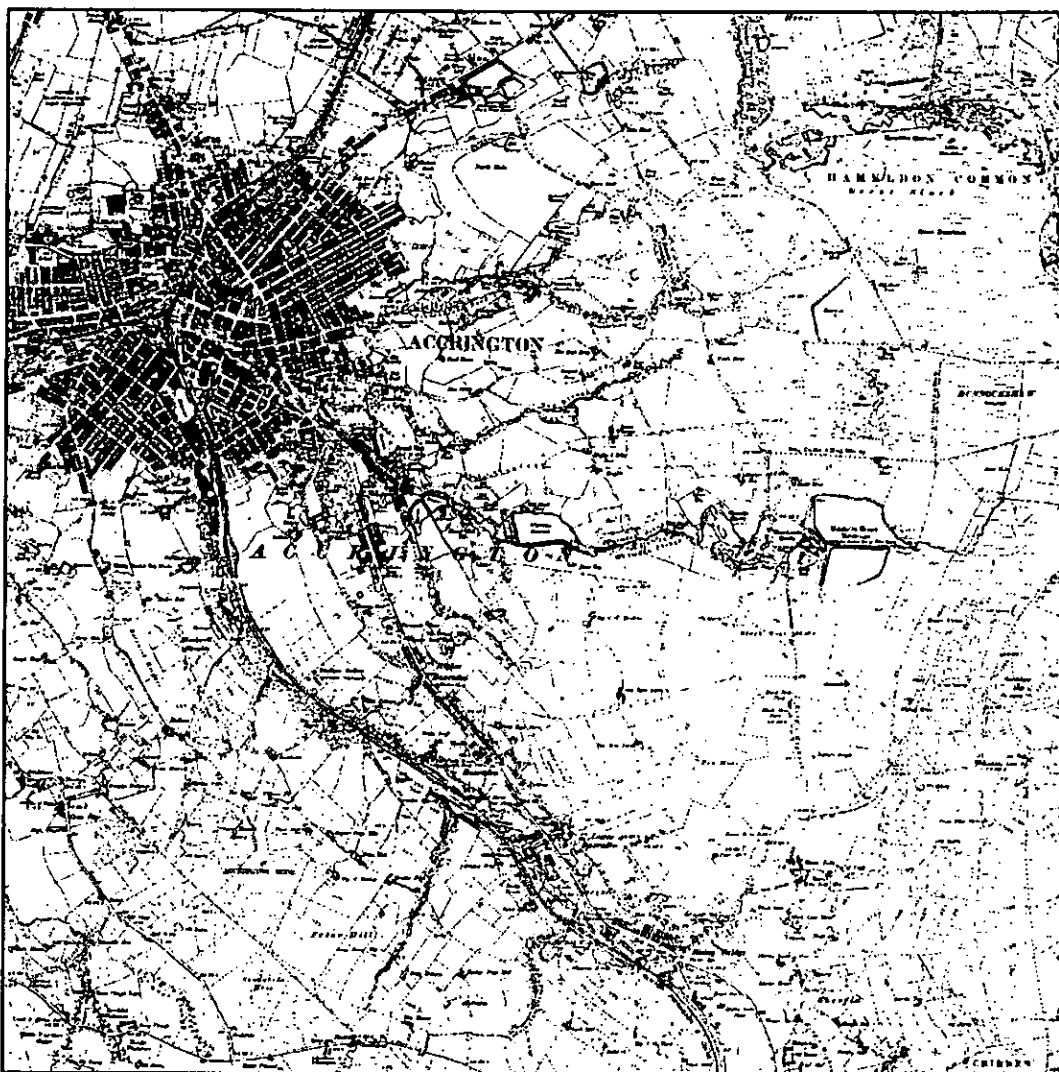
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<sup>17</sup> A fascinating example is the phenomena of Gobbinland in Oswaldtwistle, which is now a minor local industry. Traditionally you were a Gobbiner if you were born above the lamp post outside the Public Library on Union Road, but the term also implies a certain cultural isolation and in-bred insularity, better re-defined here as distance from the railway’s civilising influence.

<sup>18</sup> R.W. Rush: *The Tramways of Accrington* (Light Railway Transport League, 1961) and *Accrington’s Public Transport, 1886-1986* (Landy Publishing, Blackpool, 2000). However, Rush does not analyse passenger figures.

<sup>19</sup> See H.J. Dyos: *Victorian Suburb: A Study of the Growth of Camberwell* (Leicester University Press, 1961).

**Fig 4.7: OS Survey of 1909, Accrington (EDINA Digimap Tile 19sd72ne)**



*Source:* OS County Series 1:10560 (Lancashire and Furness), 3<sup>rd</sup> Edition, published 1912-1913

“thickened” housing development along Blackburn Road compared to 1890-91, creating a continuously built-up corridor over a mile long between Accrington and Church. However there is little further evidence of urban sprawl, mainly because of the difficult topography. There were no major pockets of undeveloped or unpolluted land within the settlement zone and shortages of suitable building land developed on the perimeter, which was hemmed in by hilly moorland fringes to the south and east. The pressures on available accommodation and land resources are also indicated by the falls in both uninhabited dwellings within the Borough, from 601 in 1901 to 192 in 1911, and in buildings under construction, from 168 in 1901 to 58 in 1911.<sup>20</sup> The geo-physical factors deterred investment in industrial expansion

<sup>20</sup> British Parliamentary Papers, Census Reports, 1901 and 1911, Borough of Accrington.



or suburban housing and constrained development options. Quite simply, Edwardian Accrington was rapidly running out of space to extend its growth.

### **Institutional development in and around Accrington**

It is essential to understand how demographic growth was organised into observable urban concentrations, and how this was translated into the rise of new civic forms. A movement from small-scale, informal structures, dependent on voluntary effort and face-to-face relationships, to town-wide, formal and increasingly professionalised institutions was generally evident in the railway era. The townships of Old Accrington (around Bull Bridge) and New Accrington (around St. James Church) were run by vestry meetings before 1853, with ad hoc arrangements for such responsibilities as the Poor Law, policing and highways, and limited co-operation between the townships, which had grown from a collection of hamlets and scattered farmsteads. St. James Church, rebuilt in 1763, was a chapel of ease, part of the unwieldy and over-extended parish of Whalley in the archdeaconry of Chester (a legacy of the monastic era), and superintended by its remote and mainly absent vicar, similar to other huge parishes in the trans-Pennine regions.<sup>21</sup> The weaknesses in the Church of England's parochial structure allowed Dissent, especially John Wesley's Methodism, to penetrate the district through itinerant preaching, a flexible pastoral network of cottage meetings and classes, and the mobilisation of lay talent and enthusiasm for practical ministry. Indeed, the organised response of dissenting churches to the challenge of the "mission field" around Accrington provides striking evidence of the de-centralised pattern of settlement, for they sought to reach the remote farmsteads and hamlets by dispersing rather than concentrating their evangelistic, educational and pastoral activities, and their limited building investments. Wesleyan Methodist preaching plans for the extensive Haslingden circuit in 1822 included weekly services in Green Haworth, fortnightly services in Accrington, Hippings, Baxenden, Huncoat and Oakenshaw and monthly meetings at Cocker Brook on the Oswaldtwistle moors.<sup>22</sup> Belthorn Independent Chapel ran preaching stations at the moorland communities of Guide, Pickup Bank, Daisy Green, Grange, and as far as Haslingden. In some of these isolated places Sunday schools, including a purpose-built school at Yate and Pickup Bank, proved effective in building

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<sup>21</sup> See C. Humphery-Smith (ed.): *The Phillimore Atlas and Index of Parish Registers* (Phillimore & Co., 1995) & J.P. Smith: *The Genealogists' Atlas of Lancashire* (Henry Young & Sons, 1930) for the complexities of parish and township boundaries in the north of England.

<sup>22</sup> A Plan of the Haslingden Wesleyan Circuit, 1822, John Rylands Library Methodist Collection, Manchester.

congregations.<sup>23</sup> By 1851, according to the Religious Census, churches and dissenting chapels had proliferated across the extended township and registration district of Oswaldtwistle (9 were recorded), partly reflecting the complex schismatic history of local Methodism in the first half of the nineteenth century, and partly the “thickening” of a dispersed economic and demographic pattern in hamlets like Green Haworth and Stanhill.<sup>24</sup>

The dissenting chapels were at the heart of social life in the dispersed communities and sustained their strong identities into the railway era, as celebrated by one of the first dialect writers, Richard Crawshaw, an Accrington fent dealer (“Fent Dick”).<sup>25</sup> His most popular poem, “T’Belthorn Charity”, was a humorous account of the tradition of Charity Sermon Sundays enjoyed by the sturdy tribe of “th’Belthorners” in this remote moorland hamlet, near Oswaldtwistle:

“Owd Fiddlin’ Bob un Clarnet Bill, un Sam wi’ th’ owd bass-horn,  
They used to play at th’ owd Chapil, just aboon th’ Belthorn.  
As sure as ever Sunda’ coom, these three dob hands wur theer,  
Just as they’d come aot o’ th’ loom, which wur ther Sunda’ weer.....  
Th’ next Sunda’ coom, thad nooated day; fooak coom fro’ far un near,  
To year th’ Belthorners sing un play; th’re nowt like um nowheer.  
Owd Sam un Bob un Bill un Dick, they met thad mornin’ soon,  
To rosin up th’ owd fiddle stick, un ged ther plays i’ tune.”<sup>26</sup>

The mid-nineteenth century marked a turning point for institutional growth. A key sanitary report by Benjamin Herschel Babbage in 1850 provides a window for the urban historian into Accrington’s moment of transition from village to town at the outset of the railway age. The Babbage Report described Accrington as a “small manufacturing place” which had “no corporation or other governing body, having only lately risen into importance”.<sup>27</sup> It noted that rapid growth had physically merged the two townships by 1850, making the old administrative division largely meaningless. Yet there were no structures to handle the resulting town-wide problems, especially water supply and sanitation, which future unregulated expansion could only multiply. Babbage warned prospectively:

“There are a great many houses built or building in different parts of the town, but amongst them are to be found cellar houses, imperfect ventilation, exposed cess-pits and the

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<sup>23</sup> Rev B. Nightingale: *Centenary History of the Lancashire Congregational Union* (Manchester, 1906), p. 65.

<sup>24</sup> Religious Census of 1851 in England and Wales, Parliamentary papers, 1852-1853.

<sup>25</sup> Ronald Y Digby & Alice Miller (ed.): *An Accrington Miscellany* (Borough of Accrington, 1970), pp. 221, 233. Crawshaw’s dialect newspaper contributions inspired others, eg. John T Baron (“Jack o’ Ann’s”), a Blackburn engineer. Each town had its own variant of Lancashire dialect.

<sup>26</sup> Extracts from R Y Digby & A Miller, op. cit., pp.77, 80.

<sup>27</sup> B.J. Babbage: *Report to the General Board of Health: The Townships of Old and New Accrington* (London, 1850), pp. 37, 40.

want of proper conveniences, so much as to justify perfectly the observance of one of the promoters of the enquiry, that the application of the Public Health Act was required as much for the prevention of future evils in new buildings to be erected, as for the remedying of existing ones.”<sup>28</sup>

The Babbage Report was the catalyst for the creation of the Accrington Local Board of Health in 1853. The Accrington Board unified the two townships administratively, became the nucleus for the subsequent rise of local government, imposed some order and regulation on a squalid and unhealthy environment, and strengthened a growing civic identity and consciousness. As well as improving public health, the Board in spring 1865 borrowed £4,000 on commercial terms to acquire the impressive Peel Institute, which had been built by public subscription in 1858 in a restrained classical style to commemorate the life of Sir Robert Peel. By the purchase of the Peel Institute, which would serve as the hub for civic life and eventually as the official Borough Town Hall, the Board was making a clear and highly significant statement that Accrington had “arrived” as a confident urban community with prospects, within 17 years of the advent of the railway era, while the fact that the Institute had been built privately with local capital shows that this was not an imposition of “civilisation” by an outside agency.<sup>29</sup> Fig. 4.8 is a recent photograph of Accrington’s finest public building, essentially preserved in its 1858 state, which still serves as the Town Hall.

The Board also built a more ornate, extrovert Market Hall in 1869, adjacent to the Town Hall, to function as a focus for local trade. Civic institutional development culminated in February 1878 with the town’s incorporation as the Municipal Borough of Accrington, complete with motto and heraldic symbolism shown in Fig. 4.9, an astonishing achievement by Lancashire’s standards given that 30 years ago there was no town.<sup>30</sup> In May 1878 the Borough elected the first Mayor of Accrington, John Lightfoot. At the first meeting of the new Borough Council on 9<sup>th</sup> May 1878, held after municipal polls, the Returning Officer (from Burnley), Mr A Deane, paid tribute to the work of the old Board members and noted the facts of Accrington’s rapid civic rise under their stewardship, but, in a central and repeated observation, expressed an outsider’s surprise that legal recognition of this growth through the incorporation process seemed to have been delayed so long by the Local Board:

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<sup>28</sup> Ibid, p.36.

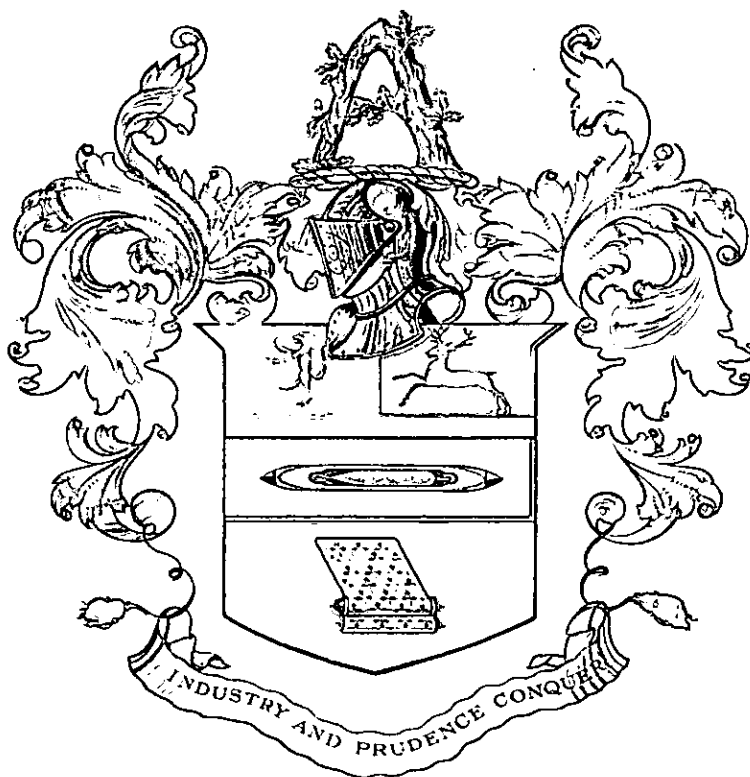
<sup>29</sup> Reports and associated readers’ letters in *Blackburn Times* on monthly meetings of Accrington Local Board of Health (Blackburn Local Studies Collection). Tenders were sought for the loan of £4,000 in March 1865 and the purchase seems to have been completed before the summer (ibid, 11 Mar 1865, 15 Apr 1865, 25 Aug 1865).

<sup>30</sup> The motto was: “Industry and Prudence Conquer”. The Borough Coat of Arms included a weaver’s shuttle and Parsley-pattern printed calico, as reproduced in full colour in Fig. 4.9.

**Fig. 4.8: Accrington Town Hall, Blackburn Rd, July 2009 (author's image)**



**Fig. 4.9: The Coat of Arms of the Borough of Accrington from 1878**



*Source: J S Singleton: Accrington Jubilee Souvenir. 1878-1928 (Accrington, 1928). frontispiece*

“ Will you allow me to congratulate you upon the incorporation of the Borough? When I first entered the town a week or two ago, I was very struck with it and what astonished me most, was that it had not been incorporated long ago. When I saw the size of the town, its general beautiful appearance and well-paved streets, I was perfectly astonished that it was not incorporated some years ago. You have certainly been behindhand in that respect, but I think considerable credit is due to the late Local Board for the very efficient manner in which they have discharged their duties. Allow me to congratulate you most sincerely as being the first members of the new Town Council. Upon you and your colleagues will devolve very important powers, rights and privileges, and I feel assured....that you will do everything in your power to aid and assist in the progress and development of your town.”<sup>31</sup>

The Corporation did much to fulfil these progressive urban aspirations as it extended public services and the boundaries of public ownership for the benefit of Accrington’s citizens. Milnshaw, Oak Hill, Peel and Bullough Parks were opened in 1880, 1883, 1909 and 1913 respectively, the Public Baths in 1893, the Municipal Technical College, which trained engineering apprentices, in 1895 and the Public Library in two stages, 1901 and 1908, with a gift from the Carnegie trust. The Steam Tramway Co.’s system was built by 1886 and acquired, electrified and extended by the Corporation in 1907 when the private operator’s 21-year lease expired. Gas and water supply were municipalised in 1894.<sup>32</sup> As the town’s post-WW2 planners noted, “the history of Accrington since 1878 has in fact been increasingly that of the Corporation.”<sup>33</sup>

The dialect contribution of a proud, but anonymous, “Accringtonian” to the *Accrington Gazette* newspaper in 1882 reflects and reproduces a strong civic patriotism, and adds a cautiously optimistic view, tempered by pragmatism, of the visible municipal progress in the years after incorporation:

“ We`re fairly on t` spirit o` progress,  
 Γ this weel-noted Accrington taan;  
 It`s reet if it`s nod building castles i` th` air,  
 Which yo` know`s vary apt to fall daan.  
 Wod wi` tramways, un` all such as that,  
 Id ul` mek` all things araand us look gaily;  
 We`re on t` road to good, or it may be to bad,  
 Wi` th` improvements that`s takin` place daily.”<sup>34</sup>

The next key step in the rise of local citizenship after incorporation was that in 1885 the Parliamentary Division of Accrington was formed and returned its first M.P., Frederick Gratton (Liberal). National politics was impressed on the built environment through the

<sup>31</sup> *Accrington Times*, 11 May 1878, p.5, Accrington Local Studies Collection.

<sup>32</sup> John S. Singleton: *Accrington Jubilee Souvenir, 1878-1928* (Accrington, 1928), and J.S.Allen & R.S.Mattocks: *Industry and Prudence: A Plan for Accrington* (Accrington, 1950).

<sup>33</sup> J.S.Allen & R.S.Mattocks, op.cit., p.21.

<sup>34</sup> The stanza is from the poem “Traits o` Accrington”, R Y Digby & A Miller, op. cit., p. 92.

imposing Liberal Club (1885) and Conservative Club (1891), reflecting the formation of powerful constituency associations and intense local electoral competition between the two big parties, joined after 1900 by the Social Democratic Federation and the nascent Labour movement.<sup>35</sup> There were many other important markers of civic growth during the railway era, including in 1873 the incorporation of the magistrates' courts into a Petty Sessional Division for Accrington.

Whereas earlier the citizens of Accrington had had to rely on the *Blackburn Times*, the *Blackburn Standard* or *Preston Guardian* to report local events accurately, the town acquired its own locally-controlled newspapers, such as the *Accrington Gazette* and the *Accrington Times* from the later 1860s, and in 1887 the best-known and most enduring of these weekly titles, the Crossley family's *Accrington Observer*.<sup>36</sup> The town also gained a permanent niche in footballing history with the formation in 1878 of Accrington F.C. ("th'owd Reds"), one of the 12 northern clubs which founded the Football League in the 1880s, and it became the precursor of the widely renowned Accrington Stanley (whose first competitive season was 1894-95).<sup>37</sup> An important, and sobering, example of civic expression and pride at the end of the railway era was that, after the British declaration of war in August 1914, Accrington was able to quickly raise a 1100-strong volunteer "Pals" battalion for the East Lancashire Regiment, but then lost 235 of its young men to concentrated German machine-gun fire on the devastating first day of the Battle of the Somme in July 1916.<sup>38</sup>

The churches also sought to give institutional expression to town-wide growth and this meant that concentration of building investments and centralisation of missionary strategies reversed, or in some cases overlapped with, the previous tendency to dispersal. During the incumbency of the Vicar of Accrington, Canon John Rogers (1869-1905), the Church of England finally responded to the challenge of Dissent by developing an effective parish structure and pastoral presence in the new and rapidly growing neighbourhoods, as with St. Peters in Higher Antley (1889) and St Andrews iron church (1899), based around the district chapelry of St. James Church (formed 1870). The local Catholic Church organised

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<sup>35</sup> The Accrington Parliamentary division was predominately held by the Liberals from 1885 to 1918, apart from a Conservative interlude, 1886-1892, but was marginal in most elections.

<sup>36</sup> R.S.Crossley: *Accrington Chronological Notes and Men of Mark* (Accrington Observer, 1924) for basic data.

<sup>37</sup> Phil Whalley: *Accrington Stanley F.C.* (Tempus Publishing, Stroud, 2001), pp.7-10.

<sup>38</sup> William Turner: *Pals: The 11th (Service) Battalion (Accrington), East Lancashire Regiment* (Leo Cooper, Pen & Sword Books Ltd., Barnsley, 1993).

a parallel parish network, especially for Irish migrants, centred on St Oswald's (opened 1853) and then Sacred Heart (1869), and Accrington's Wesleyan Methodists formed their own Circuit in 1863, mainly superintended and resourced from Union Street chapel. The "three cathedrals" of their respective denominations were in central Accrington: the New Church (1849), the largest Swedenborgian chapel in England; the graceful Cannon Street Baptist building (1874), pastored by the Rev. Charles Williams (1869-1901), Accrington Nonconformity's leading spokesman; and Oak Street Congregational Church (rebuilt 1889), whose Italianate spire eclipsed all other local churches in height. These prosperous and confident Nonconformist "mother" churches then sought to plant "daughter" congregations and Sunday schools in Accrington's expanding working-class neighbourhoods, as with Oak Street's Park (1893-94) and Higher Antley (1908) missions. The "daughter" congregations had their own distinct identities which reflected the neighbourhoods they served, and they resented "mother's" interference and financial control, seeking their independence.<sup>39</sup>

Although Accrington's institutional growth was in some respects representative of many nineteenth-century towns in northern England, what distinguishes it from its Lancastrian counterparts like Blackburn, Burnley, Preston and Manchester was, firstly, the significantly later phase of development after 1850, and, secondly, the role of the railway as the unifying hub. It is difficult to define the word "town" consistently in terms of population size or functions, especially in northern England, as Stephen Caunce stresses.<sup>40</sup> However, it is possible for historians to identify the critical point when the concentration of settlement generated urban perceptions which were then embedded in a set of institutions. In terms of the chronology of the institutional evidence, there is nothing to suggest that Accrington was conscious of itself as a town before the start of the railway era in 1848, which does not appear to have been formally celebrated.<sup>41</sup> There is an abundance of evidence that the

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<sup>39</sup> R.S. Crossley, *op. cit.*, and Lancashire Congregational Union Yearbook, 1930, for basic chronology of church growth. See also Mark Haydock: *Oak Street Congregational Church, 1838-1964: A Spiritual Journey* (M.A. thesis, University of Sheffield, 1986), and subsequent unpublished oral history research with members of Oak Street & Higher Antley congregations.

<sup>40</sup> Stephen Caunce: "Urban systems, identity and development in Lancashire and Yorkshire: a complex question", in Neville Kirk (ed.): *Northern Identities: Historical Interpretations of the North and Northernness* (Ashgate Publishing, Aldershot, 2000), pp. 62-63.

<sup>41</sup> The apparent absence in 1848 of any civic celebrations of the arrival of the railway in the Accrington area is significant. There are reports in the *Blackburn Standard* (Blackburn Local Studies Collection) of the opening of the Accrington-Blackburn and Accrington-Burnley sections, and detailed descriptions of the routes on the ELR's T-shaped network (21 Jun. & 20 Sept., 1848), but the actual opening of Accrington station seems to have gone unrecognised, unlike Blackburn station (14 June, 1848). Similar reports in the *Preston Guardian* (Harris Reference Library, Preston) reflect the lack of civic ceremony in Accrington (24 Jun., 19 Aug., 16 Sept., 1848).

critical point for urban self-definitions was reached in the mid-Victorian years, shortly after the arrival of the railway. It integrated urban space, concentrating scattered settlement and industrial clusters and giving Accrington a physical centre and framework, which generated appropriate structural responses in multiple layers of human interaction. Arguably the railway was the first unifying institution in Accrington's history as a town and served as both the catalyst and organising model of its subsequent civic and civilised advance.

Within the Hyndburn district Accrington always remained the largest town by far during the railway era, but it was significant for wider patterns of civic development that it never overwhelmed the surrounding towns and villages. The peripheral cotton and coal mining towns had independent, though relatively undiversified, local economies, and so traded with Accrington (and Blackburn in the case of Great Harwood) to provide certain transport and other business services. The smaller towns, notably Rishton and Great Harwood, tended to develop their economies later than Accrington, and this was reflected in their chronological pattern of institutional growth.<sup>42</sup> Administratively, they remained distinct from Accrington, with their own Local Boards of Health from the 1860s, and, from 1895, Urban District Council (UDC) structure. There was limited co-operation of the UDCs with Accrington and each other on Joint Boards for the management of specific infrastructure investments and related public services, such as the Accrington and Church, and the Clayton-le-Moors and Great Harwood, Joint Sewerage Boards. The most extensive joint arrangement was the Accrington and District Gas and Water Board, which covered all the local towns except independent Oswaldtwistle.<sup>43</sup> The five UDCs for Church, Clayton-le-Moors, Great Harwood, Oswaldtwistle and Rishton replicated Accrington's experience of civic life on a smaller scale, complete with mayoral succession, coats of arms, town halls, and "flagship" projects like public parks, and for many years were the objects of local pride and patriotism, sometimes expressed defensively against Accrington's "imperialism". When the UDC for Great Harwood was launched in January 1895, the newly-appointed chairman, Mr J Noble, reminded the meeting that "Great Harwood was only one eighth of the district comprised in the [Gas and Water] Board", and Mr S Barnes, the chairman of Church UDC, similarly reflected the fear and insecurity of the small towns in his inaugural speech: "Although

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<sup>42</sup> For most of this chronology, see R.S. Crossley, *op. cit.*

<sup>43</sup> Archival collections for the Urban District Councils are kept at the LRO, Preston, in the following series: Church - UDCh, Clayton-le-Moors - UDCl, Great Harwood - UDGH, Oswaldtwistle - UDOs, Rishton - UDRI.



Church was only one sixth the size of Accrington, he believed that the work was all the greater and all the more difficult and all the more complicated.”<sup>44</sup>

The *Accrington Observer* newspaper commented in its editorial in January 1895 on recent “sharp growth” of civic institutions in and around “Greater Accrington”: “Townships blossomed into Local Boards and Local Boards into Boroughs.....A still more striking feature of the changes are the partnerships into which Accrington and the many surrounding Local Boards (District Councils we must now call them) entered under stress of circumstances. Home Rule was not sufficient for any of them, unless it were proud, little (or big) Oswaldtwistle.”<sup>45</sup> Hence the distinct demographic and industrial trajectories of the individual townships and towns were the essential context for the interwoven set of urban identities in this sub-region of East Lancashire by the 1890s, based on economic and civic “Home Rule” (which itself was a striking and unusual local application of a term familiar in contemporary national politics). Stephen Counce has drawn attention in a significant and pioneering article to the complexity of northern cultures associated with the integrated urban systems across the Pennines, which defy simple description.<sup>46</sup> The mini-conurbation of Hyndburn included multiple layers of allegiances to street, neighbourhood, township and town, which commonly were most strongly felt when confronted with an external threat.

The most extensive, and perhaps the clearest, example of a local author giving literary shape to these distinctive railway-era urban cultures in the Hyndburn district is Tom Pateman’s “Dunshaw, A Lancashire Background”, written during World War 2 but based on his pre-1914 personal recollections.<sup>47</sup> It was a thinly-disguised fictionalised account of the rise of Accrington in which the main character was the industrial town itself, and was partly influenced by the success of William Westall’s late Victorian novel “The Old Factory, A Lancashire Story”, set in Oswaldtwistle during the transition to the power looms and cotton mills between the 1820s and 1840s (“The Old Factory” was White Ash Mill, owned by the Westall family), and which vividly described the desperate resistance of the workless and dis-empowered hand-loom weavers.<sup>48</sup> Pateman’s story, however, portrayed

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<sup>44</sup> *Accrington Observer and Times*, Jan 12, 1895, p.8, & Jan 5, 1895, p.3 (Accrington Local History Collection).

<sup>45</sup> *Ibid*, Jan 5, 1895, p.3, under title “Looking Backward”. The newspaper also expressed the hope that the new UDC councillors would convert Church into a “model township” (*ibid*, Jan 26, 1895, p.5).

<sup>46</sup> Stephen Counce, *op. cit.*, pp. 47-70.

<sup>47</sup> Tom W Pateman: *Dunshaw: A Lancashire Background* (Museum Press, London, 1948).

<sup>48</sup> William Westall: *The Old Factory: A Lancashire Story* (Chatto & Windus, London, 1899).

the later phase of municipal development in which incorporation was the defining event in the life of Dunshaw (Accrington):

“ The changes which led to the Incorporation of Dunshaw in the summer of 1880 were well on the way. For two or three years before that date there had been a widespread desire for municipal status. The population was considerable, progressive and, in various degrees, prosperous. Still more new streets had sprung up, other streets had been extended, and public buildings had arisen in many quarters ..... Street-paving, however, was but indifferent, and sanitation, although a universal pail system had been instituted, still left room for improvement. It was generally held that this and other improvements could better be effected by a Corporation and that the time had now arrived for the birth of the Borough of Dunshaw. The keener partisans were for the inclusion in the borough of the neighbouring townships of Kirkley and Tosset, but the local patriotism which seethed in these districts proved sufficient to defeat the grander scheme.”<sup>49</sup>

The reference in the extract’s final sentence to the “local patriotism” of the townships refusing Dunshaw’s wider incorporation is fascinating and significant for the urban historian. Kirkley was based on Church and Tosset on Oswaldtwistle and elsewhere Pateman described their peculiar traits and independent spirit in ethnographical language: “The older end, particularly the farmers and country folk and in such industrial places as Kirkley and Tosset on the outskirts of Dunshaw, and up in the Rossendale Valley as far as Bacup, have marked characteristics of their own”.<sup>50</sup> The author’s companion, Jonty, embodied the individuality and confidence of Dunshaw itself: “Only there’s mony a wor’ place nor Dunshaw. Just compare it wi’ Salford an’ some of them slummy parts o’ Manchester. There’s next to nowt o’ that sort i’ Dunshaw. An’ what’s moore, Dunshaw fooak can allus get out on to t’ top for an airing.”<sup>51</sup> The closest literary parallel to Pateman’s representation of a multi-centred urban industrial system with complex, strong, and, at times, contentious identities is perhaps Arnold Bennett’s better-known world of the Potteries in Staffordshire, in which each of his Five Towns – Turnhill (Tunstall), Bursley (Burslem), Hanbridge (Hanley), Knype (Stoke), Longshaw (Longton) - was acutely aware of what the others were doing and was prepared to co-operate for mutual benefit, but preferred to do its own thing.<sup>52</sup> However, the Five Towns (Six including Fenton) were eventually federated into the County Borough of Stoke-on-Trent before WW1, unlike the pattern seen in Pateman’s “Dunshaw”, perhaps because the Potteries lacked a single medium-sized, assertive, urban hub like Accrington which the outlying small towns feared would annex or overwhelm them.

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<sup>49</sup> T W Pateman, op. cit., pp. 19-21.

<sup>50</sup> Ibid, pp. 42-43.

<sup>51</sup> Ibid, p. 23

<sup>52</sup> Arnold Bennett’s “Five Town” novels included *Anna of the Five Towns* (1902), *The Old Wives` Tale* (1908) and *Clayhanger* (1910) in a prolific literary output.

The multiple, self-contained and discrete development paths within East Lancashire's urbanisation pattern also help the historian to understand the relationships between the larger Borough towns and their civic authorities, which, like the small UDCs, were characterised by frequent assertions of independence and suspicions of outside interference in their domains. One result of this parochialism was the failure, at times, to integrate strategic services which crossed municipal boundaries. A notorious example was that, while the urban tramways of the Boroughs of Darwen, Blackburn, Accrington, Haslingden and Rawtenstall became physically interlinked on the same track gauge (4 ft), there were no jointly-worked services running the full length of the network, although in fairness they would in some cases simply have duplicated existing inter-urban provision on the Lancashire and Yorkshire Railway's own system. According to Hesketh's tramway survey, "it is reckoned that only on one occasion, in June 1900, to mark the end of steam traction in Darwen, did a tram venture from that town's Whitehall terminus, through Blackburn, Accrington, Haslingden, and Rawtenstall to Bacup, 21 miles away, with a civic party on board."<sup>53</sup>

#### **Accrington as a Railway Town**

The evidence so far presented leads to one inescapable conclusion: Accrington was in all urban essentials a creation of the railway era. More than that, it was a railway town of a kind which has not been recognised in the academic historiography on British urbanisation. Arguably, it constitutes a new genre for urban and transport historians. In what sense, therefore, was Accrington a railway town? The question may be addressed by comparisons with well-known examples and genres of British railway towns in the historiography. The comparisons serve to clarify what Accrington was not, and to highlight the distinctiveness of what it became after the arrival of the railway in 1848.<sup>54</sup>

Accrington was emphatically not a Swindon, a company town created by the need of the Great Western Railway to centralise construction and maintenance of locomotives and carriages, activities which dominated both employment and social life. The East Lancashire Railway (ELR), and its successor, the Lancashire and Yorkshire (L &YR), never overwhelmed Accrington in this sense. A comparable railway town to Swindon within Lancashire was Horwich, where the L & YR built its new locomotive works in the later 1880s, and which was dominated by rail-related engineering employing around 2,100 in

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<sup>53</sup> Peter Hesketh: *Trams in the North West* (Ian Allan Publishing, Shepperton, 1995), pp.77-78.

<sup>54</sup> See J. Simmons & G. Biddle (ed.): *The Oxford Companion to British Railway History* (Oxford University Press, 1997) for most of the following examples of railway towns.

1901, or 40 per cent of the male workforce of 5,129.<sup>55</sup> Nor was Accrington a “Railway Derby”, where the Midland Railway based its headquarters and engineering workshops in a self-contained enclave detached from the historic centre of Derby and its established manufacturing industries, which did not expand or migrate significantly in subsequent decades.<sup>56</sup> Newton-le-Willows was a Lancastrian equivalent to Derby in some respects, where several industrial colonies including the Vulcan Foundry, an early locomotive works, grew separately from, and had minimal influence on, the pre-existing urban core.<sup>57</sup> Nor was Accrington a railway “plant” like Silloth, planned and built by the Port Carlisle Railway as a port and seaside resort on the remote Cumbrian coast where nothing existed before. Accrington was never a Swansea, an urban “colony” in South Wales which became remotely controlled by English railway companies, financed by distant capital, and exploited for its mineral wealth in similar fashion to railway “imperialism” in Africa or South America. The final contrast here is that Accrington was certainly not a railway suburb like Camberwell, whose prosperity depended on the daily export of its labour to central London conveyed by intensive commuting services, but which lacked an independent economic foundation.<sup>58</sup> Accrington was not a railway “plant” in the sense that the East Lancashire Railway consciously planned its development. Nor is it true that there was nothing of substance here before the railway arrived, for Accrington had expanded steadily into a large and thriving manufacturing village by the 1840s. Hence there was always much more to the town than the railway presence. An important indication of this is the railway’s direct contribution to employment in the town. In the 1851 Census 47 railway employees are recorded as resident in Accrington, including 12 porters, 10 labourers, 9 engine drivers, 3 firemen, 2 clerks, 2 agents and 2 guards.<sup>59</sup> Relative to the total population of Accrington in 1851, which exceeded 10,000, the direct impact on the labour market was insignificant. By 1911 the railway employed 408 workers in the town, which to some extent confirms the growth of Accrington as a transport hub after 1851, but this was only 2.6 per cent of the male workforce, or 0.9 per cent of the total

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<sup>55</sup> British Parliamentary Papers, Census Report, County of Lancaster, 1901, Table 35A, p. 178.

<sup>56</sup> On Railway Derby, see George Revill: “Migration, mobility and community: Midland Railway headquarters and the railway suburb of Derby, 1850-1890”, in C. Divall (ed): *Railway, Place and Identity* (Working Papers 2, Institute of Railway Studies, York, 1997), pp. 1-15.

<sup>57</sup> Lynton J. Smith: “The Impact of the Liverpool and Manchester Railway on a South Lancashire township: Newton-le-Willows, 1821-1851”, *Transactions of the Historic Society of Lancashire and Cheshire*, Vol. 114 (1979), pp. 109-123. Smith notes of the detached industrial colonies: “None had triggered off more continuous long-term urban growth” (ibid, p. 114).

<sup>58</sup> H.J. Dyos: *Victorian Suburb: A Study of the Growth of Camberwell* (Leicester University Press, 1961).

<sup>59</sup> Walter Holmes: *1851 Census Index for Old & New Accrington* (Local Studies Collection, Accrington Public Library, 1995).

urban population of 45,029.<sup>60</sup> Nor is there any evidence in the 1851 or subsequent censuses that there was a distinct railway suburb, like “Railway Derby”, where the Midland Railway provided both employment (for over 12,000 in 1900) and accommodation. Because the ELR and L & YR were not major landlords, the residences of railway workers were dispersed fairly evenly throughout the town, though they remained within easy walking distance of the station and rail-related facilities.

The historical interest lies in precisely what the railway did, largely unintentionally, for Accrington’s broader development as a town. It may be argued that the arrival and presence of the railway was both the key catalyst and sustainer in Accrington’s rapid rise after 1848. In one sense the railway added nothing original to what was already implicit or latent in the economic and natural landscapes, but worked with what was already there to give new form and shape to urban structures. The term “rail-embedded urbanisation”, perhaps aptly, captures the sense that the railway was enmeshed and intertwined in the fabric of the town’s economic and social life through multiple and indirect linkages, so that railway and town grew together in an interactive, symbiotic, relationship. The evidence, therefore, invites historians to view railway and town as an integrated, holistic, *phenomena*, not as discrete or disconnected elements in the economic and human landscapes, which justifies the composite term “railway town”. Equally, there is a strong element of historical contingency to the urbanisation process, so that if the East Lancashire Railway had bypassed Accrington like the Leeds and Liverpool canal, had proven a technological or financial failure, or had simply arrived too late in the economic cycle, Accrington’s development path would have been very different. Its economic prospects would probably have been blighted for a generation or more, and the likelihood is that it would have been increasingly incorporated into the powerful urban systems of its larger neighbours, Blackburn and Burnley. There was nothing to say that Accrington was bound to become a railway town.

The railway’s tendencies were centripetal in East Lancashire, concentrating industrial and residential development into compact, self-contained, communities, quite *unlike* the centrifugal pattern visible in south-east England around the London hub, which increasingly separated home and workplace. Like the ice ballet dancer who spins faster as she contracts her arms into her body, the more this centripetal process progressed, the more rapid was the development of urban systems in the district until they exhausted fresh supplies of energy.

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<sup>60</sup> British Parliamentary Papers, 1911 Census Report for County of Lancaster, LRO.

Hence there were no extensive suburban developments or heavy commuting flows in East Lancashire during the railway age, and Accrington remained quite detached from Manchester's commuter belt (unlike today), a process assisted by the intervening moorland barrier which prevented Accrington from being over-shadowed by the metropolitan hub but allowed the two places to trade on equal terms when Accrington was ready. While businessmen could travel by express train to Manchester to transact deals at the Cotton Exchange, and holidaymakers could be conveyed by Wakes Weeks excursions to enjoy the attractions of the Lancashire coast, these were occasional, infrequent journeys, and the reality was that most people did not move far on a daily basis. The railway brought into the town everything needed to sustain the essentials of everyday existence – employment, food, household goods, retail networks, business services. The paradox was that although railways dramatically increased the *opportunities* for mobility, they reduced the *necessity* for it in the daily rhythms of East Lancashire's distinctive urban life, which contradicts the orthodox historiographical interpretation of the impact of transport innovations, based mainly on the experience of large British cities. Indeed, most historians have, perhaps understandably, missed the significance of what railways did for northern towns like Accrington because so much of it was ordinary, routine, and unsung, but still extraordinary in its quiet efficiency.

To summarise the diverse strands of evidence, urbanisation in and around Accrington was characterised by a dramatic transformation of settlement patterns in the mid-Victorian decades after a lengthy period of steady incremental progress of dispersed communities. The railway propelled Accrington into exponential, not evolutionary, development which was sustained during the second half of the nineteenth century, constituting a remarkable Rostovian "take-off".<sup>61</sup> Following this frenetic phase of urbanisation, growth slowed down noticeably after 1900 as the limits implied by the "take-off" in a constricted and difficult environment were encountered. Building land was in short supply, the urban landscape was congested, and pollution and squalor deterred investment in middle-class housing. However, the choke point generated by the interaction of intensive human activity and the natural environment lay far in the future when the railway arrived in the late 1840s, and it was not primarily a transport constraint. The smaller townships surrounding Accrington exhibited a similar, though later, "take-off" phase as they became rail-connected, notably Great Harwood and Rishton, but the development of Church and Oswaldtwistle was stimulated by the canal in the first half of the nineteenth century. Rapid urban growth

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<sup>61</sup> W. W. Rostow: *The Stages of Economic Growth* (Cambridge University Press, 1960).

throughout the district resulted in the formation of Hyndburn, a distinct “mini-conurbation” with multiple centres which Stephen Caunce has identified as an important feature of population distribution in northern England in his article.<sup>62</sup>

Furthermore, the internal spatial and built structures of these towns were highly distinctive and quite complex, and they defy simple description in terms of the orthodox models of urban morphology. It is important to stress that unlike London and the major British cities, railway development in Accrington was not superimposed on a well-defined built environment, for it did not exist as a coherent town in the 1840s.<sup>63</sup> The configuration of urban space in Accrington was organised around the railway hub formed by the huge triangular junction on the T-shaped network, which did not have to take existing building patterns into account. This hub concentrated industrial and residential development, reversing the previous tendencies to dispersal, and the physical presence of railway infrastructure in a difficult topography also defined the parameters and structure of the urban environment which restricted internal movement and possibilities for future development. There was remarkable institutional development of civic associational and political life, too, especially in Accrington. This is an important strand of evidence, for, as noted earlier, an apt working definition of a town consists of the self-definition of historical agents, as manifest in their civic testimony in a range of sources. In Accrington, “soft”, small-scale, informal arrangements were formalised into “hard”, town-wide structures during the mid-Victorian era, as physically embodied in the new town hall. The newly created institutions imposed greater coherence and order on the urban landscape, and both channelled and stimulated a growing sense of civic loyalty and pride, in a similar fashion to the frontier towns which rapidly emerged in the American West, as described in F.J. Turner’s famous article.<sup>64</sup> The civilised institutional landscape of these towns was an indirect response to the unexpected transforming effects of railways. Because railways reduced the practical necessity for people to travel far in their everyday lives by bringing in food, consumer goods and business services, they indirectly strengthened cultural parochialism and intense local identities. This surprising finding contradicts accepted historiographical wisdom that railways “nationalised” provincial urban communities.<sup>65</sup> All the available evidence, therefore, points to the clear conclusion that during the railway era,

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<sup>62</sup> Stephen Caunce, *op. cit.*, pp. 47-70.

<sup>63</sup> See H.J. Dyos & M. Wolff: *The Victorian City: Images and Realities*, 2 vols. (Routledge, London, 1973).

<sup>64</sup> Frederick J. Turner: “The Significance of the Frontier in American History”, *Annual Report to the American Historical Association*, (Chicago, 1893).

<sup>65</sup> For example, J. Simmons: *The Victorian Railway* (Thames & Hudson, London, 1991).

but not before, Accrington and its smaller neighbours developed as self-confident and prosperous “proper” towns which were neither adjuncts of a larger urban centre such as Manchester and Blackburn, nor parts of an amorphous, sprawling conglomeration.

One facet which case-studies of towns in East Lancashire, or the wider trans-Pennine corridor, with a more recent chronological focus may explore with interest is the extraordinary persistence of the cultural legacy of the Victorian and Edwardian phases of urbanisation. The legacy of civic autonomy was tenaciously defended in the Hyndburn district long after its economic foundation, which was independent control of a successful local industrial base, came under serious challenge in the depressed inter-war years, and has by now largely disintegrated. When the enlarged Borough council was formed in 1974 as part of local government re-organisation, it was named after an obscure stream, the River Hyndburn, which was by that time heavily polluted and extensively culverted, rather than the largest town, in order to placate the cultural sensibilities of the smaller towns like Great Harwood and Rishton, fearful of an Accrington “takeover”. More recent proposals to change the name of the Borough of Hyndburn to something with a wider recognition factor, such as “Greater Accrington” or “Accrington and District”, or even “Hyndburn, the Home of Accrington Stanley”, have similarly been resisted. The present Area Council structure, which grants limited control of budgetary allocations to councillors and citizens in the peripheral towns and neighbourhoods in the Borough, and proposals to strengthen the decision-making autonomy of local communities through a revival of the old, but much missed, Urban District Councils in a new guise, reflect the multiple civic allegiances and the complex tensions, still rooted in both pride and insecurity, in the Hyndburn district. This distinctive cultural landscape may bewilder and confuse outsiders, but that is all the more reason to take it seriously. It should tell the inquiring historical researcher much about the unusual trajectory of the development of the towns in East Lancashire, and more widely in the Pennine districts, during the Victorian and Edwardian eras. Railways were the key agent in urban transformation in and around Accrington during the mid-Victorian years, and became intimately and inseparably identified with the functioning of its entire urban system throughout subsequent decades in ways that have never been recognised in the standard historiographical models of “railway towns”. Hence it is vital to understand the nature and characteristics of railways as local business institutions, and their distinctive responses to the needs of their territorial domains in East Lancashire, which is the subject of the next section (Chapter 5).



## CHAPTER 5: LOCAL RAILWAY COMPANIES IN EAST LANCASHIRE: SOME INSTITUTIONAL RESPONSES, 1844-1914

The main purpose of this chapter is to explore the diverse ways in which the East Lancashire Railway (ELR), its constituent micro-companies, and the successor amalgamated company, the Lancashire and Yorkshire Railway (L & YR), responded to the challenges of building and operating a rail network in the demanding environment of this sub-region of Lancashire, centred around Accrington, between the 1840s and World War 1. Here the main emphasis is on the nature and structural development of the railway companies, whereas Chapter 6 will concentrate on the evidence of the traffic flows they generated and how they functioned within a wider transport context. These workaday, utilitarian, companies have received relatively little attention in transport historiography compared to publicity-conscious operators of prestigious and glamorous services like the Great Western Railway, yet in terms of their contribution to economic and urban development they were arguably much more significant.<sup>1</sup> The three micro-companies which coalesced to form the ELR in the mid-1840s have been almost entirely neglected by academic historians, so a subsidiary aim of this chapter is to accord them some recognition and respect in the historiography.

It is not the intention here to present an exhaustive chronicle of the development of these railway companies, which in the case of the L & YR (though not the ELR) has already been ably accomplished.<sup>2</sup> A brief chronological outline will suffice to illuminate the growth process. The micro-companies consist of, firstly, the Blackburn and Preston Railway (B & PR), authorised on 6 June 1844 and opened on 1 June 1846; secondly, the Manchester, Bury and Rossendale Railway (MB & RR), which was authorised on 4 July 1844, changed its name to the East Lancashire Railway on 21 July 1845, and was opened between Clifton and Rawtenstall on 25 September 1846; thirdly, the Blackburn, Burnley, Accrington and Colne Extension Railway (BBA & CER or more simply the "Extension Railway"), incorporated on 30 June 1845 and opened in successive stages from June 1848 to February 1849. A further Act of Parliament, dated 21 July 1845, authorised the amalgamation of the MB & RR and BBA & CER under the

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<sup>1</sup> The ELR is represented by a slim booklet: R.W. Rush: *The East Lancashire Railway* (The Oakwood Press, 1983), and Chapter 6, Vol. 1, in John Marshall (see note 2 below).

<sup>2</sup> John Marshall: *The Lancashire & Yorkshire Railway*, 3 vols. (David & Charles, Newton Abbot, 1969-1972).

ELR title and enabled the ELR to absorb the B & PR on 3 August the following year. The ELR's compact system itself was unified with the more extensive L & YR, according to the terms of the Amalgamation Act which received the Royal Assent on 13 August 1859. After 1859, the L & YR was responsible for all rail services in East Lancashire, both passenger and freight, until amalgamation with the London and North Western Railway (LNWR) in 1922 and the LNWR's own absorption into the London, Midland and Scottish Railway (LMSR) at the start of the Grouping era in 1923.<sup>3</sup>

These railway companies exhibited several distinctive and defining characteristics during the "railway era" marking their greatest influence, from the mid-1840s to 1914. Firstly, there was localisation of both financial control and management, which were not clearly separated in the early period. This ensured that the necessary capital was raised from sources within mainly East Lancashire to launch and complete the project, and accountability to well-informed and active investors. A second aspect to emerge is that the local companies consistently made the appropriate choices of technologies to both construct and operate the rail system. At a time when railway engineering was still exploratory and experimental, and the technological options fluid and rapidly changing, it was essential that workable and practical solutions were found to the problems posed by a difficult geophysical environment which had deterred canal investment. It must be stressed that the railway builders had to innovate if these huge challenges were to be overcome in East Lancashire, though the scale of their achievement has never been adequately recognised before. Thirdly, the railway companies embodied a marked sense of territoriality distinctive to East Lancashire. In the early days this was asserted defensively against rivals and interlopers on the interfaces of rail systems, but, positively, implied co-operation with other companies where this suited the development of their domains. A fourth and related feature of these companies was that their ethos and vision were in many ways a projection and extension of the communities they served and directly reflected local concerns and priorities. An unusual combination of both outward-looking interconnectedness and dogged independence, a willingness to relate to the wider world on their own terms, characterised corporate identity and purpose. Fifthly, and most importantly, the development of

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<sup>3</sup> Christopher Awdry: *Encyclopaedia of British Railway Companies* (Guild Publishing, London, 1990), and R.W. Rush, *op. cit.*, for brief chronological details. The BBA & CER was called the Blackburn, Burnley & Accrington Extension Railway (BB & AER) before incorporation on 30 June 1845. The name change acknowledged that the Extension Railway had decided to build beyond Burnley to reach Colne.

railway companies and rail-served towns was interactive and mutually beneficial, supported by a powerful positive feedback mechanism. Consequently, rapid traffic growth and the expansion of the rail system itself within East Lancashire, together with recognition of local cultural sensibilities, generated interesting and innovatory responses at the level of corporate governance and structures which persisted for many years after the merger of the ELR and L & YR.

In summary, railways worked and worked well because they intelligently adapted a pre-existing technological and operational package to suit local natural, economic and cultural requirements, rather than imposing an alien “grand vision” on the landscape which did not match local priorities. They therefore prospered as East Lancashire prospered from the late 1840s, avoiding the technical and financial failures of railway companies elsewhere which set back the progress of their districts for a generation or more. They had every incentive to invest in the continual growth of their economic domains along the lucrative trans-Pennine transport corridor, and their investments were constantly well-rewarded in terms of profits and traffic. Contingent corporate choices made a huge difference to growth outcomes in East Lancashire.

The primary evidence for these arguments mainly comprises the directors’ and proprietors’ minutes books held as part of the railway company collection in the RAIL series at the Public Record Office (PRO), National Archives, Kew; the prospectuses the three micro-companies issued to raise capital, which will be discussed in detail in Chapter 6 and referred to selectively here; and inspection reports, bi-annual company returns and general correspondence in the Board of Trade records at Kew. The evidence is presented in chronological order of company formation and development: the micro-company origins in the mid-1840s; the relatively brief, but critical, stage of the ELR’s independent existence in the later 1840s and 1850s; the much longer phase from merger of the ELR and L & YR in 1859 to the outbreak of World War 1.

### **The formative stage, 1844-1846**

The clearest evidence for the localisation of ownership of the micro-companies is contained in the records of attendance at proprietors’ meetings kept in the PRO archives. Not only were names and home towns minuted, but sometimes also details of share holdings. What is remarkable for the business historian was the active participation of local shareholders who “owned” these companies in more than a legal sense, quite unlike the distant and largely passive relationship of small investors to the giants of the modern corporate world. This “Athenian

democracy” of capitalism tapped local capital, knowledge and enthusiasm in a way which is paralleled within Lancashire by the retail co-operative movement and the famous “Oldham Limiteds” in the cotton industry during the mid-nineteenth century and later, and it ensured that managers were held accountable to well-informed shareholders. Moreover, local economies were clearly confident about their ability to finance such capital-intensive and challenging infrastructure projects as a railway. For example, the first general meeting of the Extension Railway in July 1844, held at the Eagle and Child Inn in Bury, was attended by 22 shareholders, as reproduced in Tab. 5.1:

**Tab. 5.1: Shareholders attending Extension Railway Meeting, July 1844**

<i>Name of Shareholder</i>	<i>Home Town</i>	<i>Share Holding in Ext. Railway</i>
Samuel Ashton (Chairman)	Prestwich	520 shares
John Grundy (Director)	Belle Vue, Bury	461
John Grundy	Bury	64 (joint)
Alfred Grundy	Bury	As above
Richard Hacking (Director)	Bury	337
Richard Walker Jnr (Director)	Bury	25
Thomas Wrigley (Director)	Heap	330
John Robinson Kay (Director)	Bury (Bass Lane House)	480
John Harrison	Bury	287
Walter Serigo	Bury	100
Thomas Dugdale	Blackburn	62
John Shearson	Bury	10
Charles Edward Fairley	Bury	68
James Smithells	Bury	2
Richard Shaw	Bury	10
William Peers	Bury	2
Thomas Scantlebury	Handsworth, nr. Sheffield	10
Richard Bolton	Colne	65
Edward Evans	Manchester	30
James Rostron	Chatterton, Hey	12
John Manson	Bury	3
William Shott	Bolton (Kearsley Mount)	50 (2928 in total)

*Source:* Shareholders` Minutes Book, BB & AER/BBA & CER, 28 July 1844, RAIL 51/1, PRO.

The importance of the Bury connection is evident in the overlapping directorships and shareholdings of the BB & AER/BBA & CER and the location of its General Meetings. The railway was conceived as a natural extension of the Bury-based MB & RR, though it had a separate legal and financial structure. It is interesting that although all three of the micro-

companies were almost completely dependent on capital raised within East Lancashire or the Irwell Valley, there were occasional expressions of interest from West Yorkshire and London. In February 1844 a Mr. Robert Allsop of London (presumably a commercial agent) was sent a list of metropolitan subscribers to the B & PR whose allotments had been approved by the Provisional Committee.<sup>4</sup> The B & PR minutes in 1844 also recorded an intriguing reference to “the shareholders residing at Leeds”.<sup>5</sup> There is no evidence of a significant Liverpool connection, contrary to the pattern which is often assumed to characterise transport and industrial investment in Lancashire (and was certainly crucial to the Liverpool and Manchester Railway’s success). The M & BR’s shareownership structure was characterised by the predominance of local capital, the same unexpected wider connections as the B & PR, and the cross-holdings in the Extension Railway scheme, as shown by the attendance list for the MB & RR’s first ordinary General Meeting in October 1844, as reproduced in Tab. 5.2:

**Tab. 5.2: Shareholders attending MB & RR General Meeting, Oct. 1844**

<i>Name</i>	<i>Home Town</i>	<i>Name</i>	<i>Home Town</i>
Samuel Lomax	Rochdale	Walter Serigo	Bury
Edward Connell	Pendleton	James Livesey	Heap
J L Lancashire	Rochdale	Joseph Wood	Bury
John Harrison	Bury	R B Watson	Leeds
Richard Walker Jnr	Bury	Thomas Hopkinson	Elton
Thomas Ashton	Chadderton	Edward Grundy Snr	Bury
John Bowker	Prestwich	William Grant	Nuttall, nr Bury
John R Kay	Bass Lane House, Bury	George Bradshaw	Manchester
John Mansell	Bury	John Allanson	Bury
John Openshaw	Bury	W Nelson	Hulneck, nr Leeds
John Heape	Rochdale	J R Barnes	Great Lever
James Ogden	Heywood	Robert Stuart	Manchester
C E Cantley	Broughton	James Wrigley Jnr	Bury
John Walker	Bury	William Coward	Bury
David Price	London	Richard Ashton	Limefield, nr Bury
John Grundy	Bury	Richard Hacking	Bury
James Harrison	Bury	Edmund Harrison	Bury
M Astbury	Stand Lodge (Bury?)	Thomas Grundy	Bury
Robert Parker	Bury	William Randle	Bury
John Parkinson	Ewood Bridge	Samuel Ashton	Prestwich
Henry Peel	Bury		(Total present: 41)

*Source:* Proprietors’ Minutes for MB & RR and ELR, 3 October 1844, RAIL 176/1, PRO.

<sup>4</sup> Minutes of Provisional Committee of B & PR, 5 February 1844, RAIL 50/1, PRO.

<sup>5</sup> *Ibid.*, 8 April 1844.

Not surprisingly, the Extension Railway also generated considerable interest in the Accrington area, which was set to benefit hugely from its role as hub of the project. This is suggested by Tab. 5.3 listing the attendance of the following landowners and manufacturers, all prospective investors, at a public meeting in August 1844 at the Hargreaves Arms, Accrington:

**Tab. 5.3: Attendance List at Extension Railway Meeting, Aug. 1844**

<i>Name</i>	<i>Address</i>	<i>Name</i>	<i>Address</i>
John Dugdale	Lower House, Burnley	William Edge	Clitheroe
James Dugdale	As above	Pilkington	Blackburn
Edmund Thomson	Primrose, Clitheroe	James Haworth	Church
Charles Thomson	As above	George Pickup	Spring Hill, Accrington
Richard Fort	Read Hall Clitheroe	Benjamin Walmsley	Accrington
J.Garnett Snr & Jnr	Roefield, Clitheroe	Joseph Baines	Church
Thomas Simpson	Foxhill Bank, Osw.	Chadwick	Blackburn
Robert Hargreaves	Broad Oak, Accrington	William Turner	Haslingden House
Reg. Hargreaves	As above	Thomas Holgate	Burnley
Robert Hopwood	Blackburn	Eastham	Burnley
James Whittaker	The Holme, Burnley	Waddington	Burnley
Arkindale (?)	Burnley	Hall	Clitheroe
Henry Haworth	Clitheroe		(Total present: 26)

*Source:* Minutes of Committee of Management of BB & AER/BBA & CER, 7 August 1844, RAIL 51/2, PRO. Some of those attending this meeting were also recorded as shareholders of the ELR.

The local connections of the three micro-companies, notably Bury and the upper Irwell Valley in the case of the MB & RR, and Blackburn in the case of the B & PR, are also apparent in the composition of the Provisional Committees which were promoting the railway projects, as listed in the prospectuses they issued and reproduced in Tab. 5.4. Most of these names were also listed as Directors after incorporation of the micro-companies. The cross-linkages between the promoters and Directors of the MB & RR and the Extension Railway contrasted with the self-contained base of the B & PR.

**Tab. 5.4: Provisional Committees of three Micro-Companies in Prospectuses**

<i>Name</i>	<i>Address</i>	<i>MB &amp; RR</i>	<i>B &amp; PR</i>	<i>BB &amp; AER</i>
John Grundy Jnr (Chairman)	Belle Vue, Bury	Yes		Yes
Samuel Ashton	Woodhill, nr Manchester	Yes		Yes
Richard Ashton	Limefield, Bury	Yes		
John Brooks	Sunnyside, Rossendale	Yes		Yes
John Robinson Kay	Bass Lane House, nr Bury	Yes		Yes
Henry Hoyle	New Hall Hey, Rawtenstall	Yes		
David Whitehead	Rawtenstall	Yes		
George Hardman	Oakfield/Oak Hill, Rawtenstall	Yes		Yes
John Walker	Belle Vue, Bury	Yes		
Thomas Aitkin	Chatterton, nr Edenfield	Yes		
Richard Walker Jnr, M.P.	Bury	Yes		
Richard Hacking	Heaton Grove, Bury	Yes		Yes
Thomas Wrigley	Timberhurst, Heap	Yes		Yes
Peregrine Edward Towneley	Townley Park, nr Bury			Yes
William Turner	Flaxmoss House nr Haslingden			Yes
Edward Peel Thomson	Primrose, Clitheroe			Yes
William Brocklehurst	Colthurst, nr Clitheroe			Yes
Thomas Ashton	Bashull Lodge, nr Clitheroe			Yes
William Fielden, M.P.	Blackburn		Yes	
Mr Fielden	Blackburn		Yes	
Mr Pilkington	Blackburn?		Yes	
Robert Hopwood, Jnr	Blackburn		Yes	
Joseph Eccles			Yes	
Mr Kenworthy	Blackburn		Yes	
Mr Yates			Yes	
Mr Boardman			Yes	
Thomas Dugdale	Blackburn		Yes	
Mr Hoole			Yes	

*Sources:* MB & RR Prospectus, 7 Dec 1843, DDX 118/12, LRO. B & PR Prospectus, 12 Dec 1843, DDX 116/36, LRO. Blackburn, Burnley & Accrington Extension Railway (BB & AER) Prospectus published in *Manchester Guardian*, May 8 1844, p.1, and *Manchester Courier*, May 11 1844, p.5 (See Appendix C).

The promoters and directors of the three micro-companies repeatedly stressed the interconnectedness of the rail projects with each other and with railways either planned or built on the periphery of East Lancashire. These local and interregional “network benefits” were highlighted in the BB & AER/BBA & CER’s mission statement agreed by the directors in August 1844 for presentation to shareholders: “The primary object of this undertaking is to connect the manufacturing towns of the north and east parts of Lancashire and the rich Mineral District surrounding them with Manchester which has been well-termed the Commercial

Metropolis of the County, incidentally to unite the different important towns of Lancashire with the main lines of Railway in the Kingdom, and eventually to form a link connecting west and east coasts.”<sup>6</sup> Samuel Ashton, Chairman of the Extension Railway’s Board of Directors, told investors at an Extraordinary General Meeting in July 1845 that not only would the sub-region around Accrington secure “an efficient system of railway communication with Manchester, Liverpool and the surrounding District”, there was also the important objective of “completing across the northern portion of the County a direct communication between Lancashire and Yorkshire and the Ports on the eastern and western Coasts.” Indeed the relationship with the Extension Railway’s southern neighbour, the MB & RR, was so strong that shareholders unanimously accepted the merger of the two undertakings to form the East Lancashire Railway, already formally authorised by Act of Parliament on 21 July 1845. Samuel Ashton reported to the meeting in July 1845: “One of the leading objects of your intended Railway is to furnish to the manufacturing towns of north Lancashire a communication with Manchester – their principal market.” Hence he then recommended to shareholders: “A complete identity of interest is desirable between the proprietors of this undertaking and the possessors of the Railway which forms the means of communication with Manchester, and this arrangement, by securing unity and economy of management, cheapness and facility of transit, will tend in a large degree to the prosperity of the united undertaking.”<sup>7</sup>

This awareness of interdependence and recognition of practical benefits of co-operation co-existed with a strong assertion of local control and territorial independence, most notably in the case of the Blackburn and Preston Railway. John Marshall notes the “independent outlook” of the B & PR, which was dominated by its Blackburn capital and connections, and quotes Thomas Dugdale, its Chairman, describing the BB & AER/BBA & CER in August 1844 as “poachers on our line” as he urged an extension to Accrington to pre-empt competition.<sup>8</sup> This point is confirmed in the Directors’ report to the first General Meeting of Shareholders in 1844: “The extension of the line, at least as far as Accrington, has always been contemplated by the Directors as a measure of protection against the interference of interest which may be inimical to those of the B & PR.”<sup>9</sup> The same concern to defend its territorial domain against interlopers

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<sup>6</sup> Minutes of Committee of Management, BB & AER /BBA & CER, 5 Aug. 1844, RAIL 51/2, PRO.

<sup>7</sup> Shareholders’ Minutes Book, BB & AER /BBA & CER, 28 July 1845, RAIL 51/1, PRO.

<sup>8</sup> John Marshall: *The Lancashire & Yorkshire Railway, Vol. 3* (David & Charles, Newton Abbot, 1969), p. 119.

<sup>9</sup> Minutes of Provisional Committee, B & PR, 5 August 1844, RAIL 50/1, PRO.



also emerges in the Directors' refusal to participate in a scheme to build a railway from Darwen to Preston: "Any extension into Preston ought to be made by this Company."<sup>10</sup> In August 1844 a deputation from the Extension Railway met the B & PR Board, finding "a strong impression that the Extension line would very materially prejudice their Railway, not only by abstracting the Blackburn and Manchester traffic from them, but also the Blackburn and Liverpool and east/west goods traffic."<sup>11</sup> Yet ironically in August 1845 the Board of Directors unanimously recommended an agreement, which was accepted by shareholders and came into effect by August the following year, to amalgamate the ELR (the BBA & CER's successor) and B & PR on equal terms as "mutually beneficial to both companies and calculated to promote the advantage of the public."<sup>12</sup> This distinctive combination of interdependence and independence in the business culture of the railway micro-companies reflected the outlook of the urban and industrial communities which sustained them within East Lancashire.

The importance of the local context emerges strongly again in the available primary sources when the historian considers how the technological decisions of the micro-companies, especially the Extension Railway, were made. In the mid-1840s these choices were by no means self-evident. During the critical phase of the inception and planning of the local network, which was less than 15 years after the world's first modern railway, the Liverpool and Manchester, was opened, the transfer of technology to East Lancashire's difficult terrain had to be an interactive process if railways were to work effectively. The directors' minutes highlight the nature and timing of the technological options facing the micro-companies in the mid-1840s, and throw into sharp focus the practical wisdom of engineers who were able to make a rail system work well in the challenging environment of East Lancashire in both a technical and financial sense. In particular, the BB & AER/ BBA & CER was acutely conscious of the difficulties of building the heavily-graded sections of the Extension project north from its connection with the MB & RR at Stubbins Junction (near Ramsbottom), across the West Pennine Moors and several steep-sided valleys, to reach Accrington about 8 miles away. Indeed the use of a term like "Highland ridge" in the minutes reveals contemporary perceptions of the scale of the challenge that lay ahead, though it exaggerated the altitude of the moorland plateaux, which rarely exceeded 1000-1200 ft. In June 1844, Mr. Charles Cawley, the

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<sup>10</sup> Ibid, 24 February, 1845.

<sup>11</sup> Minutes of Committee of Management, BB & AER/BBA & CER, 23 Aug 1844, RAIL 51/2, PRO

<sup>12</sup> Minutes of Provisional Committee, B & PR, 11 August 1845, RAIL 50/1, PRO.

Extension Railway's Surveyor, reported to the Management Committee on the route between the MB & RR and Accrington: "The country between these points (as most of you are doubtless aware) is extremely unfavourable for railway communication. Nevertheless the difficulties are such that I believe may be effectively overcome without involving any serious additional cost, either in outlay or working of the line."<sup>13</sup>

At the time of the formation of the micro-companies, the classic engineering package of steam locomotive traction running on standard gauge track (4ft 8.5in), which was essentially the Stephensonian model widely adopted by railway pioneers in Britain and throughout the world, was certainly not universally accepted, and there were multiple, incompatible, and sometimes bizarre, solutions offered by the engineering fraternity to the challenge of how best to build a functional transport system. In particular, the choice of track system was vehemently contested by the followers of George and Robert Stephenson advocating standard gauge running on lateral wooden sleepers supports, and the idiosyncratic engineer, Isambard K. Brunel, who developed broad gauge (7 ft 0.25in) resting on longitudinal baulks for the GWR's high-speed routes.<sup>14</sup> There is no evidence in the micro-company records that Brunel's track system was ever seriously considered by the railway builders in East Lancashire. Broad gauge was unviable technology because of the unsuitability of both the terrain and the likely traffic for a dedicated high-speed line, the importance of an interconnected rail network serving the trans-Pennine regions using a common gauge, and a shrewd appreciation of the cost implications of the track system which had frustrated the expectations of the GWR's investors.

The minutes reveal that the critical issue facing the micro-companies was the choice of traction technology to operate both passenger and freight services. In the early 1840s steam locomotives had not been developed to the point where they could reliably and intensively work heavy loads over steeply-graded sections. Hence engineers favoured continuous haulage systems powered by stationary steam engines for these sections, or expensive infrastructure investment, such as deep cuttings and tunnelling, to ease gradient profiles where difficult terrain could not be avoided – the Stephensons recommended inclines no steeper than 1 in 100 where there was exclusive use of locomotive traction. An alternative proposal was the atmospheric, or

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<sup>13</sup> Minutes of Committee of Management, BB & AER/BBA & CER, 21 Jun.1844, RAIL 51/2, PRO.

<sup>14</sup> J. Simmons & G. Biddle (ed.): *The Oxford Companion to British Railway History* (Oxford University Press, 1997), pp. 523-524.

pneumatic, system of propulsion devised by S. Clegg and J. Samuda, and briefly used by Brunel on the South Devon Railway (SDR) between Exeter and Newton Abbot (1847-48). Stationary pumping houses evacuated the air ahead of a piston running in a large pipe placed between the rails. The pressure differential then propelled forwards the piston and the train to which it was connected via a plate and a slit sealed by a continuous leather valve at the top of the pipe. A critical weakness was that air leaked through the vulnerable leather valve into the pipe, accelerated by water build-up and, apparently, rat attack. Mounting maintenance costs forced the expensive abandonment of the technology on the SDR, which set back the development of rail-served communities in south Devon for a generation or more.<sup>15</sup>

In June 1844, Mr. Cawley's report to the Extension Railway's Management Committee recommended an incline plane rising at 1 in 44 from Stubbins Junction for 1 mile, and another plane at 1 in 35 for 1.5 miles on the descent from the summit near Rising Bridge to Accrington. This would be preferable to a uniform gradient of 1 in 70/72 which was "an exceedingly bad locomotive gradient". Four options were outlined for working these inclines: "a stationary engine, as on the Bolton & Leigh Railway; a powerful assistant locomotive, as on the 1 in 37 incline on the Birmingham & Gloucester Railway; a balance train, using rope pulleys and a balance wheel at the top; the atmospheric principle – I doubt its economy on such a steep incline owing to the large size of pipe required and consequent increased outlay." He advised the Committee, wisely in the light of subsequent events on the SDR, to avoid the atmospheric system which was "unproven on such inclines" and "does not seem sufficiently tested to warrant its accommodation for this case". Mr. Cawley's preferred option was balance trains using "tanks which could be filled with water at the top and discharged at the bottom".<sup>16</sup>

However, as early as February 1845, eight months after Mr. Cawley's report, there was a major re-think for the hilly sections between the Irwell Valley and Accrington. The Extension Railway's new consulting engineer, Mr. Thomas Gooch (elder brother of the GWR's Daniel Gooch), proposed to overcome the "chief difficulty in the line" by altering the gradient profile so that a long, continuous ascent of 1 in 77 on the south side of the "Highland ridge" would replace the short, sharp incline and also eliminate the need for a lengthy tunnel (782 yds long)

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<sup>15</sup> Denis Griffiths: *Locomotive Engineers of the GWR* (Guild Publishing, London, 1988), pp. 12-14.

<sup>16</sup> Minutes of Committee of Management, BB & AER/BBA & CER, 21 Jun. 1844, RAIL 51/2, PRO. See also the original sectional plans of 1844 for the Extension Railway at PDR/158-159, LRO.

and one stationary engine at the summit, at a saving of £25,000. He added: "An assistant, or banking, engine would be necessary, but the first cost would be less and running costs similar to a stationary engine." A short tunnel near Haslingden would still be needed, on an easterly deviation from the original tunnel section, but "so short that the momentum of the train would always carry it through". Interestingly, Mr. Gooch felt one stationary engine should be retained to work the 2-mile steep incline at 1 in 38/40 (which became known as "Baxenden Bank") on the north (Accrington) side of the ridge, but in the event this was unnecessary. Otherwise, the Extension Railway was built substantially as he recommended to the Management Committee in 1845 and completed remarkably quickly, given the practical challenges, by the ELR in four stages: Blackburn-Accrington, 19 June 1848; Stubbins Junction-Accrington, 17 August 1848; Accrington-Burnley Barracks, 18 September 1848; Burnley Barracks-Colne, 1 February 1849.<sup>17</sup>

What accounts for this critical shift in engineering choices in the mid-1840s? The question highlights for the transport historian the importance of the timing issue, for if the Extension project had been planned a few years earlier and completed by the mid-1840s, the technological and operational paths of railway development around Accrington would have been radically different. It may have simply been that the arrival of a new engineer brought a fresh perspective on the railway's operational requirements, but this does not fully explain why gradients of around 1 in 70 were considered "exceedingly bad" for locomotive haulage in 1844, but perfectly acceptable in 1845. It is likely that rapid advances in locomotive technology in these years, which included not only greater power but also specialisation by function, such as the heavy freight and banking engines which were used intensively in East Lancashire, tilted the balance away from reliance on fixed installations for working steeply-graded sections.<sup>18</sup> It has been argued that the "battle of the gauges" in the mid-1840s galvanised the standard gauge camp into improving locomotive performance, but the challenges of building railways to penetrate difficult terrain, away from established transport corridors, seems to have spurred localised progress too, as in East Lancashire. Here the railway micro-companies were content to improve an existing engineering package, the Stephensonian model, which, although far from

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<sup>17</sup> Ibid, 15 February 1845, and R.W. Rush: *The East Lancashire Railway* (The Oakwood Press, 1983), pp. 15, 17. See also the sectional plans for the 1845 deviation at PDR/196, LRO.

<sup>18</sup> The ELR operated several long boiler 0-6-0 tender locomotives (influenced by Robert Stephenson's design) on freight and banking duties, such as the 5 engines of the Samson class (built by Haigh Foundry, Wigan, in 1847) and the 4 members of the Rossendale class (supplied by Walker Brothers, Bury, in 1852-53), R.W. Rush, op. cit., pp. 42-43, 46.

standardised at the time, was known to work well in other geographical contexts, and adapt it to suit local circumstances. At any rate, they successfully avoided the grandiose schemes and unproven technologies of visionaries like Brunel, which would have left East Lancashire with a legacy of half-completed railways, wasted investments, and broken dreams of development.

### The ELR era, 1846-1859

Identification of the distinctive characteristics of the three micro-companies is vital for understanding what happened after they had coalesced into the ELR's system by August 1846. Key continuities between the micro-companies and the ELR were that localisation of capital and control, and West Yorkshire's interest, were maintained in the 1850s, as suggested by the following samples reproduced verbatim in Tab. 5.5 from the attendance lists at Extraordinary General Meetings in Bury of the ELR's shareholders in December 1849 and July 1859:

**Tab. 5.5: Attendance Lists of ELR Shareholders' Meetings, 1849 & 1859**

<i>Name (1849)</i>	<i>Home Town (1849)</i>	<i>Name (1859)</i>	<i>Home Town (1859)</i>
John Altham	Summerseat	Thomas Dugdale	Blackburn
Samuel Ashton	Prestwich	Miles Lonsdale	Haslingden
Richard Ashton	Limefield	Joseph Bracewell	Salford
John Ashworth	Rochdale	Chris. Bracewell	Salford
James Ball	Bury	Jos. Consterdine	Manchester
William Bates	Oakenshaw	John Losh (?)	Baxenden
William Blacklock	Manchester	Edward Preston	Eccles
John Blakey	Keighley	William Crowther	Earby
Richard Bland	Manchester	William Slater	Earby
George Boulton	Colne	John Dewdsen	Marsden
Joseph Brown	Manchester	Jno. Wigglesworth	Barnoldswick
Joseph Craven	Keighley	John Lang	Accrington
Thomas Critchley	Manchester	W.B. Briggs	Burnley
James Crop	Ripon	John Barnes	Burnley
Riley Cunliffe	Accrington	Jos. Gaskill	Clayton Green
Henry Dean Jnr	Colne	Robert Comstive (?)	Ramsbottom
Thomas Dugdale	Blackburn	John Wilkinson	Foulridge
James Dugdale	Lower House	John Mercer	Oakenshaw
Thomas Fairbrother	Bury	F.H. Pickup	Blackburn
James Feilden	Todmorden	F.F. Mercer	Cherry Tree
Thomas Greig	Manchester	Edward Wharton	Blackburn
John Grundy	Oakwood Lodge	James Pickup	Blackburn
John Grundy	Bury	John Barnes	Church
Richard Hall	Manchester	Jeremiah Laithwaite	Bury
George Hammond	Leeds	Charles Miller	Lytham

*Source:* Minutes of ELR Proprietors, 5 Dec. 1849 & 14 July 1859, RAIL 176/1 & 176/3, PRO.

In other respects the corporate themes established in the formative stage were extended and enlarged in the ELR era without radical change, though what did change was the context of traffic prospects and growth when attention shifted from construction to operation of the rail network in East Lancashire. The issue of the appropriateness of the technological choices of railway companies in their geographical environment emerges again as the projects launched in the mid 1840s were completed by the ELR in the late 1840s and as the challenges of operating the entire system generated specific engineering responses during the 1850s and later. The Inspection Reports of the Board of Trade reveal the extensive use of temporary wooden structures to traverse the difficult terrain which could be replaced by more permanent investments later as traffic growth justified. In this respect the ELR resembled the railroads in the American West which opened up virgin territory quickly and cheaply using readily-available timber resources. Isambard K. Brunel usually receives the credit for his innovatory use of timber bridges to rapidly build railways in undeveloped terrain in the UK, especially in Devon and Cornwall, but the ELR pioneered a similar pragmatic approach to civil engineering in the challenging West Pennine uplands around the Accrington district about 10-12 years earlier, which has received scant investigation, or even recognition, by railway historians. Captain Simmons noted in August 1848 that the 6-span Alderbottom Viaduct on the Stubbins Junction-Accrington section was a "timber superstructure" (there was a similar and parallel bridge at Alderbottom on the ELR's Stubbins Junction-Rawtenstall line).<sup>19</sup> He described three timber viaducts in more detail on the Blackburn-Accrington section in June 1848, substituting for solid embankments, an expedient "which had not yet obtained the sanction of the [Railway] Commissioners".<sup>20</sup> The viaduct over Rishton reservoir was 76 yds long, consisting of 18 bays of 12 ft each, resting on 6 piles which supported longitudinal baulks under the rails. Steiners viaduct at Church, "stated to accommodate the proprietor of an adjacent mill", was of similar construction, 173 yds long, with 25 bays of 20 ft each. The most spectacular Wild West-style structure on this section was Aspen Valley viaduct, a "complicated...trestle bridge" which was 275 yds long, made up of 33 bays of 25 ft each, and reached a maximum height of 88 ft in the middle. The trestles rested on unequal-height stone piers to accommodate the uneven valley profile. Captain Simmons noted that the unauthorised substitution of a timber viaduct by the ELR had "enabled them to open this line sooner than if they had made an embankment". According to photographic evidence, the viaduct at Aspen Valley was gradually converted to an

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<sup>19</sup> Board of Trade Inspection Report, Stubbins-Accrington station, 17 Aug. 1848, MT 6/5/81, PRO.

<sup>20</sup> Board of Trade Inspection Report, Blackburn-Accrington, 22 June 1848, MT 6/5/57, PRO.

embankment by infilling between 1891 and 1925.<sup>21</sup> Timber structures were built by the B & PR to cross the River Darwen at Pleasington and the Lancaster Canal tramroad near Preston.<sup>22</sup>

Other bridging techniques were employed where appropriate to the specific location. To cross turnpike roads and the canal with adequate clearance, single-span wrought and cast iron structures were designed. At Haslingden Grane road an innovatory tubular iron bridge, 35 ft long and 16 ft high, which both carried and enclosed the tracks and trains within hollow girders, was constructed “very carefully” by William Fairbairn and “tested to double the load”. It replicated on a smaller scale the essential principles of Robert Stephenson’s well-known Conway and Britannia structures in North Wales on the Chester and Holyhead line, and served as a useful test-bed to accumulate engineering experience for the design of large iron girder bridges.<sup>23</sup> Similar wrought iron tubular girder structures “of ample strength” crossed the Leeds and Liverpool canal twice at Bentley Wood near Rose Grove on the Accrington-Burnley section.<sup>24</sup> The importance of this pioneering bridging technology in East Lancashire, as with the pragmatic timber trestle solutions, has never been adequately recognised in histories of nineteenth-century civil engineering. Solid sandstone and brick masonry structures, built where height or curvature were design priorities and where local stone resources were readily available, left a permanent mark on East Lancashire’s natural and urban landscapes. On the Stubbins Junction-Accrington “Alpine” section, there was substantial investment in stone viaducts at Lumb (nine 40 ft span, 65 ft high, arches on a curve), Ogden (three 50 ft span arches), Helmshore (14 segmental arches in 2 sections on a curve), and a 5-arch brick structure with stone piers and abutments, 63 yds long and 35 ft high, across Priestley Clough at Shoe Mill, Baxenden. At Church there was a 116 yds long viaduct with 7 brick-lined arches and stone piers, 50 ft high. At Houghton on the B & PR’s section, a graceful three-arch stone viaduct, 195 ft long, crossed the deep ravine of the River Darwen at a height of 116 ft. A prominent landmark in Burnley’s townscape was the stone and brick viaduct of 15 arches, each

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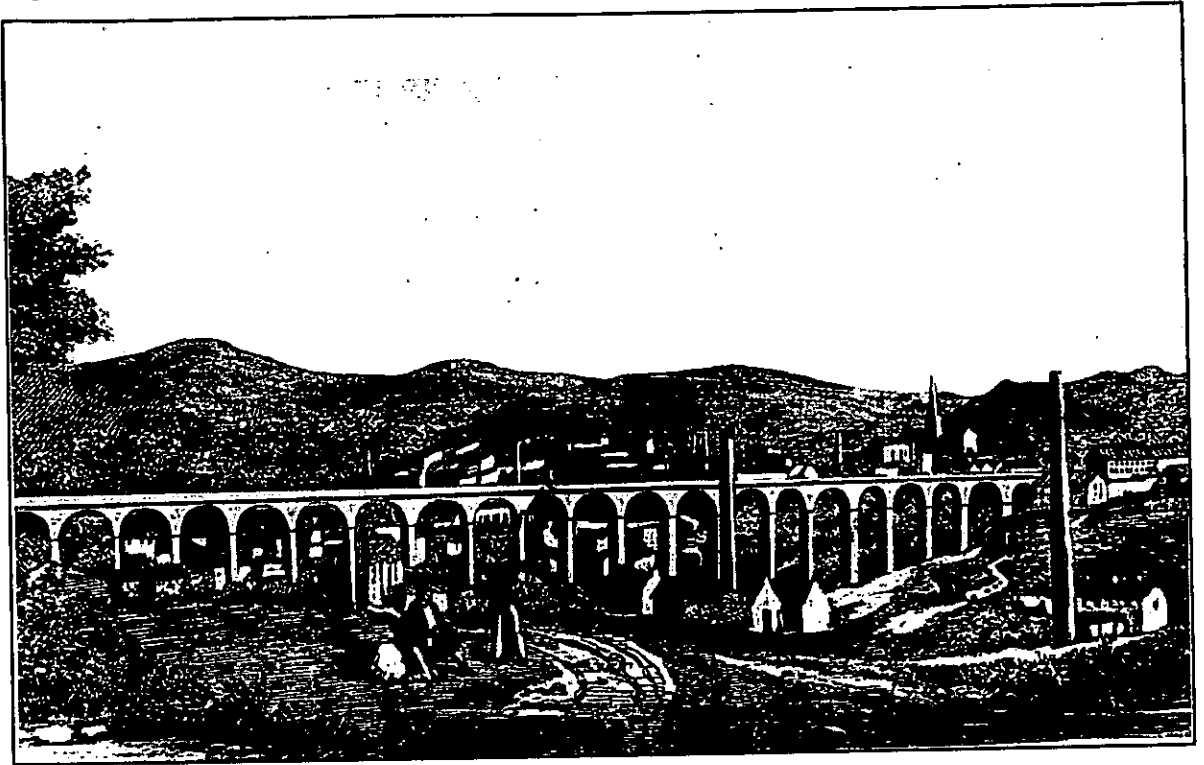
<sup>21</sup> R.W. Rush, *op. cit.*, pp. 15, 32-33.

<sup>22</sup> Contract plans for B & PR, 1845, RAIL 50/3, PRO. Sections of the piers and abutments, and a longitudinal elevation, for Pleasington viaduct are depicted in detail.

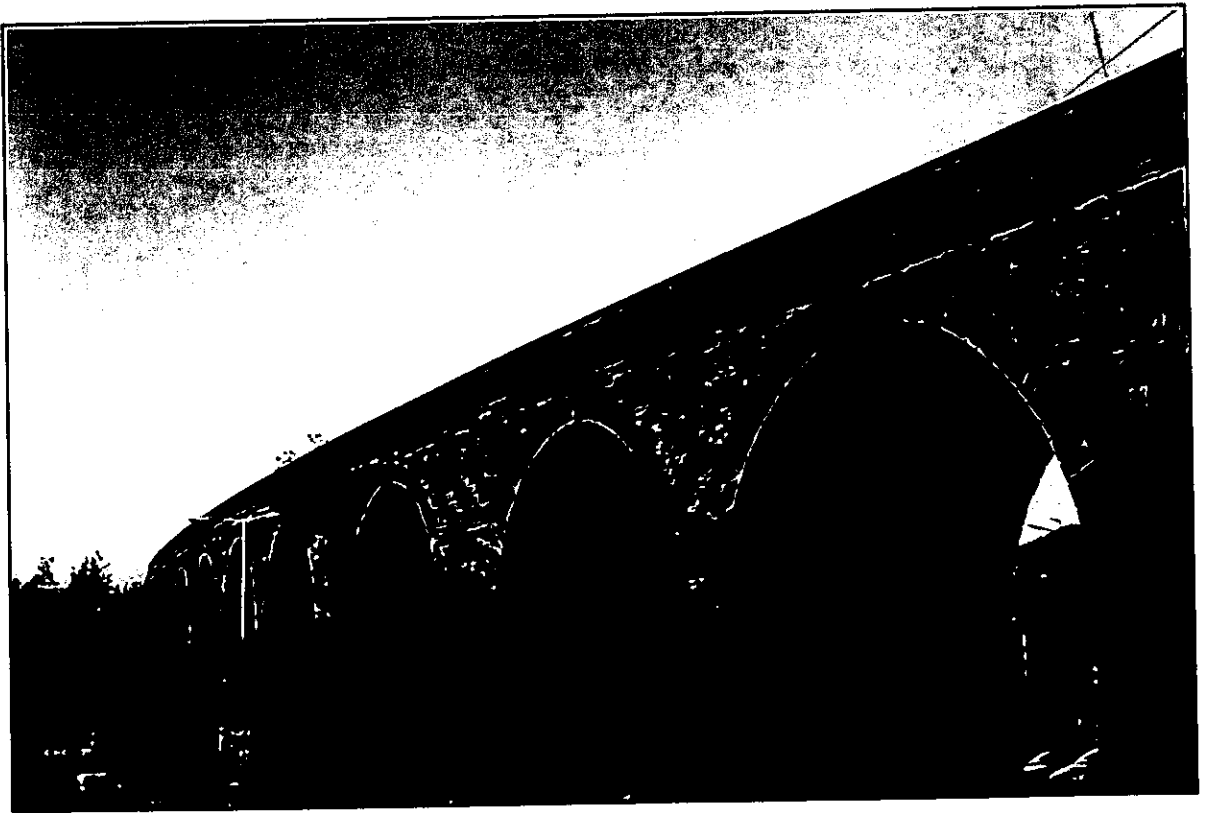
<sup>23</sup> Board of Trade Inspection Report, Stubbins-Accrington station, 17 Aug. 1848, MT 6/5/81, PRO. See Martin Smith: *British Railway Bridges & Viaducts* (Ian Allan Publishing, Shepperton, 1994), pp. 40-41, 49-52, on the Conway and Britannia bridges, opened in 1848 and 1850 respectively, though the ELR’s innovations are not mentioned.

<sup>24</sup> Board of Trade Inspection Report, the ELR’s Blackburn and Burnley branches, 25 Sept. 1848, MT 6/5/102, PRO, and ELR bridge plans for the Accrington-Colne route, DP 447/1/1-24, LRO. One cast-iron girder overbridge and 4 girder underbridges were used between Accrington and Burnley.

**Fig. 5.1: Historical and Contemporary Illustrations of Accrington Viaduct**



Engraving in *The Illustrated London News*, 30 Sept. 1848, Local Studies Collection, Accrington Library



Author's photograph from King St, Sept. 2008. The graceful curve of the viaduct's stonework is apparent here, and both views show its dominating presence in the townscape, which was embryonic in 1848.



of 60 ft span, across the Calder valley. Even more dramatic and dominating was Accrington viaduct, a major engineering achievement consisting of 20 brick-lined arches of 40 ft span and 60 ft average height, plus four segmental arches over Blackburn and Whalley Roads, and rock-faced stone piers and parapets, all set out on an elegant S-shaped curve of 60 chains radius (see Fig. 5.1 for two views of the viaduct). It was rebuilt in 1866-67 after continual problems with settlement on the blue clay base.<sup>25</sup> There were also two substantially-built brick-lined tunnels with stone parapets on the Extension Railway's difficult sections, one at Haslingden, 146 yds length, near the summit at Rising Bridge (760 ft altitude), the other, much longer, on the eastern approach to Blackburn station of 432 yds. Fig. 5.2 charts the major structures on the ELR's T-shaped network around Accrington, as originally built, while Fig. 5.3 depicts the gradient profiles of the individual routes of this system, Manchester-Accrington, and Preston-Colne.

The heavily-constructed "Alpine" section between Accrington and Stubbins Junction posed a major operating challenge for the ELR but seems to have directly spurred technical progress. Captain Simmons approved the opening of this section without qualification, but urged "great care in the selection of drivers and guards and also in the method of working such severe inclines...particularly as at the foot of the inclines is a junction with other branches."<sup>26</sup> Braking technology was in its infancy in the 1840s and stopping trains on gradients required vigilance and skill from crews. James Newall, the ELR's Carriage and Wagon Superintendent, patented a continuous mechanical braking system in 1852 which used an outside articulated shaft and gearing to operate the brakes on each coach. It was tested successfully on the 1 in 38 incline at Baxenden Bank, near Accrington, in October and November 1853, on one occasion bringing a train of 10 coaches to rest from 40 mph in 138 yds.<sup>27</sup> Newall's brake was applied to about half of the ELR's coaching stock, but unfortunately not to the rear 12 coaches of an excursion train which became detached and ran away down the incline at Helmshore and collided with a following train in September 1860, killing 11 passengers and injuring 62.<sup>28</sup> The technology devised to solve a particular operational problem in East Lancashire was later developed by

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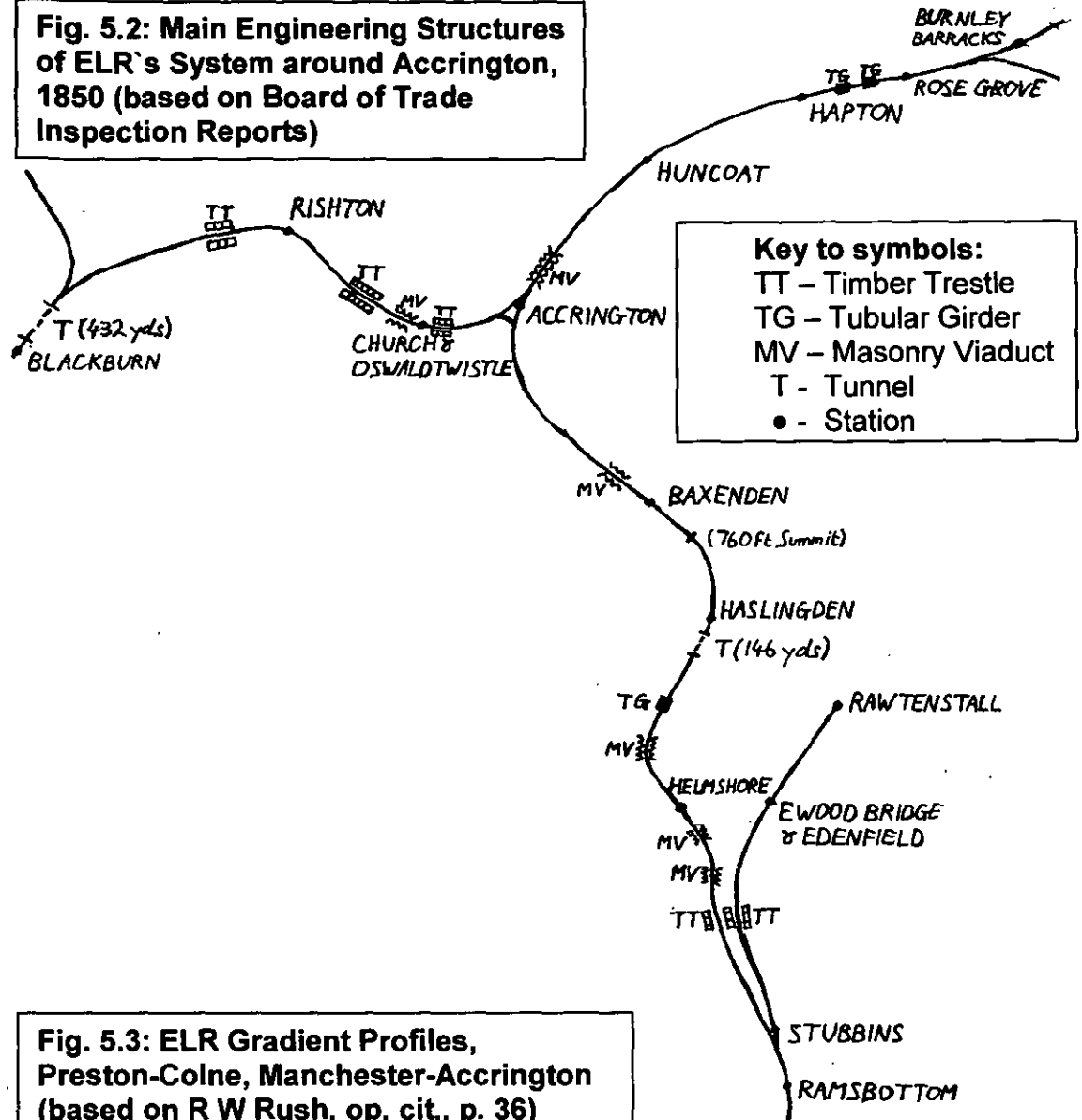
<sup>25</sup> Board of Trade Inspection Reports, op.cit., *Preston Guardian*, 19 Aug. 1848, p. 6, & 16 Sept. 1848, p. 5, and Gordon Biddle: *Britain's Historic Railway Buildings* (Oxford University Press, 2003), pp. 509-511, 515-516.

<sup>26</sup> Board of Trade Inspection Report, Stubbins-Accrington station, 17 Aug. 1848, MT 6/5/81, PRO.

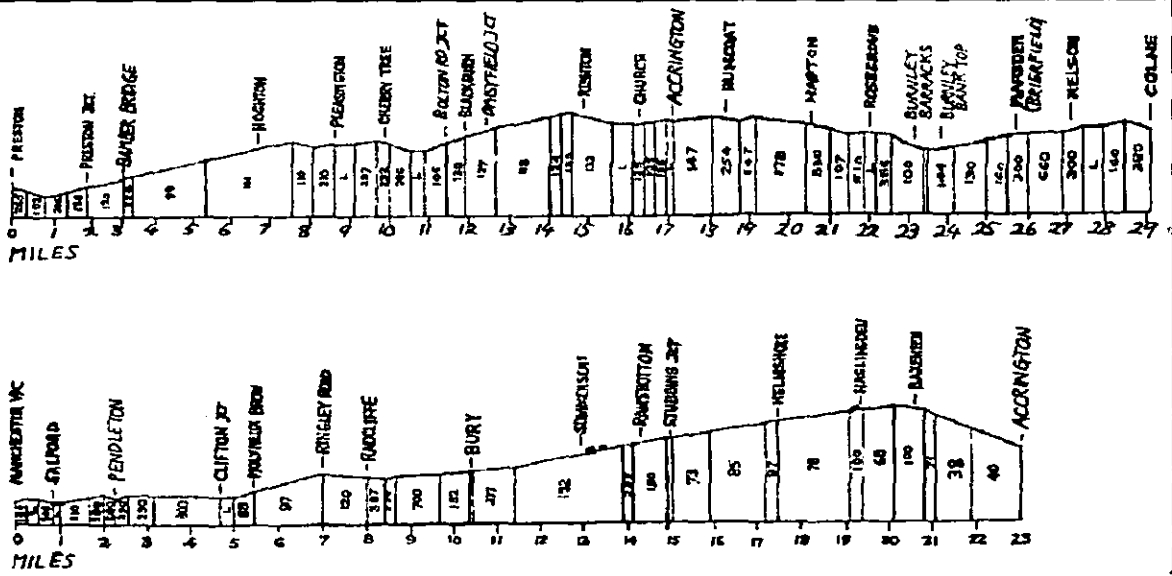
<sup>27</sup> R.W. Rush, op. cit., p. 50 (also pp. 18-19 on Helmshore accident).

<sup>28</sup> Board of Trade Railway Accident Reports, 1860, pp.77-81, National Railway Museum (NRM). See L.T.C. Rolt: *Red for Danger* (Sutton Publishing, Stroud, 1998) on accidents caused by inadequate braking, and the mid-Victorian "battle of the brakes" (p. 42).

**Fig. 5.2: Main Engineering Structures of ELR's System around Accrington, 1850 (based on Board of Trade Inspection Reports)**



**Fig. 5.3: ELR Gradient Profiles, Preston-Colne, Manchester-Accrington (based on R W Rush, op. cit., p. 36)**



Newall and Charles Fay for use throughout the L & YR's system, and was a major contribution to both passenger safety and labour-saving for crews. Nonetheless, braking continued to pose a challenge, especially for unfitted goods services, and eventually in 1903 sand drags were installed on the southern approach to Accrington station to prevent trains running away while descending Baxenden Bank. They were the first on the L & YR, and yet another example of locally-inspired technical advance.<sup>29</sup>

The general theme of the adaptation of business institutions to a specific environment is highlighted in a surprising way by the ELR's internal re-organisation in the late 1840s, as recorded in the Director's minutes.<sup>30</sup> The significance, or even existence, of this corporate event has never been recognised before in the published literature. In 1849 the ELR adopted an American-style centralised, hierarchical structure with specialisation on a functional, not geographical, basis, delegation of responsibility to professional officers, and formal separation of ownership and management.<sup>31</sup> The ELR even recorded these changes in a recognisibly "modern" organisation chart showing clear lines of authority and accountability.<sup>32</sup> This remarkable chart is reproduced from the Directors' minutes as Fig. 5.4. To the best of the author's knowledge, this is the first time it has been brought to light in any historical work.

What is unusual for the business historian is, firstly, the early date of this innovation, and, secondly, the fact that it was pioneered by a relatively small, localised, company, not a big business serving a national market. Arguably, both features are not altogether unexpected in the light of the other evidence of East Lancashire's fertile and enterprising business climate in the late 1840s, and it is likely that if a business were to innovate organisationally, it would do so at a time and place where the opportunities for expansion abounded. The timing of the re-organisation was prompted by the rapid growth of the ELR's own traffic and the multiplicity of its construction projects in the late 1840s which had outstripped the capacity of individual Directors to manage directly and made personalised control by the Board impracticable.

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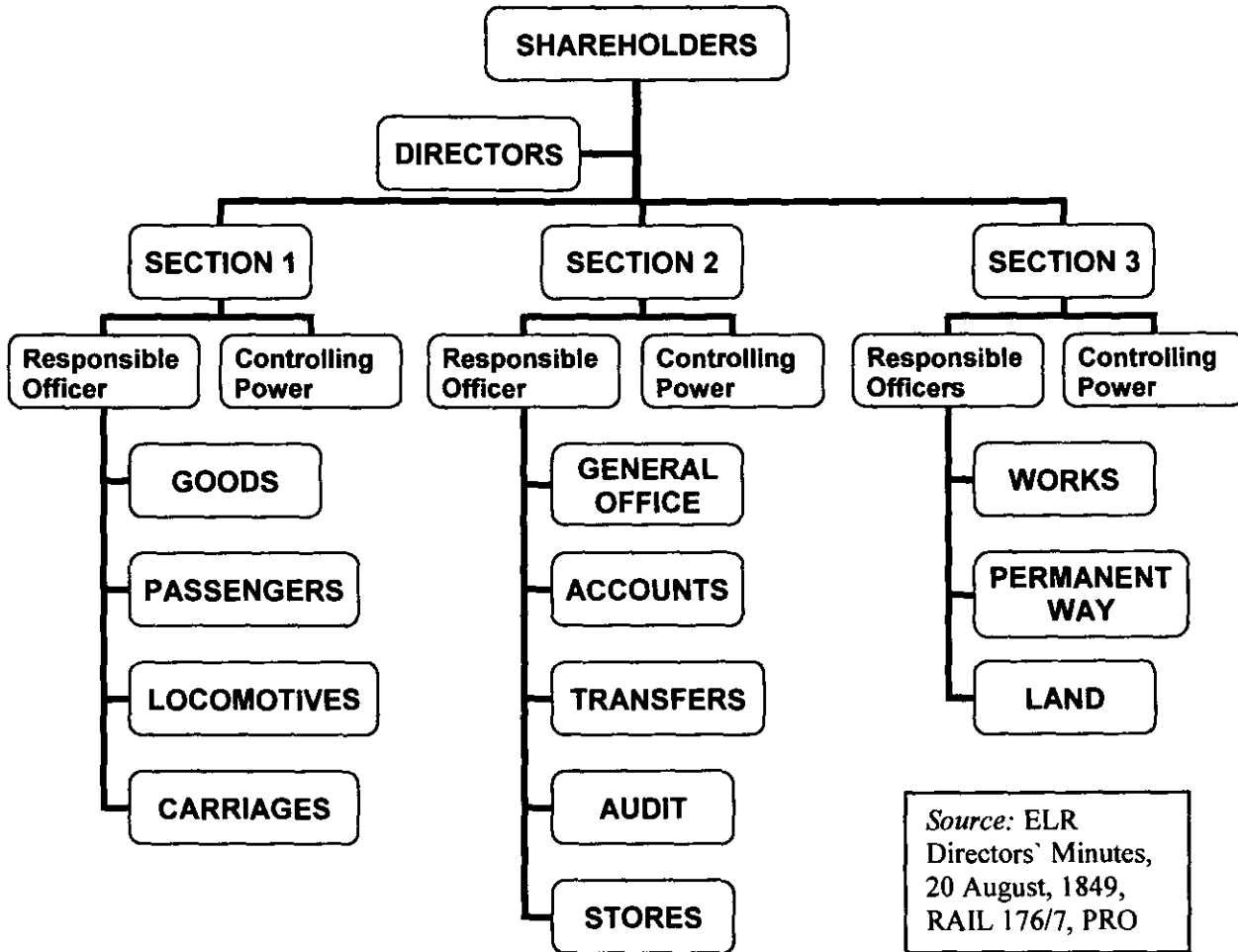
<sup>29</sup> C. R. Wilby: *Railways around East Lancashire* (Wyvern Publications, Skipton, 1983), p. 7.

<sup>30</sup> ELR Directors' Minutes, 6 & 20 August 1849, RAIL 176/7, PRO.

<sup>31</sup> Railroads pioneered this classic American business model in the nineteenth century. See Alfred Chandler: *Railroads: the Nation's First Big Business* (Columbia University Press, New York, 1965).

<sup>32</sup> The chart "showing the respective duties to be allotted to each section and the connection of the whole with the Board" was appended to the ELR Directors' Minutes for the 20 Aug meeting, op. cit.

**Fig 5.4: THE ELR'S ORGANISATION CHART, 1849**



However, given the compact nature of the ELR's developing network, the Directors wished to retain and improve effective oversight of the whole of their geographical domain.

On 6 August 1849 the Directors resolved to form a committee to report "some plan for securing the better discharge of Executive duties attached to each department of the Company's business and by means of a division of labours over each department to ensure an efficient management of the Company's affairs." The committee presented its detailed plan to the Directors on 20 August 1849. The imperative requirement for efficient management was that "each Department should be governed by competent officers who shall devote their whole time

and attention to duties devolving upon them.” A General Manager was to be appointed to supervise, and sanction appointments to, the following departments: permanent way, stations and sidings; passengers; goods; locomotives; carriages and wagons. A Company Secretary was to be appointed to supervise the work of the general, accounts, transfer, audit and stores offices. The Directors were to choose from their own ranks an Executive Committee which would meet every fortnight to receive reports from the General Manager and subordinate Superintendents in order to assess the “present and comparative position of each department.” The Executive Committee was also empowered “to exercise a general control over departments without interfering with their active duties”. Finance and Construction Committees with similar roles and powers would also meet fortnightly. The Board of Directors would meet monthly to review and authorise the recommendations of the three Committees and to give general policy direction. These proposals were accepted without recorded dissent, and over the following months the membership of the three Committees and several management appointments were decided by the Directors.<sup>33</sup> The 1849 structure depicted in Fig. 5:4 changed little in the 1850s, with the Executive Committee exercising a powerful strategic influence within the ELR, and certain specific features were perpetuated in the early amalgamation era, notably in the locomotive department and joint committee arrangements.

There is every indication throughout this period that the ELR benefited directly from its heavy investments in building a railway network in East Lancashire, and therefore there were powerful incentives to develop the trans-Pennine corridor further and co-operate with other railway companies operating in the northern regions wherever appropriate. The healthy financial profile of the ELR in the late 1840s and 1850s is shown in Tab. 5.6, compiled from the half-yearly returns to the Board of Trade and reports to shareholders in the National Archives. It should be noted that total receipts included tolls on the Liverpool joint entrance and traffic from Southport (£2557 16s in December 1854) and on the Blackburn Railway’s traffic (£5,668 4s), registration fees payable by shareholders (£1,29 7s) and demurrage charges on carriages and wagons (£88 4s). In December 1854 the working expenses of £64,002 3s consisted of £17,522 13s in locomotive operating costs, £8,777 5s in coaching charges, £23,700 14s in merchandise expenses, £10,931 8s spent on maintenance and £3,070 1s on general administration.<sup>34</sup>

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<sup>33</sup> ELR Directors’ Minutes, 17 December 1849, RAIL 176/7, PRO.

<sup>34</sup> RAIL 1116/4, *ibid.* Traffic revenues are analysed separately in Chapter 6.

**Tab. 5.6: Half-Year Financial Results of ELR, 1846-1858**

<i>Half-Year</i>	<i>Total Receipts</i>	<i>Working Expenses</i>	<i>WE/TR *</i>	<i>Total Expenses</i>	<i>Gross Profit</i>	<i>Reserves</i>	<i>Ordinary dividend</i>
Dec 1846	£12193 4s	£5054 11s	0.41	£5589 8s	£6606 16s		
Jun 1847	£18505 12s			£12405 10s	£6100 1s	£10006 17s	
Dec 1847	£26315 2s	£10346 1s	0.39	£11909 2s	£14406	£24412 17s	5%
Jun 1848	£26961 5s	£12116 19s	0.45	£14174 19s	£12786 6s	£37199 3s	
Dec 1848	£39594 16s	£17064 17s	0.43	£19609 9s	£19985 8s	£36235 7s	
Jun 1849	£64717 11s	£25389 2s	0.39	£27931 16s	£36785	£54002 13s	
Dec 1849	£85426 9s	£36235 7s	0.42	£40312 13s	£45113 16s	£57220 8s	2%
Jun 1850	£77167 11s	£40025 1s	0.52	£42486 13s	£34680 18s	£63557 14s	
Dec 1850	£99386 9s	£41940 14s	0.42	£45990 4s	£53396 5s	£65463 10s	2%
Jun 1851	£102564 6s			£48413 1s	£54150 19s	£67056 1s	2%
Dec 1851	£118245 16s	£48475 1s	0.41	£52876 18s	£65368 17s	£70575 12s	2.5%
Jun 1852	£113760 14s	£49056 17s	0.43	£52427 14s	£61333	£70806 3s	2%
Dec 1852	£131014 12s	£52253 15s	0.40	£57243 15s	£73770 16s	£64677 10s	3%
Jun 1853	£126478 11s			£54942 16s	£71535 15s	£64678 5s	3%
Dec 1853	£142537 4s			£64511 14s	£78025 10s	£65063 8s	3.5%
Jun 1854	£135561 16s			£59054 8s	£76507 8s	£61901 5s	3.5%
Dec 1854	£152745 6s	£64002 3s	0.42	£68420 9s	£84324 17s	£62922 19s	4%
Jun 1855	£142047 5s	£63402 10s	0.45	£66952 12s	£75094 13s	£62923 8s	3.5%
Dec 1855	£158111 6s	£70256 5s	0.44	£75925 5s	£82186 1s	£61357 17s	3.5%
Jun 1856	£158673 1s	£68870 8s	0.43	£73410 17s	£85262 4s	£71123 4s	4%
Dec 1856	£179763 18s	£72590 4s	0.40	£78093 9s	£101676 8s	£67214 19s	5%
Jun 1857	£161871						
Dec 1857	£162587 16s	£62940 6s	0.39	£68000 15s	£94587 1s	£64108 11s	4.5%
Jun 1858	£155182 14s	£64361 8s	0.41	£68792 5s	£86390 10s	£60513 7s	3.75%
Dec 1858	£172763 18s	£70559 2s	0.41	£75076 11s	£97687 7s	£58794 4s	4%

*Sources:* ELR Reports & Accounts, 1850-1858, RAIL 1116/1-7, ELR Minutes of Proprietors, 1845-1859, RAIL 176/1-3, PRO. \* Operating ratio: proportion of total receipts absorbed by working expenses

Total receipts increased more than eightfold between December 1846 and December 1850 and then more steadily to reach a peak of just under £180,000 in December 1856, before declining in the 1857 recession and then recovering in the year before amalgamation. Gross profits, reserves and dividends also peaked in 1856. The operating ratio remained steady between 0.4 and 0.45 for most of this period, suggesting that costs were kept under firm control. The high level of reserves suggests that much of the capital would have been available from internally generated sources to cover future investment projects. Dividend policy was cautious in the late 1840s and early 1850s, for an annualised return on ordinary share capital of 4-5 per cent was in line with the yield on government fixed-interest stock (consols), and then was progressively relaxed. It must be stressed, however, that returns of 7-8 per cent per annum by the late 1850s

do not seem excessive in relation both to the growth of gross profits and to comparable mid-Victorian railway companies in northern England, which regularly paid annual dividends of upwards of 10 per cent, and were definitely modest in relation to the Leeds and Liverpool canal's dividends (see Chapter 6). There was enough to reward local investors handsomely, however, and to persuade them to continue to support the ELR's development and the economies in East Lancashire it served so well. The growth process was sustainable and mutually beneficial for the ELR's shareholders, employees, suppliers and customers.

The distinctive corporate culture of the ELR was in many respects a continuation of the three constituent micro-companies, and survived beyond formal amalgamation with the L & YR. It was most clearly manifested in its relationships with the several larger railway companies on the periphery of its compact geographical territory, such as the Midland Railway, the LNWR, and most famously the L & YR, who were seen as working partners, potential rivals, or even both at the same time. During the period of its separate existence the ELR exhibited a marked territoriality which could react defensively against threats from interlopers or the competing schemes of the regional companies, but which also implied a more positive proprietorial concern for the development of its local economic domain. Recognition of the benefits of co-operation with railway neighbours and a wider connectivity co-existed with assertions of independence and, at times, displays of truculence. The local company welcomed the large regional networks as long as they did not seek to overwhelm the sense of locality.

Relations between the ELR and L & YR have attracted considerable attention in the popular railway literature, probably because of the elements of high drama, the strong expressions of personality and the story-telling appeal, but it is important that the wider historical context of the "battles" of Clifton Junction (between Bolton and Salford) and Daisy Field Junction (Blackburn) is not obscured or misunderstood. These spectacular clashes may usefully be recounted together. On 12 March 1849 the L & YR blockaded the junction at Clifton between its own route into Manchester from Bolton and the ELR's route from Bury using a substantial baulk of timber secured to the track and a train of empty coaching stock. The L & YR's stated intention was to force the ELR to produce tickets for all its Manchester-bound passenger trains exercising running powers between Clifton Junction and Salford so that the tolls due to the L & YR could be accurately checked and calculated. The ELR retaliated by removing the timber baulk, then provoking a furious, wheel-spinning, "push of war" spectacle between the rival

trains on the up line (to Manchester), and finally by obstructing the down line (to Bolton) with a heavy stone train, so that by midday eight trains were immobilised in both directions, though the police presence prevented any physical violence between the two gangs of workers. The L & YR promptly ended the impasse by withdrawing its obstructing empty train and allowing the ELR's own trains to proceed to Manchester.<sup>35</sup> Two days later, however, the ELR's Directors were seeking to improve working relations with the L & YR.<sup>36</sup> The final resolution of the dispute was that in July 1854 the Clifton Junction-Salford section was vested in the joint ownership of the ELR and L & YR in the Clifton and Manchester Railway Act.

Meanwhile, the ELR exacted symbolic revenge for Clifton Junction in what was in some respects a repeat performance at Daisy Field Junction in 1850. On 22 June, the day when the first public services ran on the Bolton, Blackburn, Clitheroe and West Yorkshire Railway (BBC & WYR, known simply as the "Blackburn Railway"), the ELR completely obstructed the junction at Daisy Field between the new company's northerly line to Clitheroe, Chatburn and the Ribble Valley and the ELR's own west-east route through Blackburn, using several locomotives, a heavy stone train and upwards of 200 navvies in attendance. The direct purpose of the blockade was to enforce payment of tolls for passage of the BBC & WYR's trains over the ELR's metals through Blackburn station (between Daisy Field and Bolton Rd Junctions), at the exorbitant equivalent rate of 6 miles for a section of less than 1 mile. The indirect intention was probably to wound the rival L & YR, which exercised a controlling influence over the BBC & WYR at that time and worked its north-south services between East Lancashire and Manchester through ELR territory. The confrontation simmered throughout the summer of 1850, the Blackburn company initially trying to avoid the ELR's tolls by asking its passengers to walk from Daisy Field through the town to its Bolton Rd station, then having no alternative but to pay them under protest. A temporary solution was found in an arbitration award in September 1850 which granted the ELR a 2-mile toll for the BBC & WYR's exercise of running powers through Blackburn station, plus the right to charge operating costs, but the eventual outcome, similar to that of the Clifton Junction dispute, was joint purchase of the

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<sup>35</sup> Geoffrey Body: *Great Railway Battles – Dramatic Conflicts of the Early Railway Years* (Silver Link Publishing, Peterborough, 1994), pp. 74-81, and R.W. Rush, op. cit., pp. 17-18.

<sup>36</sup> ELR Directors' Minutes, 14 March 1849, RAIL 176/7, PRO. Referring to "recent proceedings on the Manchester & Bolton line at Clifton Junction", a meeting was sought between Mr Hacking (ELR) and Captain Laws (L & YR) "to arrange amicably the matters in dispute regarding this Company's traffic using the M & B Railway."



contested railway, the Blackburn company being forced to amalgamate with the ELR and L & YR by the Act of July 1858 after prolonged and plucky resistance.<sup>37</sup>

It is commonly assumed from the evidence of these two events and their resolutions that there was a gradual shift in the attitudes of the two companies, from a period of outright and bitter conflict in the late 1840s and early 1850s, to a rapprochement from the mid 1850s which eventually culminated in the 1859 amalgamation, but this is a misleading simplification of their complex relations. The L & YR's actions at Clifton Junction may have been a response to the competitive threat of the ELR's newly-opened west-east line between Liverpool, Preston and Colne, and at Daisy Field Junction the ELR was probably protecting its north-south traffic from the L & YR's incursion via the Blackburn Railway proxy, but the ELR also recognised that permanent competition with its larger neighbour was undesirable. As early as January 1850, before the Daisy Field incident, the ELR Board informed shareholders: "The Lancashire & Yorkshire Railway and the East Lancashire Railway form competing communication between many important points of Lancashire and Yorkshire. The Directors have been engaged for some time past in negotiations with the LNWR and L & YR, which have at length resulted in an arrangement for dividing the traffic at competing points, upon a principle which it is hoped will lead to a permanent good understanding for the future."<sup>38</sup> It must also be remembered that even in the early days the ELR had to co-operate with the L & YR, LNWR, the Midland and other railways at multiple points if through services and the benefits of a wider transport connectivity were to be secured across northern England, as on the approaches to Liverpool, Manchester, Preston and the West Yorkshire districts beyond Colne.<sup>39</sup> Within East Lancashire, the ELR collaborated with the L & YR and other railways in 1850-1851 to negotiate a working and traffic-sharing arrangement with the Leeds and Liverpool canal to limit "a serious competition", and later, after the Daisy Field Junction confrontation, it colluded with the L & YR to try to force the Blackburn Railway to agree to amalgamation terms with the two larger companies.<sup>40</sup> The ELR's experience of working closely with the L & YR also helped the companies to overcome their distrust and suspicion which had led to the temporary breakdown of relations,

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<sup>37</sup> Geoffrey Body, *op. cit.*, pp. 82-89, and R.W. Rush, *op. cit.*, pp. 34-35. The BBC & WYR formally changed its name to the Blackburn Railway in July 1851.

<sup>38</sup> ELR Proprietors' Minutes, 30 January 1850, RAIL 176/2, PRO.

<sup>39</sup> The early dispute with the L & YR over the joint entrance into Liverpool (Tithebarn St.) was resolved by arbitration. ELR Directors' Minutes, 1 November 1847, RAIL 176/6, PRO.

<sup>40</sup> *Ibid.*, 31 July 1850, 31 January 1851. Geoffrey Body, *op. cit.*, p. 89.

especially in the Clifton Junction dispute. In its December 1852 Report to shareholders, the Directors stated that they “have been able to work amicably with neighbouring companies, experience having shown the advantages to all companies concerned from traffic arrangements of a limited kind.” More comprehensive 7-year traffic-sharing agreements were to be concluded with the LNWR and L & YR.<sup>41</sup> In December 1853 they reported that: “The East Lancashire Railway every year becomes more intimately connected with the Lancashire & Yorkshire Railway. Questions involving a diversity of interest are constantly arising, calculated to interfere with good understanding which it is desirable to maintain.” The Board was prepared to recommend amalgamation to shareholders “on equal terms” with the L & YR if details could be finalised.<sup>42</sup>

The fact that amalgamation was being openly discussed as early as 1853 must reflect more than a softening of attitudes on the part of two former antagonists, however. The underlying factor was the sustained increase in the volume of traffic in East Lancashire in the early and mid 1850s, which could best be developed further by a unified rail operation enjoying internal economies of scale and the external benefits of a wider network. Merger was certainly not a defensive ploy in a falling market, for there was more than enough business here for any single rail company to handle by itself. Hence the early fears of the ELR that it might struggle to secure a healthy share of a fixed volume of traffic with the canal and other rail operators had given way by the mid 1850s to a confidence and expansiveness about the economic prospects of its local domain, which meant that amalgamation with the L & YR could be contemplated on the ELR’s own terms from a position of great strength.

#### **Amalgamation and beyond, 1859-1914**

The Lancashire & Yorkshire Railway’s network covered a vast swathe of the north of England, unlike the ELR’s compact and geographically self-contained system, so much of the history of the L & YR after the amalgamation with the ELR in August 1859 is irrelevant to a localised study. Nevertheless, some of the key themes of the ELR era were perpetuated in the amalgamated structure, despite the imbalance in the size of the two companies which might suggest on prima facie appearances that the ELR’s “David” would lose its identity within the

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<sup>41</sup> ELR Reports and Accounts, 31 December 1852, RAIL 1116/1, PRO.

<sup>42</sup> Ibid, 31 December 1853.

“Goliath” organisation of the L & YR.<sup>43</sup> In several ways the “shell” of the ELR’s independent business culture and sense of territorial control became embedded within the structures of the successor company. How typical this was of mid-Victorian (and later) railway amalgamations, either regionally or nationally, is unknown, but the issue deserves comparative study.

In 1860 the L & YR decided to base the headquarters of its East Lancashire Division in Accrington, where it remained until supplanted by centralised traffic control in Manchester in 1913. Robert Rush calls this a “rather astonishing decision”.<sup>44</sup> It was entirely understandable, however, that the L & YR should base operational management in a busy junction town which was handling ever-growing volumes of traffic in the late 1850s and which would be swollen further by the impact of amalgamation. The L & YR’s decision therefore constitutes indirect evidence of Accrington’s rise as a major traffic centre. It was probably necessary, in addition, to perpetuate the link with the ELR’s territorial presence within Accrington and district in order to placate local cultural sensibilities and to avoid the impression that everything was decided by a remote bureaucracy in Manchester. The operational importance of this traffic hub is also underlined by the fact that Accrington shed (L & YR no. 22) became Head Depot for the East Lancashire section, with sub-depots at Rose Grove (no. 23), Colne (no. 24), Lower Darwen (no. 25) and Hellifield (no. 26), after the re-organisation of the Running Department, in 1919.<sup>45</sup> The evidence therefore strongly suggests that feedback from the growth generated by the railway at localised points like Accrington left its own mark on the L & YR’s “corporate governance” and maintained the ELR’s legacy for a generation or more.

A similar post-amalgamation phenomena appears to have happened in the ELR’s other key centre of Bury, location of its company headquarters and locomotive workshops. Not only did the ELR’s engines continue to be repaired and overhauled at the Buckley Wells site in Bury, but also construction of new locomotives, and complete re-building of several others, commenced to the ELR’s own designs *after* amalgamation and until the closure of the works in 1886.

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<sup>43</sup> The ELR was capitalised at £3,448,397 and the L & YR at £11,071,811 in 1859, making a total capital of £14,520,208 for the amalgamated company. John Marshall, *op. cit.*, p. 123.

<sup>44</sup> R.W. Rush, *op. cit.*, p. 38.

<sup>45</sup> Eric Mason: *The Lancashire & Yorkshire Railway in the Twentieth Century* (Ian Allan Ltd, Shepperton, 1961), p.220. See also Paul Smith: *The Handbook of Steam Motive Power Depots, Vol. 3: North Midlands, Lancashire and Yorkshire* (Platform 5 Publishing, Sheffield, 1990). In LMSR and BR days Accrington, Rose Grove and Lower Darwen engine sheds were re-numbered as 24A, 24B and 24D, respectively (*ibid.*, pp. 62-63).

According to Robert Rush's research, twelve engines of the Craven 2-4-0 class were built between 1862 and 1877 at Bury and remained in service until as late as 1901.<sup>46</sup> The Bury workshops were overseen by their own Indoor (engineering) Superintendents, S. Lees and J. Jacques, and Outdoor (running) Superintendents, R. Mason and G. Roberts, in addition to a parallel structure at the L & YR's works at Miles Platting, until the mid-1870s. Bury concentrated on manufacturing and maintaining passenger engines, and Miles Platting on goods engines, under the executive oversight of the L & YR's joint locomotive committee. Denis Griffiths comments on these unusual locomotive arrangements: "The divided command structure and use of different workshop sites certainly restricted development."<sup>47</sup> It is by no means self-evident that these arrangements were costly and constricting, and Bury may have been favoured by geographical proximity and the existence of a specialised skills base in the maintenance of ex-ELR locomotives. If, in the early post-amalgamation era, there were duplicated capital and labour costs, the L & YR was prepared to bear them in order to perpetuate the ELR's localised identity. These decisions reflected the influence of the strong contingent of ex-ELR directors on the L & YR Board, a consequence of the terms of the 1859 Amalgamation Act. At the final meeting of the ELR Board in August 1859 the following eight directors were selected by ballot to serve as L & YR directors, as stipulated in the Act: William Blacklock, Joseph Craven, Thomas Dugdale, William Fenton, John Robinson Kay, William Leaf, James Pilkington, James Fenton. Hence the executive structure of the L & YR directly represented the distinctive interests of the ELR for many years after merger, and the Bury offices and several of its managerial staff were also retained.<sup>48</sup>

In other respects the L & YR responded well to the growth of East Lancashire's communities in the late nineteenth century. These responses in turn encouraged further traffic growth in a positive feedback loop. It has been the usual convention in company histories to stress the slow, unpunctual services and poor facilities available to the L & YR's passengers in the 1860s and 1870s, allegedly because its directors neglected investment in the system in favour of paying

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<sup>46</sup> R. W. Rush, *op.cit.*, p. 48.

<sup>47</sup> D. Griffiths: *Locomotive Engineers of the LMS and its major constituent companies* (Patrick Stephens Ltd, Yeovil, 1991), p. 9.

<sup>48</sup> Directors' Minutes, ELR, 20 August 1859, RAIL 176/14, PRO.

handsome dividends of up to 10 per cent per annum to its shareholders.<sup>49</sup> However, it must be remembered that many of the L & YR's routes, as in East Lancashire, were not primarily built to handle large volumes of passenger traffic, and that the greater and more pressing priorities remained the rapidly expanding and profitable markets in general merchandise and minerals. Once the needs of the "core" business had been addressed, remedial investment in the passenger side could be readily justified and financed. In the 1870s, the North Lancashire Loop line, authorised in 1867, was built between Blackburn and Rose Grove at considerable expense and practical difficulty, partly to serve the industrialising communities of Great Harwood, Simonstone and Padiham, which had lacked direct links to the ELR's system. However, the primary reasons for the L & YR's investment were to relieve pressure of through traffic on the congested main west-east line between Blackburn, Accrington and Burnley, and to provide a diversionary option. The Loop line, 9 miles long, was eventually opened, after delays caused by slippage of embankments, in two sections: Padiham-Rose Grove in July 1875 (goods) and September 1876 (passengers); Blackburn-Padiham in June 1877 (goods) and October 1877 (passengers).<sup>50</sup> The latter section included major investment in an elegantly-curved rock-faced stone viaduct with ten brick-lined arches, 40ft span and 65ft high, across the River Calder at Martholme, near Great Harwood.<sup>51</sup> In 1882 Accrington station was completely re-built and enlarged with four covered platform structures in a Y-shaped arrangement and, for the first time, decent passenger facilities which included a refreshment room and booking office on the Manchester side.<sup>52</sup> Fig. 5.5 permits comparison of the original ELR station plan at Accrington in 1850 and the re-built L & YR station in 1882. In 1899 a new 8-road locomotive depot, with storage and servicing for 48 engines, was built on a spacious site near Charter Street, Accrington, replacing the 1873 structure which became a carriage shed, and exchange siding capacity was expanded.<sup>53</sup> Fig. 5.6, from the EDINA Digimap database, depicts the extent of the Charter Street complex before World War 1.<sup>54</sup> There was substantial investment in an extensive marshalling complex at Rose Grove, near Burnley, at the turn of the century, one of the most

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<sup>49</sup> See, for example, John Marshall, *op. cit.* D. Griffiths, *op. cit.*, p. 9, describes the "deplorable state of its own locomotive stock" by the 1870s because of the L & YR Directors' policy of cost-cutting "in order to help the dividend".

<sup>50</sup> John Marshall, *op. cit.*, vol. 2, pp. 32-37.

<sup>51</sup> Gordon Biddle: *Britain's Historic Railway Buildings* (Oxford University Press, 2003), p. 515.

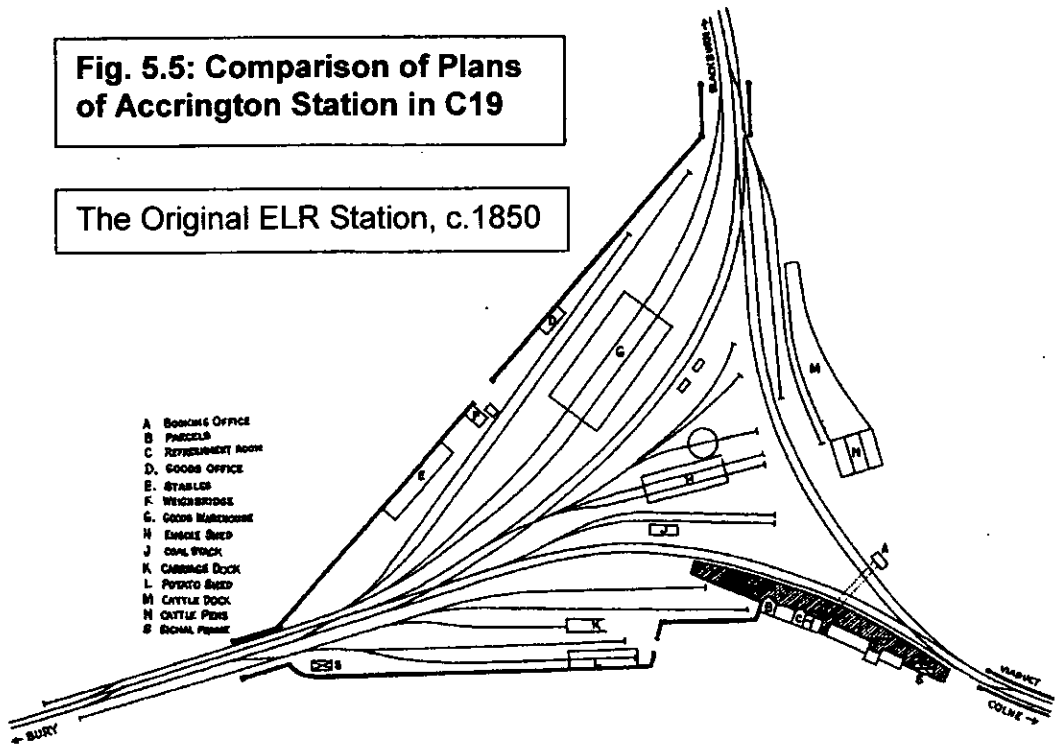
<sup>52</sup> R.W. Rush, *op. cit.*, pp. 13,15, 61.

<sup>53</sup> Eric Mason, *op. cit.*, p. 218, and P. Smith, *op. cit.*, p. 62.

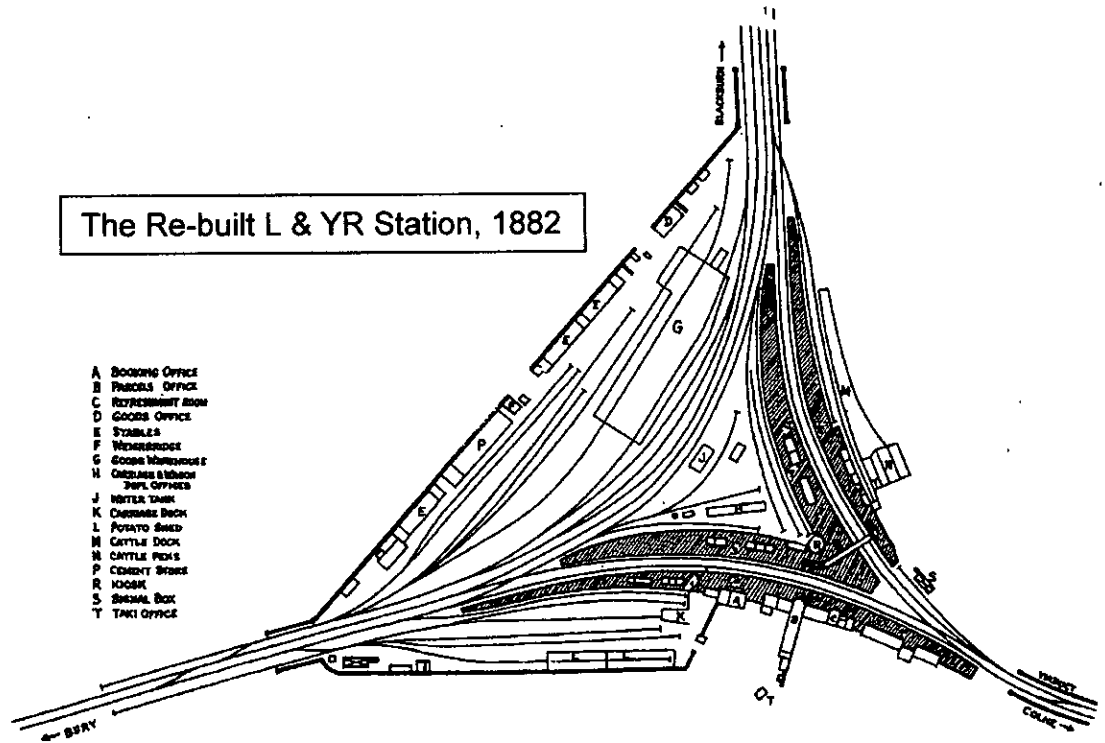
<sup>54</sup> Figs. 5.6 – 5.8 here are extracted from the EDINA Digimap database of historical OS maps. © Crown Copyright and Landmark Information Group Limited, 2009. All rights reserved.

**Fig. 5.5: Comparison of Plans of Accrington Station in C19**

**The Original ELR Station, c.1850**

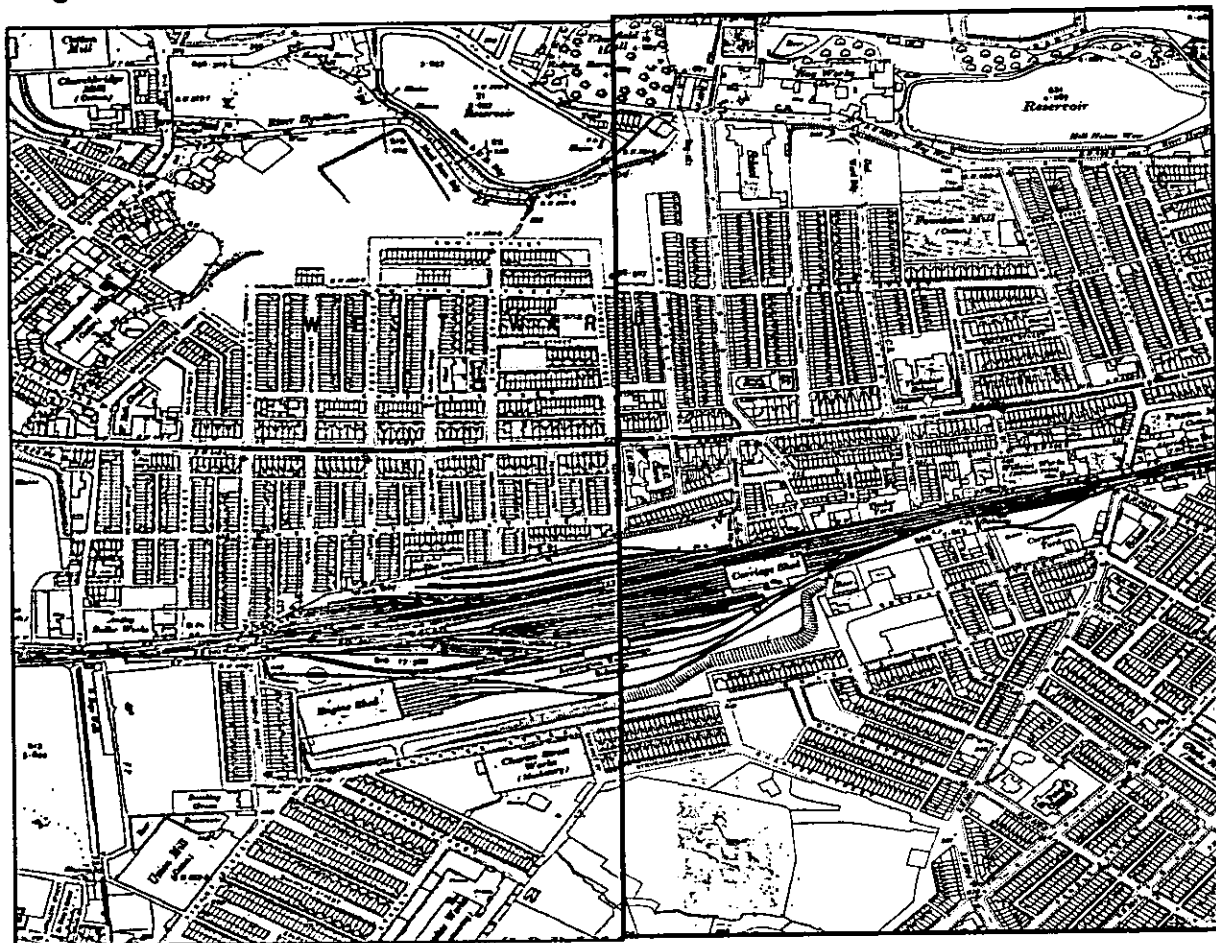


**The Re-built L & YR Station, 1882**



Source: R W Rush: *The East Lancashire Railway* (The Oakwood Press, 1983), pp. 12-13

**Fig. 5.6: Charter Street, Accrington (EDINA Digimap Tiles 19sd7428/19sd7528)**



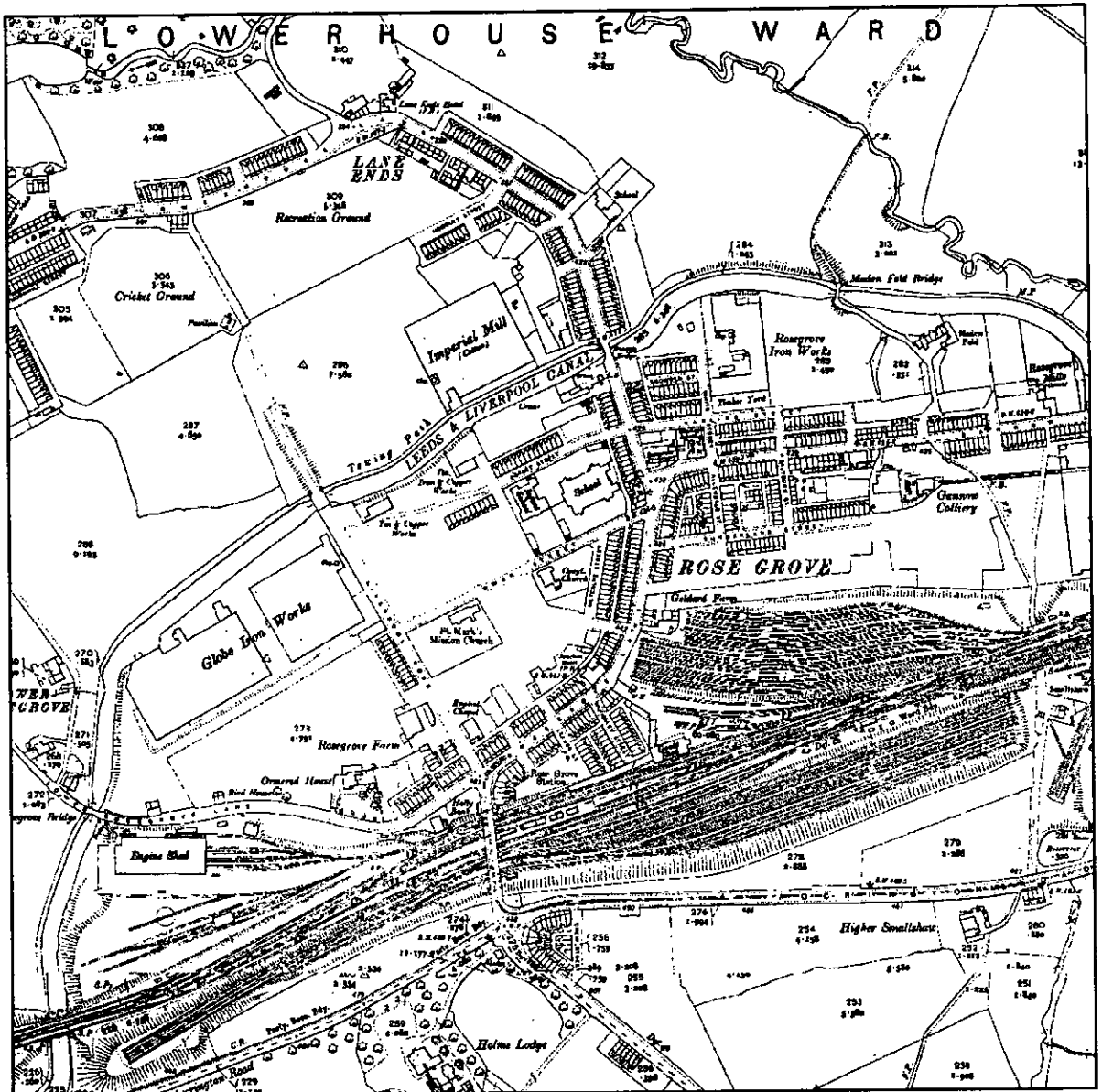
*Source:* OS County Series 1:2500 (Lancashire and Furness), 2<sup>nd</sup> Edition, published 1911-1912

modern facilities in the country with two large sets or “grids” of hump-shunted exchange sidings holding up to 1400 wagons, and a 6-road engine shed (built 1899), which reflected the huge volumes of west-east freight traffic, especially coal traffic from Yorkshire (see Fig. 5.7, another Digimap extract, which conveys a sense of the scale of the Rose Grove operation).<sup>55</sup>

The scale and pattern of the L & YR’s capital projects by 1900, as clearly depicted on the Accrington, Rose Grove and Blackburn Digimaps, Fig. 5.6, Fig. 5.7 and Fig. 5.8 respectively, suggests firstly that the sheer volume of traffic on the rail system in East Lancashire was constantly stimulating capacity improvements. Secondly, the pressure of services along the trans-Pennine west-east route, one of the most intensively-worked transport corridors in the whole country, was significantly greater than along the north-south route between Accrington

<sup>55</sup> C. R. Wilby: *Railways around East Lancashire* (Wyvern Publications, Skipton, 1983), pp. 4, 6 & P. Smith, *op.cit.*, p. 62.

**Fig. 5.7: Rose Grove complex, Burnley (EDINA Digimap Tile 19sd8132)**



Source: OS County Series 1:2500 (Lancashire and Furness), 2<sup>nd</sup> Edition, published 1912

and Manchester. Thirdly, local passenger traffic was still a lesser priority than through freight services, as in the ELR era, but there was nevertheless a marked improvement in passenger services by the Edwardian age compared to the relative neglect by the L & YR during the mid-Victorian era. J.A.F. Aspinall, the L & YR's Chief Mechanical Engineer, introduced a new generation of passenger locomotives for semi-fast and express services.<sup>56</sup> His excellent and

<sup>56</sup> D. Griffiths, *op. cit.*, pp. 122-126. For a biography of this significant and versatile railway engineer and manager, see H.A.V. Bulleid: *The Aspinall Era* (Ian Allen Ltd, Shepperton, 1967).



**Fig. 5.8: Blackburn station and goods facilities (EDINA Digimap Tile 19sd6827)**



*Source: OS County Series 1:2500 (Lancashire and Furness), 2<sup>nd</sup> Edition, published 1911*

innovatory 2-4-2 tank design, introduced in 1889, made it possible to accelerate intermediate-haul services in East Lancashire, to operate the initial stages of the new through express services between Colne and London Euston worked jointly by the L & YR and LNWR from 1905, and to haul the sharply-timed Tuesday and Friday specials which conveyed businessmen from Burnley to Manchester in 50 minutes at an average speed of 40 mph. From 1914 “slip” carriages were introduced on a few return express services from Salford and Manchester so that

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No. 1008, the pioneer of Aspinall’s 2-4-2 tank class, was the first locomotive to be built at the new Horwich works in 1889, and is preserved at the National Railway Museum, York.

the main train could run non-stop through Accrington, and the relevant portion would be skilfully detached and braked into the station.<sup>57</sup> Evidently, Aspinal's tank locomotive class was ideal for surmounting the "Alpine" sections of the route between Accrington and Bury. Although his design was not exclusively intended for use in East Lancashire, it was eminently suitable for the demanding operational requirements of the region, and dominated local and intermediate passenger services before World War 1, and beyond. In late 1921, 20 passenger locomotives were allocated to Accrington engine shed, 18 to Lower Darwen, and 10 to Colne, and all of them were of the 2-4-2 tank type (classes 5 and 6).<sup>58</sup>

To synthesise the evidence, in multiple overlapping dimensions of analysis - technology, operations, management, ownership pattern, business culture - the railway companies based in East Lancashire were highly distinctive institutions. They grafted specific local requirements onto modernised internal structures. These structures then formally and informally perpetuated the identities of earlier railways through a series of amalgamations of the three micro-companies in the mid 1840s, and the ELR and L & YR in the late 1850s. The local context is vital for understanding how these railway companies developed and the decisions they made, but its significance has not been sufficiently recognised in the models of business history and institutional economics associated with Alfred Chandler.<sup>59</sup> The local base meant that the railway companies were not examples of capitalism in the raw, untempered by any consideration other than maximising market power and short-term profits. Such selfish, "robber baron", behaviour would have been self-defeating, undercutting the local economic support and prospects on which these companies depended. It must be remembered that many of their investors were customers too. The local base also meant that a strong independent streak was reconciled successfully with a focus on the benefits of "interconnectedness". Hence joint arrangements and full merger with railway neighbours could be justified to investors and customers where there were expectations of both internal economies of scale (savings in fixed capital and administrative costs) and powerful externalities ("network" benefits, which were not directly captured by the mechanism of market prices). The local context also shaped positive feedback loops: as the railway companies prospered, so did the industrialising communities

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<sup>57</sup> Bradshaws Railway Guide, April 1910, p. 771, and C. R. Wilby, op. cit., pp. 4, 7.

<sup>58</sup> Bob Mills: "Train Control and Passenger Workings on the Lancashire & Yorkshire Railway", *LYR Focus*, no. 64 (L & YR Society, 2007), pp. 7-8, 61, 65, 67.

<sup>59</sup> A.D. Chandler: *The Visible Hand: the Management Revolution in American Business* (Harvard University Press, Massachusetts, 1977).

they served in East Lancashire, and vice versa. It clearly rewarded the ELR and L & YR handsomely in terms of both profits and traffic growth to invest in the expansion and improvement of the trans-Pennine transport corridor.

Hence, as a concluding point, the “core” theme to emerge clearly from this pioneering research is that corporate responses were highly appropriate to their local context, and the railway builders and managers were thus able to make an innovative transport system and technology work well - and profitably - to serve the expanding needs of the district’s communities after 1848. Because of their geographical focus and base, the development paths of local railways and the towns and industries of East Lancashire were inextricably intertwined at many levels. The ELR’s system, in particular, was large enough to be significant for development and small enough to be manageable as a single unit. It is remarkable, and possibly unique, for its closeness of fit and tightness of integration with its territorial domain.

## **CHAPTER 6: TRADE AND TRAFFIC PATTERNS IN EAST LANCASHIRE, 1840s to 1914**

Whereas Chapter 5 discussed the history of local railway companies as discrete businesses, the objective of this section of the thesis is to define and clarify the nature and configuration of passenger and freight traffic flows conveyed on all the major modes of transport around Accrington after the arrival of railways. Data about traffic flows is of critical importance to the economic historian because it directly represents and captures geographical patterns of trade – the lifeblood in the growth of any town or region – and it also illuminates chronological sequences of development. It is not the intention here to trace the progress of East Lancashire's canal, turnpike road, tramway and rail services in exhaustive detail, but rather to delineate their inter-relationships and common features as they responded to a dramatic expansion in intra-regional and inter-regional trade during the mid and late Victorian eras. This pioneering research strongly suggests that traffic flows assumed a highly distinctive pattern after 1848 which displayed some continuity with the pre-railway era, but also several innovative characteristics. Furthermore, the individual transport modes cannot be studied in isolation, but must be viewed as parts of a coherent, integrated and dynamic communications system which both supported and energised rapid economic growth in East Lancashire.

Traffic flows displayed several remarkable and defining characteristics in East Lancashire which eventually settled into a stable overall pattern during and beyond the railway age. Firstly, there was a clear transition from incremental growth up to the 1840s, which was straining the capacity of existing modes of transport, especially the roads, to exponential growth after the railways arrived. Railways enabled traffic to “break out” of the practical constraints implied by existing technologies and generated positive, mutually re-inforcing, feedback loops between trade and transport development after 1848. Hence the growth process was interactive between transport modes and local economies, as existing constraints were removable through investment and innovation in communication systems. Secondly, and highly significantly, the relationship between railways and the other transport modes was essentially complementary, not competitive, in East Lancashire. The turnpike road and canal operators adapted well to the

arrival of the newcomer and discovered and developed “niche” markets in the changed economic landscape. Indeed, railways generated so much traffic that some of it *had* to be accommodated on the roads and canal. Hence there was no clean and simple succession of transport technologies, which is a common and misleading traditional assumption in the existing historiography. A third important feature was that railways did not merely facilitate inter-regional trade flows passing through East Lancashire, but they also were directly responsible for growth of local traffic. Hence Accrington became both a major transport hub, especially for transfer of traffic from Yorkshire, and a key originating point for freight movements as the town’s industrial base expanded. A fourth observation is that passenger traffic growth was both dramatic and *unanticipated* after 1848, for the East Lancashire Railway had been designed and planned essentially as a general and heavy freight haulier. Remedial investment enabled the Lancashire and Yorkshire Railway to supply this highly elastic market well with intensive services by 1900.

A fifth aspect relates to the distinctive geographical configuration of trade flows within and through East Lancashire. Local railways underlined and re-inforced the historic importance of the wider west-east transport axis which had linked the economies of Lancashire and Yorkshire across the Pennines since Roman times. Accrington, in particular, benefited immensely from the direct access railways provided to the lucrative trade opportunities along the trans-Pennine corridor. A final related observation is that railways also pioneered crucial new north-south traffic flows, such as inter-district coal movements within Lancashire. It was of critical importance that railways liberated East Lancashire’s economy from the geo-physical constraints of the West Pennine moorlands which had isolated the region from Manchester and blocked the growth of both passenger and freight flows southwards. To summarise the evidence which will be presented in detail, traffic flows assumed a stable T-shaped configuration in East Lancashire during the railway era, with freight and passenger movements heading west, east and south from and through Accrington. This unusual trade pattern was responsible for the rapid development of industrial towns after 1848, with Accrington becoming a key transfer and originating centre for East Lancashire. It is striking, too, that the modern motorway network (the M65/M66) reproduces the T-shaped rail system centred on

Accrington, testifying to the continuity of intra-regional and inter-regional traffic flows since the mid-Victorian era.<sup>1</sup>

There are several intertwined strands of primary evidence to confirm and expand these arguments, although it must be admitted that the dataset is very incomplete, or inferential. These documentary strands consist of: the prospectuses and public statements issued by the three railway micro-companies; the traffic surveys which they commissioned in the mid-1840s; the bi-annual returns and reports of the East Lancashire Railway to the Board of Trade and shareholders, 1846-1859; the working and public timetables produced by the ELR, its successor, the Lancashire and Yorkshire Railway, and by Bradshaws; indirect, non-statistical, evidence of railway-generated traffic growth; and finally the available statistical records and other evidence of how the earlier and later transport modes, especially the turnpike roads, the Leeds and Liverpool canal, and urban tramways, responded to the railway challenge.

#### **Prospectus and related evidence of the local micro-companies**

This is an extremely important set of primary material, for it represents a snapshot of traffic patterns in East Lancashire in the mid-1840s, immediately before the railway era. This evidence allows the economic historian to compare existing transport modes, and it provides a window into the expectations of railway investors, which shaped their view of the financial and economic rewards of developing the region's traffic. The particular records consist of the prospectuses and associated statements presented to investors by the three micro-companies, which amalgamated to form the East Lancashire Railway's system by August 1846. As the ELR was not a newly-launched company requiring share capital, it never issued a prospectus in its own name. These companies were discussed in detail in Chapter 5 as localised business structures, but here the focus is on their relationship to existing and potential traffic flows.

The prospectuses can be read as reliable evidence of existing and potential traffic in East Lancashire for several reasons. These micro-companies were certainly not speculative "bubble" companies, for their origins precede the classic "railway mania" phase of the second half of the 1840s and the projected lines were, unlike many others, built in their entirety. Share capital had to be raised from well-informed businessmen and other investors with strong local

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<sup>1</sup> The motorway "T" pattern is very apparent on the OS Landranger Map 103 for Blackburn & Burnley, 1:50,000 scale (Southampton, 2003).

connections who were unlikely to be deceived by fatuous or over-inflated traffic estimates, for as the promoters of the Extension Railway acknowledged at a meeting in Accrington in August 1844: "The persons present are acquainted with the traffic, the population and the wants of the district."<sup>2</sup> Nor is there any indication that railway promoters sought to mislead and, if anything, they erred on the cautious side. Furthermore, prospectus claims were based on careful and systematic surveys of existing traffic flows in East Lancashire, as will be elaborated later.

The prospectus of the Manchester, Bury and Rossendale Railway (MB & RR), 7 December 1843, indicated the high returns that investors could reasonably expect on the basis of *existing* traffic patterns along the Irwell Valley and deliberately discounted prospects of rapid growth in the revenue projections. It also noted the absence of a north-south canal link across the West Pennine moorlands which by the early 1840s was becoming a major constraint on the growth of trade between East Lancashire, the Irwell Valley and Manchester:

"The traffic returns shew (sic) on a moderate calculation that the gross revenue of the Railway will amount to at least £51,000 p.a., which after deducting 40% for the expenses of working and management...will leave a net revenue of £30,600, or upwards of 10% on the required capital. It must be observed that in this calculation no notice has been taken of the income to be derived from livestock, parcels and mails, and the usual practice in making calculations of this nature of doubling the present traffic in expectation of that increase ... has not been adopted. The calculation is based upon a *fair estimate of the actual traffic*, though doubtless a great increase may be reasonably anticipated consequent upon the establishment of a Railway communication affecting Radcliffe, Pilkington, Bury, Ramsbottom, Haslingden, Rawtenstall, Newchurch, Bacup, Accrington and the surrounding manufacturing district of East Lancashire, especially when we look at the number of large manufactories on the line, and it is borne in mind that even the facilities of Canal Navigation have not been extended to many of the places referred to."<sup>3</sup>

The Blackburn and Preston Railway (B & PR) prospectus, 12 December 1843, referred to the mineral potential of East Lancashire which the railway could unlock and to possibilities of generating new traffic to the Lancashire coast, anticipating the rapid growth of the seaside resorts. The prospects of multiplying existing passenger volumes were discussed in a more confident light than the MB & R prospectus:

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<sup>2</sup> Minutes of Extension Railway Committee of Management, 5 Aug 1844, RAIL 51/2, Public Record Office (PRO).

<sup>3</sup> MB & RR Prospectus, DDX 118/12, Lancashire Record Office (LRO).

“ This district is also situated in the immediate vicinity of extensive coalfields and inexhaustible quarries of freestone, flags and slate, some of which, owing to the expense of carriage are now nearly unproductive to the owners, as well as comparatively useless to the public...The traffic, commercial, agricultural, and otherwise that takes place among the inhabitants themselves of the District around Blackburn, as well as between them and the towns of Preston, Bolton, Manchester, and Liverpool, is necessarily very extensive. Through the port of Fleetwood too a considerable trade with Belfast, and other parts of Ireland, has been recently opened and is rapidly increasing. It may be safely predicted that when the proposed Railway is completed, a great revenue will arise from the transit of passengers and goods to and from Lytham, Blackpool and Fleetwood during the bathing season. The opening of a railway through a populous country has invariably led to a considerable augmentation of business arising from conveyance of both passengers and goods – the number of travellers having been sometimes *doubled or even trebled*.”<sup>4</sup>

The prospectus of the Blackburn, Burnley and Accrington Extension Railway (BB & AER), which will often be referred to by the shorthand term “the Extension Railway”, dated May 1844, is of special historical significance for Accrington’s development and for the building of a nodal rail network in East Lancashire serving three directions of traffic flow from the district: west, east, and south. Indeed, so important is this document as primary evidence that it is reproduced verbatim and in full in Appendix C, and it is believed that this is the first time it has appeared in any historical thesis or publication. The prospectus of the Extension Railway pointed out to investors the critical importance of the stem of the projected T-shaped network which would link Accrington with Manchester, and which would overcome existing constraints on traffic growth along a north-south axis, noting, like the MB & RR document, the absence of a direct canal link:

“ This railway is projected for the purpose of connecting the populous towns of Blackburn, Burnley, Accrington, Clitheroe and Whalley with the town of Manchester, by a junction with the Manchester, Bury and Rossendale Railway, near Haslingden, and to those at all acquainted with the extent of population and number of manufactories which the proposed railway would accommodate, little need be said to demonstrate its desirableness. The towns of Blackburn, Burnley and Accrington and the district immediately surrounding them comprise a population of at least 90,000 persons, principally engaged in the cotton, woollen, calico printing, bleaching and dyeing trades, and have now a large traffic with Manchester, Liverpool and the rest of the Kingdom, for which there is at present no means of transit save by hilly and inconvenient roads and a very circuitous canal navigation. Each year increases the extent of this traffic and if the resources of the district were fully developed by improved means of communication, it would be difficult to calculate its future amount.”<sup>5</sup>

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<sup>4</sup> B & PR prospectus, DDX 116/36, LRO.

<sup>5</sup> BB & AER Prospectus, published in *Manchester Guardian*, May 8 1844, p.1, and *Manchester Courier*, May 11 1844, p.5. The BB & AER title was extended to the Blackburn, Burnley, Accrington and Colne Extension Railway (BBA & CER) on incorporation on 30 June 1845.



The prospectus continued by outlining the particular types of traffic which might be generated in the districts served by the new rail network, emphasising the mineral and agricultural potential in addition to manufactured merchandise. In this section, passenger prospects were not highlighted or specified, suggesting that the Extension Railway was built primarily as a heavy and general freight haulier, with conveyance of people treated as a distinctly secondary priority (which is supported by other evidence):

“...Six miles north of Burnley is the town of Colne, the centre of a population of upwards of 20,000 inhabitants employed in manufactures, which might easily be connected with the proposed railway. Colne is situate on the borders of a fine grazing country and forms a point of communication for the transit of sheep and cattle continually passing to the manufacturing districts of Lancashire, especially to the Manchester market. Clitheroe, another manufacturing town 8 miles North of Accrington, with upwards of 6,000 inhabitants in the town alone, is known as a place furnishing a large supply of lime to Manchester and the intervening Lancashire towns, from the valuable and inexhaustible bed of limestone on the banks of the River Ribble. In the neighbourhoods of Accrington, Burnley and Colne are valuable mines of freestone, slate, etc.”<sup>6</sup>

The interconnectedness of the Extension Railway project was repeatedly stressed as a selling point by its promoters. It was never intended as an isolated mineral line or an extended industrial siding (unlike some of the later-built railways in West Yorkshire), which had minimal consequences for local development. Rather, by linking with other planned or already-built lines across the north of England, major “network benefits” of growth of both through and locally-generated traffic would liberate East Lancashire’s economic potential. The prospectus stated that:

“...The projectors, in addition to the primary object of connecting this manufacturing and mineral district by the junction before mentioned with Manchester, the great market for the manufactures of Lancashire, feel satisfied that a project which will secure a direct and economical railway communication for a population of upwards of 120,000 inhabitants with the port of Liverpool and the manufacturing towns of South Lancashire and at the same time, by means of the proposed Blackburn and Preston Railway, form a communication with the port of Fleetwood and the towns in the western parts of Lancashire, is an undertaking which will secure public support.”<sup>7</sup>

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<sup>6</sup> Ibid.

<sup>7</sup> Ibid.

At a meeting of local manufacturers and landowners, all prospective investors, at the Hargreaves Inn, Accrington, in August 1844, the Extension Railway's promoters presented their "mission statement" which reiterated some of the essential points of the prospectus, but added the ultimate aim to unite West and East coasts across the Pennines:

"The primary object of this undertaking is to connect the manufacturing towns of the North and East parts of Lancashire and the rich mineral district surrounding them with Manchester which has been well-termed the Commercial Metropolis of the County, incidentally to unite the different important towns of Lancashire with the main lines of railway in the Kingdom, and eventually to form a link connecting West and East coasts."<sup>8</sup>

The Directors of the B & PR similarly highlighted their scheme's wider west-east connections to shareholders at the Half-Yearly General Meeting in early 1845:

"The projected branch from the Leeds-Manchester Railway to Burnley....will, in common with the Blackburn-Burnley line, afford great facility of communication with important districts of Yorkshire, and that the Blackburn and Preston Railway will become a link in the great chain of railways between East and West coasts."<sup>9</sup>

In the Directors' Report of the Extension Railway, dated 28 July 1845, the Chairman, Samuel Ashton, emphasised to shareholders the key point about the development of traffic on a railway *network* within Lancashire, and with connectivity to strategic trans-Pennine links:

"The Directors most heartily congratulate you upon the success of a measure, furnishing to the active Manufacturing District of East Lancashire, an efficient system of Railway communication with Manchester, Liverpool, and the surrounding district; and at the same time securing the important public object of completing across the Northern portion of the Country a direct communication between Lancashire and Yorkshire, and the Ports on the eastern and western Coasts...with reference to the large amount of traffic which the line will command from other sources...as part of a more comprehensive line of railway."<sup>10</sup>

In summary, the promoters of the three micro-companies had a well-defined vision of the traffic potential of their districts to communicate to prospective investors, potential which they felt confident would be released from existing constraints by the advent of the innovatory rail technology. The objection that aspirational statements in these share prospectuses do not

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<sup>8</sup> Minutes of Extension Railway Committee of Management, 25 July & 5 Aug, RAIL 51/2, PRO.

<sup>9</sup> Minutes of B & PR Board of Directors, 24 Feb 1845, RAIL 50/2, PRO.

<sup>10</sup> DDX DDBd, 55/3 (in Richard Bolton's correspondence), LRO.

necessarily constitute reliable evidence of existing traffic patterns, even if they were not the ephemeral products of “bubble” companies, will be directly addressed in the next section.

### **Traffic surveys of the micro-companies**

There is every indication that the prospectus claims of the three micro-companies, and their promoters` and investors` expectations, were rooted in the reality of trade and traffic flows in the growing East Lancashire economy of the mid-1840s. The Extension Railway`s prospectus mentioned that: “...accurate estimates of the cost, and correct table of the traffic, will be prepared, and shortly submitted to the public.”<sup>11</sup> This referred to the detailed surveys of traffic flows conveyed by turnpike roads and the Leeds and Liverpool canal which the micro-companies commissioned to provide investors with accurate projections of railway revenues and returns. Results of the traffic surveys were then published in summary form in the prospectuses and annual reports. This highly unusual and significant evidence, which is buried in raw form in the directors` minute books, has never been analysed or published by transport and economic historians before.

In May 1844 the management committee of the Extension Railway resolved: “that the traffic be forthwith taken on the different roads and canals affected by the Railway.”<sup>12</sup> By June 1844, Thomas Greenwood, who had been commissioned to produce the survey, reported estimated annualised traffic volumes and revenues generated at various points in the Accrington area.<sup>13</sup> They were deduced from the first week of monitoring and made certain cautious assumptions which translated observed volumes into revenue streams, notably that one half of observed merchandise was taken into account at a rate of 4d per ton per mile, one half of observed foot passengers were reckoned at a rate of 1.5d per head per mile, and the numbers of stagecoach and private passengers were doubled at 1.5d per head per mile. The volume and revenue estimates for the year extrapolated by Mr. Greenwood are collated in Tab. 6.1.

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<sup>11</sup> Extension Railway (BB & AER) prospectus, op.cit. (note 6).

<sup>12</sup> Minutes of BB & AER Committee of Management, May 24 1844, RAIL 51/2, PRO.

<sup>13</sup> Ibid, June 21 1844.

**Tab. 6.1: Greenwood's Traffic Survey for the Extension Railway, 1844**

<i>Section</i>	<i>Passengers on foot</i>	<i>Passengers own coach</i>	<i>Passengers mail/stage</i>	<i>Merchandise (tons)</i>	<i>Minerals (tons)</i>	<i>Live-stock</i>	<i>Total Revenue</i>
Blackburn-	21632	20540	20748	6260	13343	3048	
Bolton turnpike	£405 12s	£1540 10s	£1556 2s	£612 19s	£444 14s	£40 16	<b>£6575</b>
Blackburn-	76024	42796	29848	14352	1391	1040	
Accrington road	£1247 5s	£2053 1s	£1989 17s	£1046 10s	£45 12s	£7 10s	<b>£13764 16s</b>
Accrington-	13572	14508	16068	2155	871 (coal)	2496	
Burnley road	£254 9s	£1088 2s	£1205 2s	£179 12s	£32 13s	£13 9s	<b>£2773 8s</b>
Accrington-	18252	20748	34476	15353	9043	11908	
Haslingden road	£242 18s	£1123 17s	£1867 9s	£906 5s	£240 4s	£49 17s	<b>£4430 9s</b>
Haslingden-Bury	25168	24752	31304	26273	11676	9516	
turnpike	£176 19s	£721 18s	£913 1s	£821 1s	£164 4s	£18 7s	<b>£2815 10s</b>
Blackburn-	13720	5356	-----	1846	3871	-----	
Haslingden road	£514 16s	£803 8s	-----	£301 4s	£290 8s	-----	<b>£1909 16s</b>
Blackburn-Burnley	-----	-----	5096(boat)	20106	68562	-----	
canal	-----	-----	£716 13s	£4391 10s	£4820 16s	-----	<b>£9928 18s</b>
Blackburn-Church	-----	-----	-----	11492	4212	-----	
canal	-----	-----	-----	£638 9s	£105 6s	-----	<b>£743 15s</b>
Blackburn-	-----	-----	-----	50752	4004	-----	
Liverpool canal	-----	-----	-----	£6626	£130 14s	-----	<b>£6756 14s</b>
Burnley-Liverpool	-----	-----	-----	29614	30966	-----	
canal	-----	-----	-----	£4113 3s	£1075 4s	-----	<b>£5188 6s</b>
Burnley-Church	-----	-----	-----	1040	3432	-----	
canal	-----	-----	-----	£83 17s	£69 2s	-----	<b>£152 19s</b>

*Source:* Minutes of BB & AER Committee of Management, June 21 1844, RAIL 51/2, PRO.

On the basis of these figures for existing transport modes, Mr. Greenwood estimated an annual gross income total of £64,414 3s for the Extension Railway project, consisting of £26,922 17s from passenger traffic, £25,849 13s from merchandise, £8121 13s from minerals, £520 from livestock and £3,000 from parcels and mails. After deducting working expenses of £25,765 12s, net annual income was estimated to be £38,648 11s, which represented a highly attractive return of over 9.5 per cent on the proposed capital of £400,000.

In August 1844, the Extension Railway's directors decided to commission a second traffic survey in connection with proposals to build a further extension eastwards beyond Burnley to Colne and possibly Skipton, competing mainly with the Leeds and Liverpool canal. In September 1844, Mr. Greenwood reported to the directors that estimated total annual revenues

on the proposed extension would be £20,308 8s, which, after deduction of 40 per cent for working expenses, amounted to a net revenue of £12,185 4s. This meant a yield of 5 per cent for investors on capital of £243,000, a reasonable return in semi-agricultural country, but not as attractive as that projected for the heart of the system around Accrington. Later in March 1845, Mr. Greenwood produced traffic projections on behalf of the Blackburn and Preston Railway for the route of the rival north-south project between Bolton, Darwen and Blackburn, which was opened as part of the Bolton, Blackburn, Clitheroe and West Yorkshire Railway (BBC & WYR) in 1848. Estimated annual revenues of this railway were only £15,485 14s gross and £9,291 14s net, which translated into a miserly return of 3 per cent on a capital of £300,000.<sup>14</sup> This survey might be interpreted as a propaganda exercise to discourage competing investments, although there is other evidence that north-south flows were relatively weak in the mid-1840s. Samples of annualised traffic volumes and revenues surveyed along both the easterly extension and the southerly alternative are summarised in Tab. 6.2:

**Tab. 6.2: Greenwood's other Traffic Surveys for BB & AER and B & PR, 1845**

<i>Section</i>	<i>Passengers on foot</i>	<i>Passengers own coach</i>	<i>Passengers mail/stage</i>	<i>Merchandise (tons)</i>	<i>Minerals (tons)</i>	<i>Live-stock</i>	<i>Total Revenue</i>
Burnley-Colne turnpike	66196	54912 £1029 12s	29432 £1207	11515 £755 15s	1220 £61	120640 £716 4s	£4769 10s
Skipton-Burnley canal	-----	-----	-----	7436 £975 19s	54080 £2703 1s	-----	£3679 17s
Leeds-Blackburn canal	-----	-----	-----	10400 £1365	10400 £1365	-----	£2,730
Leeds-Burnley canal	-----	-----	-----	10764 £1402 15s	-----	-----	£1402 15s
Burnley-Marsden canal	-----	-----	-----	-----	36452 £708 15s	-----	£708 15s
Altham-Southfield canal	-----	-----	-----	-----	13872 £228 4s	-----	£228 4s
Bolton-Darwen-Blackburn road	-----	19472 £2332 12s	20904 £6533 18s	18896 £4886 3s	Dyewood £197 9s	-----	£15485 14s

*Sources:* Minutes of BB & AER Committee of Management, September 10 1844, RAIL 51/2, PRO, and Minutes of Directors of B & PR, March 24 1845, RAIL 50/2, PRO.

The Blackburn and Preston Railway also commissioned a traffic survey for its planned route which was summarised in its prospectus. Annual passenger traffic (on foot and by conveyance)

<sup>14</sup> Ibid.

along Preston Road was estimated at £10,450 and goods traffic (both ways) at £6,979. Along Bolton Road (in the direction of Manchester) estimated passenger revenues were £3,058, while goods flows generated only £1,424 annually. Total annual revenues were estimated at £17,709 10s gross and £10,625 14s net (after deduction of 40 per cent for working expenses and including one-way calculations only for goods traffic). These figures translated into an attractive return of nearly 9 per cent on a capital of £120,000. The prospectus reassured cautious investors that: “this calculation does not include the income likely to arise from the increase of passenger traffic after the opening of the Railway, although there is every reason to believe that in this instance the additional revenue from that source will be very productive.”<sup>15</sup>

Several observations may be made about traffic patterns in mid-1840s East Lancashire. The strength of the east-west flows along both the turnpikes and the Leeds and Liverpool canal is apparent, as is the variety of traffic. The canal was predominately a freight carrier, while most of the turnpikes concentrated on passenger traffic, including pedestrians (who must have been ready to walk for miles). General merchandise, such as cotton manufactures, was more significant than mineral flows, including coal, while towards Colne and the pastoral district along the Lancashire/Yorkshire border livestock movements were important. Freight flows along a north-south axis were seriously restricted in the 1840s by the difficult moorland terrain and the absence of a canal alternative to the turnpikes, constituting key geo-physical and technological constraints on the development of East Lancashire's trade which only the railway could overcome. The southerly turnpike route from Blackburn appears to have carried more traffic than the equivalent road from Accrington, although like-for-like comparison is impossible. The potential for the railway to develop the strengths, and overcome the limitations, of the existing traffic pattern in East Lancashire must have represented an attractive investment opportunity in the 1840s.

### **Traffic returns for the East Lancashire Railway**

The problems with the traffic data are twofold: there are many omissions, and what is available does not relate directly to the particular object of study. Unlike the North Eastern Railway, the East Lancashire Railway and its successor, the Lancashire and Yorkshire, apparently never preserved their raw evidence for traffic generated at particular stations or on

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<sup>15</sup> B & PR Prospectus, DDX 116/36, LRO.

specific sections of their systems, and a detailed examination of the railway company records in the National Archives has so far failed to uncover any such micro-data for the Accrington area.<sup>16</sup> Hence the historian is forced to use indirect, inferential, evidence. One statistical proxy may be used: the traffic volumes and receipts generated on the ELR's system as a whole which were presented to shareholders in bi-annual reports, and in summary form in annual returns to the Board of Trade.<sup>17</sup> Clearly this is not ideal evidence, for the ELR's traffic aggregates are not the same as the traffic generated at a particular point, but it may be argued that the ELR's system was geographically compact and self-contained, and Accrington was a key traffic hub which accommodated many, if not the majority, of the passenger and freight services using the T-shaped network. The L & YR's traffic returns cannot be used as a reliable proxy indicator for the Accrington area because of the extended network coverage and diversity of nodal centres across northern England.

The compilation and presentation of the ELR's passenger and freight returns from the accounts for 1846-1858 in Tab. 6.3 demonstrates a remarkable "take-off" of traffic during the late 1840s and into the early 1850s. Total passenger revenue more than *quadrupled* between December 1846 (about £12,200) and December 1850 (£52,400) and total goods revenue increased more than *sixfold* in three years (Dec 1847: £7,400; Dec 1850: £46,800). Steadier expansion, though with noticeable seasonal fluctuations, took passenger revenues to a peak of £74,500 in December 1856. Goods revenue continued to rise spectacularly and outstripped passenger traffic, reaching a peak of £102,200 in December 1856. The effects of the 1857 trade recession are apparent in the traffic aggregates, although the ELR's business was recovering strongly when it amalgamated with the L & YR in 1859. The ELR generated massive traffic growth as it advanced northwards from Bury and the Irwell Valley and eastwards from Preston and Blackburn to Accrington (June and August 1848), Burnley (September 1848) and Colne

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<sup>16</sup> The survival of such micro-data for the NER enabled passenger and goods traffic patterns on the Wensleydale line to be analysed closely in: Christine Hallas: *The Wensleydale Railway* (Great Northern Books, Ilkley, 2002).

<sup>17</sup> ELR Reports & Accounts, 1850-1858, RAIL 1116/1-7, PRO. Parallel statistics are contained in ELR Minutes of Proprietors, 1844-1859, RAIL 176/1-3, (MB & RR until 1845, RAIL 176/1), PRO.

**Tab. 6.3: The ELR's Receipts & Sources of Revenue, 1846-1858 Accounts**

<i>Half-year</i>	<i>Passengers, parcels, mail</i>	<i>Carriages, horses, dogs</i>	<i>Minerals</i>	<i>Coal</i>	<i>Livestock</i>	<i>General Merchandise</i>	<i>Misc. fees, tolls, etc.</i>	<i>Total receipts</i>
Dec 1846	£12186 10s	£9 9s			£0 5s			£12196 4s
June 1847	£17278 4s	£25 11s	£87 11s		£17 7s	£87 11s	£76 4s	£18505 12s
Dec 1847	£18351 11s	£34	£406 7s	£754 2s	£274 19s	£6063 15s	£430 8s	£26315 3s
June 1848	£16777 13s	£40 18s	£355 3s	£932 17s	£150 10s	£8310 7s	£393 17s	£26961 5s
Dec 1848	£24232 8s	£116 4s	£855 7s	£1130 2s	£329 18s	£12425	£505 17s	£36235 7s
June 1849	£36502 19s	£148 17s	£1221 12s	£1645 19s	£511 2s	£24203 7s	£483 16s	£64717 11s
Dec 1849	£48169 7s	£281 13s	£1752 13s	£2119	£991 9s	£31223 4s	£889 4s	£85426 9s
June 1850	£42790 8s	£239 4s	£1970 4s	£2245 2s	£930 1s	£28520 17s	£471 14s	£77167 11s
Dec 1850	£52444 17s	£312 4s	£3312 7s	£2792 15s	£1320 16s	£39035 14s	£167 16s	£99386 9s
June 1851	£47084	£342 17s	£4443 11s	£3095 13s	£911 6s	£43451 10s	£3235 10s	£102564 6s
Dec 1851	£55770 15s	£304 18s	£3975 14s	£2984 15s	£1462 4s	£50203 5s	£327 6s	£118245 16s
June 1852	£49986 5s	£299 17s	£5084 19s	£3009 1s	£1037 12s	£51597 8s	£2745 11s	£113760 14s
Dec 1852	£59292	£407 16s	£7114 15s	£3026 7s	£1452 16s	£55700 9s	£4030 10s	£131014 12s
June 1853	£55275 6s	£446 3s	£7693 5s	£3582 7s	£943 10s	£55397 9s	£3140 11s	£126478 11s
Dec 1853	£65434 5s	£394 10s	£9203 7s	£4216 11s	£1281 4s	£58484 3s	£3271 10s	£142537 4s
June 1854	£57102 18s	£381 14s	£9842 12s	£4504 7s	£999 15s	£58950 12s	£3779 18s	£135561 16s
Dec 1854	£64364 15s	£373 11s	£10681 1s	£5327 5s	£1156 6s	£67466 1s	£3341 5s	£152745 6s
June 1855	£57076 9s	£361 7s	£10681 1s	£5327 5s	£989 2s	£65302 10s	£3308 8s	£142047 5s
Dec 1855	£68404 17s	£421 2s	£10429 11s	£4877	£1270 8s	£69798 5s	£2906 11s	£158111 6s
June 1856	£63658 5s	£416 11s	£10145 1s	£5103 15s	£1133 13s	£75722 8s	£2493 8s	£158673 1s
Dec 1856	£74544 11s	£421 14s	£10160 17s	£5664 10s	£1337 3s	£84621 12s	£3019 12s	£179763 18s
June 1857	£67489					£94382 (all freight)		£161871
Dec 1857	£71523					£90331 9s (all freight)	£733 8s	£162587 16s
June 1858	£62367 11s					£92704 18s (all freight)	£110 5s	£155182 14s
Dec 1858	£71193	£389	Not separated	£6118 7s	£1458 4s	£95525 5s (inc. minerals)		£174683 17s

*Sources:* ELR a/cs, 1850-58, RAIL 1116/1-7; Proprietors' Minutes, 1844-59, RAIL 176/1-3, PRO



(February 1849), far more than can be explained by transfers from existing transport modes, and which outstripped the expectations of the railway promoters and investors. Accrington, as the nodal point on the ELR's network, clearly benefited hugely from growth of through traffic after 1848.

Moreover, the ELR's accounts allow a more precise breakdown of the sources of this remarkable growth in passenger and freight traffic. Tab. 6.3 also collates and presents the company's disaggregated revenue statistics for 1846-1858.<sup>18</sup> Accounts for the half-year to June 1859 were never published by the ELR because of the amalgamation, and indicative passenger, goods and total receipts are estimated to be c. £77,885, £110,729 and £186,103, respectively, from the increases in the Lancashire & Yorkshire Railway's revenues over this period.<sup>19</sup> Tab. 6.3 suggests that general merchandise, like raw, semi-processed and finished cotton goods, always predominated in a highly-developed manufacturing district reliant on sophisticated and time-sensitive supply and delivery systems, and so the ELR was never a dedicated heavy mineral haulier like most of the North Eastern Railway's system. However there was a significant and steady growth in both stone and coal traffic as the railway unlocked the mineral potential of East Lancashire in the 1850s and developed trans-Pennine flows from Yorkshire. Livestock movements were less important as a revenue earner in this predominately non-agricultural district, though there was sustained growth here as well, with a seasonal pattern apparent in the half-year figures.

Finally, the ELR's accounts allow passenger traffic to be disaggregated and particular growth trends to be identified for the late 1840s and early 1850s, and more sporadically thereafter.<sup>20</sup> Sample passenger receipts and volumes by travel class, with percentage shares of totals in brackets, and average mileages, are reproduced as Tab. 6.4, with equivalent L & YR figures for the amalgamation year of 1859 included for comparative purposes.

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<sup>18</sup> The "miscellaneous receipts" category includes interest on capital subscriptions, registration fees, demurrage on carriages and wagons, and tolls on Liverpool, Crosby and Southport traffic and the Blackburn Company's traffic.

<sup>19</sup> 1858 L & YR full-year: passengers - £597,607, freight - £914,007, total revenue - £1,522,748; 1859 L & YR full-year: passengers - £675,492, freight - £1,024,736, total revenue - £1,708,851. (L & YR Reports and Accounts, 1858-59, RAIL 1116/8, PRO).

<sup>20</sup> ELR Reports and Accounts, 1850-1858, RAIL 1116/1-7, PRO.

**Tab. 6.4: Composition of ELR's Passenger Traffic, 1847-1858, and L & YR, 1859**

<i>Half-year</i>	<i>1<sup>st</sup> class receipts</i>	<i>2<sup>nd</sup> class receipts</i>	<i>3<sup>rd</sup> class<sup>21</sup> receipts</i>	<i>1<sup>st</sup> class passengers</i>	<i>2<sup>nd</sup> class passengers</i>	<i>3<sup>rd</sup> class passengers</i>	<i>Mean miles/Passenger</i>
June 1847	£2944 4s (15.1%)	£4971 8s (25.4%)	£11628 3s (59.5%)	35962 (6.5%)	96906 (17.5%)	420777 (76%)	8.42
June 1849	£5604 (14.5%)	£11326 12s (29.2%)	£21829 9s (56.3%)	41910 (5.8%)	148181 (20.3%)	538632 (73.9%)	12.27
Dec 1850	£7909 8s (15.3%)	£20912 3s (40.3%)	£23040 7s (44.4%)	65387 (6.4%)	314299 (30.6%)	648823 (63%)	12.05
June 1851	£7302 5s (16.1%)	£17848 13s (39.3%)	£20240 2s (44.6%)	63846 (6.8%)	293655 (31.3%)	581400 (61.9%)	10.94
Dec 1858	£12152 (18.1%)	£21365 1s (31.8%)	£32413 8s (48.3%)	£1170 11s (1.7%) <sup>22</sup>			
1859 (year)				782264 <sup>23</sup> (10.5%)	1803815 <sup>23</sup> (24.2%)	4871863 <sup>23</sup> (65.3%)	11.21 <sup>23</sup>

*Sources:* ELR Reports & Accounts, 1850-1858, RAIL 1116/1-7, PRO, and ELR Minutes of Proprietors, 1844-1859, RAIL 176/1-3, PRO

Although third-class ticket sales were the most significant component of passenger revenues, both first and second-class receipts appear, perhaps surprisingly, to have grown in relative importance over the period. The absence of disaggregated data for the mid-1850s makes it difficult to judge the continuity of these trends. Passengers numbers were more markedly dominated by third-class travel and remained at over 60 per cent during the 1850s, whilst there was noticeable relative growth of second-class volumes. The pattern was comparable to relative passenger volumes on the L & YR, which, however, carried proportionately more first-class passengers by 1859. The low level of season ticket sales by December 1858 reflected the relative unimportance of commuting flows for the ELR. Journey lengths on both the ELR and L & YR systems were relatively short at around 8-12 miles per passenger, and were routinely dominated by inter-urban movements within East Lancashire. The most outstanding fact, though, is the generally rapid and sustained growth of all classes of passenger travel from the progressive openings and extensions of the ELR's network in the late 1840s, to the amalgamation with the L & YR in 1859. This growth had a serious impact on the commercial priorities of the railway companies, as will be revealed later.

<sup>21</sup> The accounts call third-class services & passengers "Parliamentary" at times, referring to W.E. Gladstone's 1844 Railway Act.

<sup>22</sup> ELR season ticket receipts for half-year.

<sup>23</sup> These figures refer to total passenger volumes on the L & YR (RAIL 1116/8, PRO, op. cit.).

Moreover, it is known from other evidence, not reflected in the ELR's accounts and regular timetables, of the early importance of daily and weekly excursion traffic to various destinations, especially, but not exclusively, during the Wakes holiday season. For example, the ELR advertised "Whit Saturday Holiday Trains" on 17 June 1848 between Blackburn, Houghton Tower and Preston, and "Special Trains" for Preston Races on 9 and 10 August 1848 from Accrington, Blackburn and other stations along the newly-extended line.<sup>24</sup> The ELR was running Sunday "Cheap Trips" between Manchester and Liverpool in the summer of 1849, which provoked some disquiet, and its Directors occasionally discussed "Excursion Traffic arrangements".<sup>25</sup> Two serious accidents involving excursion services occurred on the ELR's network, one at Burnley in July 1852 when a Goole-bound train crashed into buffer stops, killing a teacher and three schoolchildren, the other at Helmshore in September 1860, about a year after amalgamation with the L & YR, when the runaway section of an excursion returning from Manchester collided with a following excursion train, killing 11 passengers.<sup>26</sup> A passenger traffic-sharing agreement was agreed with the L & YR in 1855 in which the ELR's responsibility was "to encourage excursion traffic from Blackburn, Burnley, etc, to Preston & Wyre Railway stations".<sup>27</sup> More widely, the railways became mass people movers during the Wakes season, as John Walton has observed.<sup>28</sup> The Wakes weeks were transformed from local religious and cultural celebrations in Pennine industrial communities to a collective exodus to the seaside resorts on the Lancashire coast, especially the proletarian mecca of Blackpool. However, it is unclear precisely when the transition occurred in the Accrington area during the railway era. The weeks themselves were staggered between individual towns to relieve capacity pressures on the railway network over the summer and to enable progressive shutdowns of factories for essential maintenance and stock-taking purposes. The Wakes excursions thrived as popular institutions in East Lancashire, supported by voluntary savings schemes in workplaces, clubs and churches to pay for a well-earned week of pleasure and

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<sup>24</sup> *Preston Guardian*, 17 June 1848, p. 8, and *Blackburn Standard*, 9 Aug. 1848, p. 1.

<sup>25</sup> ELR Directors' Minutes, 25 June & 6 Aug. 1849, 13 Apr. 1859, RAIL 176/7 & 176/14, PRO.

<sup>26</sup> L.T.C. Rolt: *Red for Danger* (Sutton Publishing, Stroud, 1998), pp. 44-47, and R.W. Rush: *The East Lancashire Railway* (The Oakwood Press, 1983), pp. 18-19.

<sup>27</sup> ELR Directors' Minutes, 22 Oct. 1855, RAIL 176/12, PRO.

<sup>28</sup> John K. Walton: *The English Seaside Resort: A Social History, 1750-1914* (Leicester University Press, 1983), *Wonderlands by the Waves: History of the Seaside Resorts of Lancashire* (Lancashire County Books, Preston, 1992) and *The British Seaside: Holidays and Resorts in the Twentieth Century* (Manchester University Press, 2000).

relaxation, and they survived in this form into the 1960s, and in local memory beyond this.<sup>29</sup> The economics of seasonal excursion traffic were marginal for the railway companies, for empty coaching stock and underused assets were tied up for most of the year, and the trains interfered with the efficient conduct of the “core” freight business on congested routes. The railway companies appear to have run excursions as a quasi-public service rather than as direct profit generators, because this suited the overall development of their economic domains. Their significance should not be overstated, for they were very much the exception to the mundane routine of the daily railway services which were really significant for the growth of local economies in East Lancashire.

### **Working and public timetable evidence**

One useful proxy for traffic flows in East Lancashire is the testimony of passenger and freight services on particular routes in the working and published timetables issued by the ELR and L & YR, or in Bradshaw’s railway guides. It is not ideal evidence because timetables are statements of intent, not records of outcome, and they do not directly indicate the precise types and volumes of goods carried, or the purposes of passenger travel. When combined with other sources, however, the fundamental pattern of the district’s trade and traffic is thrown into sharp clarity in its historical and geographical dimensions. In Tab. 6.5 and Tab. 6.6 the timetables have been used to identify, analyse and collate all rail services serving the Accrington district at specific dates (excluding the Clitheroe-Blackburn-Bolton route). Services are disaggregated into three categories: firstly, by geographical direction of flow; secondly, by whether they are, for freight, general merchandise, minerals (coal/stone) or fast goods, and, for passengers, stopping, semi-fast or express trains; thirdly, by whether they originate or terminate in Accrington station itself, within East Lancashire as a whole, or points outside the district as through traffic. The purpose of the latter set of distinctions is to identify the relative importance of the “hub” effect of Accrington as a traffic magnet, and not just a junction town, the “district” effect of growth of the intra-regional economy of East Lancashire, and the “corridor” effect of development along the extended trans-Pennine routes, though these three categories of rail services cannot always be cleanly separated in the primary sources, and also their economic effects overlapped and re-inforced each other in the complex growth process.

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<sup>29</sup> Stuart Taylor: *Journeys by Excursion Train from East Lancashire, Part One: Colne, Nelson, Burnley, Accrington & Blackburn* (Foxline Publishing, Romiley, 1995).

**Tab. 6.5: Goods Services of ELR and L & YR around Accrington, 1858 - 1905**

<i>Direction Of Travel</i>	<i>Accrington General</i>	<i>Coal Stone</i>	<i>Fast</i>	<i>E. Lancs General</i>	<i>Coal Stone</i>	<i>Fast</i>	<i>Through General</i>	<i>Coal Stone</i>	<i>Fast</i>	<i>Totals</i>
<i>1858 Services</i>										
West to East	4			3	1C		3			11
East to West	3			3	1C		3			10
North to South	6			1	1S 2C					10
South to North	7			1	1S 1C					10
<b>Total Services</b>	<b>20</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>5C 2S</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>41</b>
<i>1869 Services</i>										
West to East	4			5			6	1C	4	20
East to West *	2			10			1		2	15 *
North to South	14	1C	1				1			17
South to North	10	1C 1S		7						19
<b>Total Services</b>	<b>30</b>	<b>2C 1S</b>	<b>1</b>	<b>22</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>1C</b>	<b>6</b>	<b>71</b>
<i>1905 Services</i>										
<i>Loop line</i>										
West to East				8						8
East to West				6		1	1		2	10
<b>Total Services</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>14</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>18</b>

*Sources:* ELR Passenger/Goods Timetable, 1858, RAIL 981/74, PRO; L & YR Working Timetables for Nov 1869, National Railway Museum (NRM), and Oct 1905 for Rose Grove-Blackburn line in K.D Westall: *The North Lancs Loop* (L & YR Society Branchline Series No 10, 1993), p. 32f.

\* A section of the timetable is missing so east to west services are incomplete (but partly reconstructed).

The tabulated results bear striking testimony to the growing importance of freight traffic in the mid-Victorian era, with 41 services in total listed in the ELR's combined passenger and goods timetable in 1858, and, according to the L & YR's working timetable, there were 71 freight movements altogether by 1869 (almost certainly under-recorded because the original document is incomplete). Accrington's role as a busy traffic centre is shown by the 20 services which either originated or terminated there in 1858, and 34 by 1869, and more services were generated within East Lancashire than beyond. Other significant findings are the even balance of west-east and north-south freight flows and the importance of both minerals and time-sensitive traffic (see examples of coal and fast goods trains in Chapter 3). Many of these services ran during the late evening or night to avoid interfering with daytime passenger operations. The more fragmentary evidence of the pattern of services along the Loop line between Blackburn and Rose Grove (which avoided Accrington) in 1905 is included to confirm the strength of west-east flows, including fast freight (specifically, a fish train was designated).

**Tab. 6.6: Passenger Services of ELR and L & YR around Accrington, 1848-1910**

<i>Direction Of Travel</i>	<i>Accrington</i> Stopping	Semi Fast	Express	<i>E. Lancs</i> Stopping	Semi Fast	Express	<i>Through</i> Stopping	Semi Fast	Express	<i>Totals</i>
<i>1848 Services</i>										
West to East	1			3	4	1				9
East to West	2			4	3	1				10
North to South				4	9	1				14
South to North				8	3	1				12
<b>Total Services</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>19</b>	<b>19</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>45</b>
<i>1858 Services</i>										
West to East	2						7 & 5LYR	2	1	12
East to West				2			19 & 6LYR	1	1	23
North to South				2			4	2		8
South to North		1	1	2			1	4		9
<b>Total Services</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>31</b>	<b>9</b>	<b>2</b>	<b>52</b>
<i>1869 Services</i>										
West to East	4	3	2		1		7	2	1	20
East to West	5			5	1		3	4	3	21
North to South	3	6	1	1						11
South to North	2	6	1	1	1					12
<b>Total Services</b>	<b>14</b>	<b>15</b>	<b>5</b>	<b>6</b>	<b>4</b>	<b>0</b>	<b>10</b>	<b>6</b>	<b>4</b>	<b>64</b>
<i>1887 Services</i>										
West to East	12	2		4			12	9	7	46
East to West	12	2		5			12	13	4	48
North to South				7		1	3	7	2	20
South to North	4	1		5	2	2	4	2	1	21
<b>Total Services</b>	<b>28</b>	<b>5</b>	<b>0</b>	<b>21</b>	<b>2</b>	<b>3</b>	<b>31</b>	<b>31</b>	<b>14</b>	<b>135</b>
<i>1910 Services</i>										
West to East	12	5		19			21	18	23	98
East to West	16	6	1	19			21	19	22	104
North to South	3	1	1	6	4	4	3	8		30
South to North	2		1	11	4	1	6	9	2	36
<b>Total Services</b>	<b>33</b>	<b>12</b>	<b>3</b>	<b>55</b>	<b>8</b>	<b>5</b>	<b>51</b>	<b>54</b>	<b>47</b>	<b>268</b>

*Sources:* ELR Passenger/Goods Timetable, 1858, RAIL 981/74, PRO; L & YR Working Timetable, Nov 1869, NRM; Bradshaw's Railway Guides, Oct 1848, Nov/Dec 1869, Aug 1887, Apr 1910.

The evidence from the ELR and L & YR's own timetables, and Bradshaw's guides, in Tab. 6.6 demonstrates the massive and continuous expansion of passenger traffic in East Lancashire, from 45 regular services when the railway arrived in Accrington in 1848, to an Edwardian zenith of 268 in 1910, many of which served the town directly. Accrington's rising importance as a traffic hub handling huge volumes of originating or terminating trains (48 by 1910) or

passing traffic is evident, as with freight services. It is significant that in 1848 north-south flows (between Manchester and Accrington) were greater than on the west-east axis, shortly before the ELR's route towards Burnley and Colne had been opened, but once the network was complete, the balance was reversed and the strength of the flows along the trans-Pennine corridor was increasing in absolute and relative terms, particularly from the late Victorian era, and this is confirmed by the dramatic growth of through traffic, especially from West Yorkshire or bound for Liverpool and the Lancashire coastal resorts. The trans-Pennine connections seem to have lifted traffic generated within both Accrington itself and the wider district, too. Finally, the density of stopping services within East Lancashire, and the L & YR's extensive use of semi-fast and express trains (which cannot always be clearly distinguished) on through routes, are both apparent in Tab. 6.6, which, however, does not fully capture the astonishing complexity and diversity of the passenger rail network before 1914. The L & YR met the varied needs of East Lancashire's citizens for both a local and integrated transport system exceptionally well, providing services ranging in scale from the humble but popular steam railmotors which ran about 8 times each way between Burnley and Colne on Tuesdays and Saturdays, to the 4 through daily return services from Colne to London Euston. There were multiple connecting trains provided by other companies, such as the LNWR's Windermere services from Preston and the Midland's Scottish expresses via Hellifield and the Settle-Carlisle line. In 1910 the weekday specials conveyed businessmen from Accrington to Salford in 37 minutes and from Burnley Barracks to Manchester Victoria (Tuesdays and Fridays only) in 47 minutes non stop. The most dramatic improvement in local journey times, though, occurred at the transition to the railway era in 1848, when the ELR's expresses took 50 minutes to travel from Accrington to Manchester Victoria (with stops at Ramsbottom and Bury), underlining the fact that railways had a unique role in a time-conscious society and economy which East Lancashire's canal and turnpike roads could never hope to fulfil.

### **Indirect evidence of railway traffic trends**

As well as the timetable evidence, there are several important, but circumstantial, indicators of railway-generated traffic growth in the Accrington area. When the ELR's Accrington-Manchester route was opened in August 1848, the station's size was prophetically described as

“inadequate to the business that will certainly be done at this important centre”.<sup>30</sup> In 1849 the Board of Trade received a lengthy litany of complaints from local magistrates concerning the inadequate and dangerous passenger facilities at Accrington station, including the fact that Manchester-bound passengers had to cross the running lines to reach the (single) platform after having purchased their tickets from a temporary wooden booking office on the Blackburn Road side. There were also “insufficient servants”, no direction boards, and the inconvenience of waiting in an open shed during bad weather. Captain Wynne, the Board of Trade inspector, reported on the curious round-robin traffic arrangements:<sup>31</sup>

“ Three trains simultaneously meet at Accrington from Manchester, Colne and Preston. The train from Manchester is shunted into the siding of the Preston and Colne, the engine is detached, the train divided, one part for Preston, the other for Colne; the next train, generally from Colne, then draws up at signal points, is separated, one part is shunted and joined to the carriages for Preston, the part for Manchester is drawn into the platform of the old station. The train from Preston arrives, is divided, the parts for Colne and Manchester are shunted and joined onto the carriages standing in the respective platforms.”

This orgy of shunting and re-marshalling of multiple train arrivals and departures must have required a masterpiece of precise timing and co-ordination to work properly, however Captain Wynne also pointed out the practical hazards:

“ Now while all this is going on, persons from Accrington to Manchester have to take their tickets at the new station and then cross the line to the old station, passengers likewise from Colne and Preston to Manchester arriving late and in a hurry, have to ...be competent to cross the line...I know of no station, certainly none of any magnitude similar to the Accrington one, where passengers have to book on one side and to cross a number of lines whilst that which is equivalent to arrival and departure of six trains is going on.”<sup>32</sup>

The interesting question arises: why did a traffic hub of the “magnitude” of Accrington have to resort to such delicate and dangerous choreography for routine passenger operations? In fact, this episode is unwitting testimony to two significant traffic facts: firstly, the ELR was never built primarily to carry passengers, who seem to have been treated as an after-thought to the “core” general freight business, and secondly, the ELR was caught unawares by the huge

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<sup>30</sup> *Preston Guardian*, 19 Aug. 1848, p. 6. The only conspicuous station feature was “a large four-dial clock”.

<sup>31</sup> Board of Trade Inspection Report, Accrington Station, 1 Dec. 1849, MT 6/7/150, PRO.

<sup>32</sup> *Ibid.*



surge of passenger demand shortly after it was opened in 1848. In the short-term more train services were provided to cope with volumes, in the long-term, expensive remedial investment was necessary in the form of a greatly remodelled and extended station at Accrington in 1882 featuring four covered platform structures, with bay sections, on the Manchester, Colne and Preston routes connected by a footbridge, although the original unimpressive “plain, moderate” single-storey ELR buildings and low platform on the Manchester side were retained.<sup>33</sup> Fig. 6.1 includes two photographic views of the rebuilt station of 1882, illustrating the expansion of passenger facilities and the size of the workforce at this major traffic hub before World War 1.

There is other indirect evidence of Accrington’s rise as a major traffic centre in the mid-Victorian era and beyond. In 1860, the L & YR decided to base the headquarters of its East Lancashire Division in Accrington, where it remained until centralised traffic control was introduced in 1913. Although this may appear a surprising decision at first glance, it made sense for the L & YR to want to locate operational management in a busy and expanding junction town.<sup>34</sup> In 1873 the ELR’s original 2-road engine shed of 1848, which held 6 locomotives on a cramped site within the triangular junction, was replaced by a larger structure accommodating 24 engines by the side of the Blackburn line, which was itself replaced in 1899 by an 8-road shed with capacity for 48 locomotives and a 55ft turntable at a new site further westwards adjacent to Charter Street.<sup>35</sup> In fact, the growth of the Charter Street complex, which included a carriage shed, goods warehouse and extensive exchange sidings, directly reflected Accrington’s status as a rail hub handling enormous volumes of through and originating traffic. This is confirmed by the evidence of engine shed allocations in late 1921, according to Bob Mill’s research into the records of the L & YR’s Control Office at Manchester Victoria.<sup>36</sup> No fewer than 84 of the 104 locomotive based in Accrington were various freight types, with 35 being 0-6-0 fast goods engines (classes 27 and 28), and 19 were of the 0-8-0 design for hauling heavy coal and minerals traffic (classes 30 and 31). More

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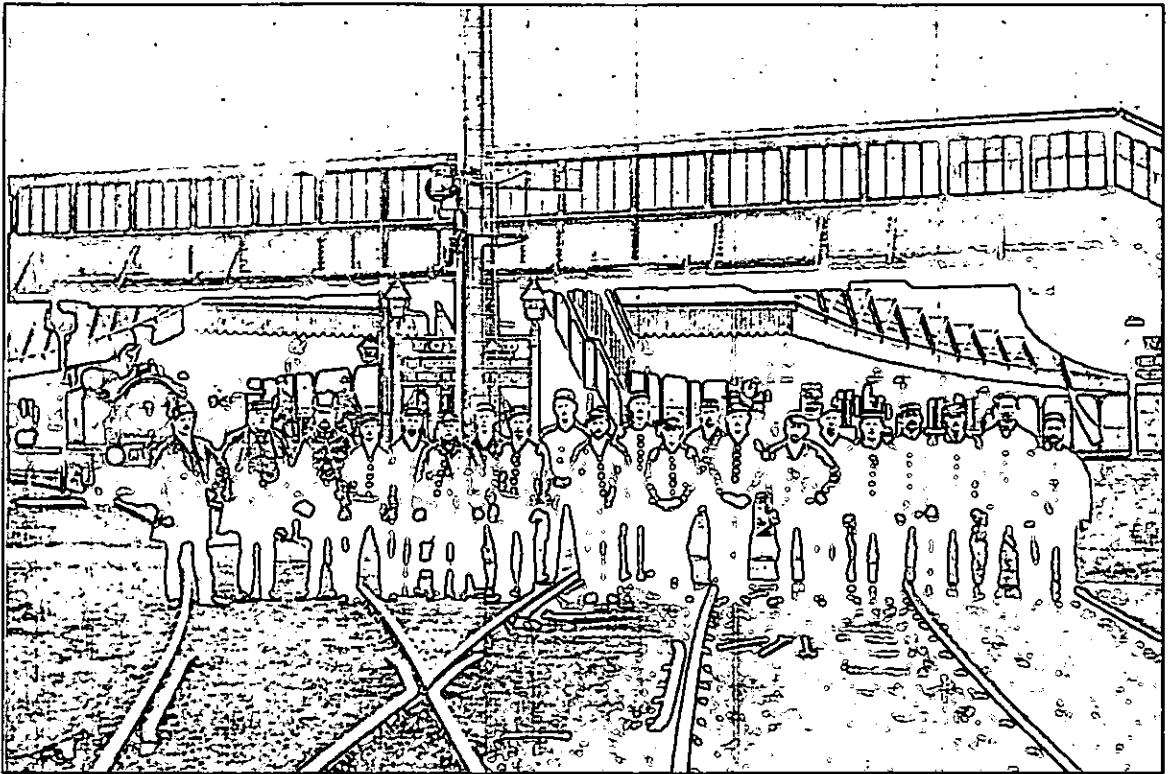
<sup>33</sup> R.W. Rush: *The East Lancashire Railway* (The Oakwood Press, 1983), pp.12-14, inc. station plans, and *Preston Guardian*, 17 June 1848, p. 6.

<sup>34</sup> R.W. Rush, op. cit., p. 38.

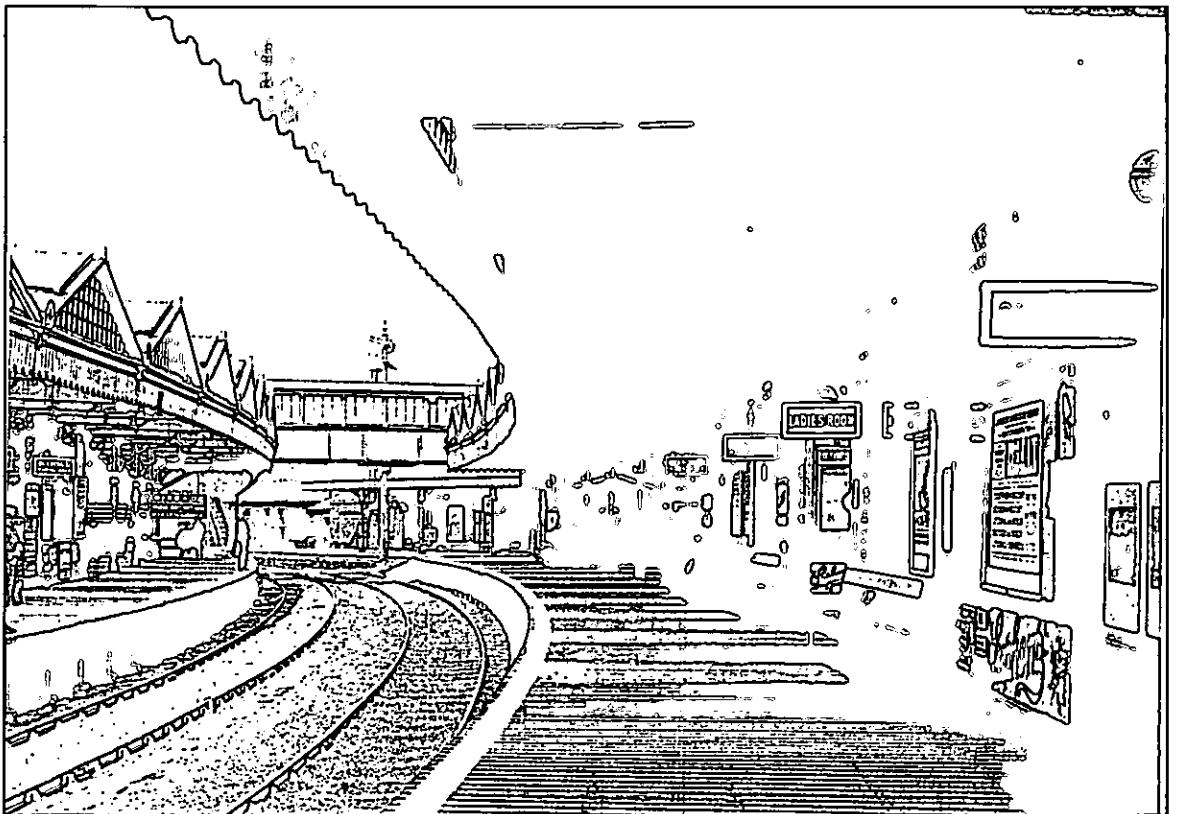
<sup>35</sup> Ibid, p.61, & Paul Smith: *The Handbook of Steam Motive Power Depots, Vol 3: North Midlands, Lancashire and Yorkshire* (Platform 5 Publishing, Sheffield, 1990), p. 62.

<sup>36</sup> Bob Mills: “Train Control and Passenger Workings on the Lancashire & Yorkshire Railway”, *LYR Focus*, no. 64 (L & YR Society, 2007), pp. 8, 61. All of the 15 engines allocated to Rose Grove shed were freight types (7 were classes 27 & 28, and 6 were classes 30 & 31), while 43 of Lower Darwen’s allocation of 61 were goods engines (23 of classes 27 & 28, 7 of classes 30 & 31), *ibid*, pp. 64, 67.

**Fig. 6.1: Two Photographs of L & YR Accrington Station after 1882 re-building**



*Source:* Station staff at eastern junction, 1890s, Local Studies collection, Accrington Library



*Source:* Preston/Burnley platforms, with Manchester side in background, c.1914, Horwich photographic collection, NRM. Both views capture different aspects of the station's growth as a traffic "hub".

widely in East Lancashire, the L & YR continually invested in capacity enhancement and physical “thickening” of the west-east artery, including the building of the North Lancashire loop line in the 1870s to provide an alternative route between Blackburn and Burnley, quadrupling of some track sections and upgrading of signalling infrastructure, no fewer than five engine sheds, all with turntables (Lostock Hall, Lower Darwen, Accrington, Rose Grove, Colne), a huge modern marshalling complex at Rose Grove, and commodious goods facilities with both exchange and industrial sidings to serve Blackburn and other towns (see Chapter 5 for maps and further details). All the evidence suggests that the L & YR’s routes between East Lancashire and West Yorkshire along the lucrative trans-Pennine corridor were by 1900 some of the most highly developed and intensively operated in the whole country, especially for general freight and coal traffic.

### **Traffic on other transport modes**

A common traditional assumption in economic and technological historiography has been that there was a simple evolutionary procession of inland transportation modes in Great Britain, from the early modern era of packhorse trails and causeys, to turnpike roads and canals in the later eighteenth and early nineteenth centuries, then the Victorian and Edwardian epoch dominated by the railway, which in turn was eventually succeeded by the era of motorways and a mass motorised society after 1960. Moreover, it is commonly assumed that the essential relationship between these modes, especially railways and canals, was defined by the economic paradigm of competition. However, the evidence from East Lancashire during the era when railways ought to have eclipsed all alternative modes suggests a radically different model of transport development, and it may be argued that the northern trans-Pennine regions of Lancashire and Yorkshire are where it really matters to have clear historical understanding of how transport systems functioned, for here the modern industrial world was successfully pioneered. These issues will be explored through the available statistical evidence for traffic volumes, flows and characteristics on the local turnpike roads and the Leeds and Liverpool canal as they responded to the challenge represented by the arrival of the railway in the district in the late 1840s, together with a brief survey of the role of urban tramways, a later innovation from the 1880s.

The Leeds and Liverpool canal was essential for traffic growth in East Lancashire in the pre-railway era, as shown by Mike Clarke, but its precise roles after the arrival of the ELR in the

late 1840s need to be clarified, and it must be stressed that these were essentially complementary to the railway.<sup>37</sup> Clarke has conducted some research into the categories and receipts of traffic carried on the canal from the 1770s and throughout the railway era, and this is reproduced graphically as Fig. 6.2, together with the company's dividend record. It must be noted, however, that these figures reflect traffic generated at points along the entire length of the canal between Liverpool and Leeds and are not specific to East Lancashire, so local short-haul and inter-regional through flows cannot be distinguished. What is apparent is the boom in both coal and general merchandise revenues from the late 1820s to the 1840s (limestone traffic was less important than originally anticipated), and this generated huge annual dividends of upwards of 30 per cent for the shareholders by the 1840s. The arrival of the ELR later in the decade is reflected in a precipitous plunge in coal and merchandise receipts and a halving of dividends between 1848 and 1850. This brief 2-year period was marked by an outburst of fierce price-cutting between the canal and railway which evidently troubled and damaged both companies. The ELR's Directors reported to shareholders in July 1850: "During the past half-year the receipts of this Company have been diminished by a serious competition with the Leeds & Liverpool canal for the traffic between Liverpool and a considerable portion of the district through which your railway passes. A negotiation has, however, been recently opened which may probably lead to some arrangement for putting an end to this competition – which cannot fail to be injurious to both Canal and Railway."<sup>38</sup> The outcome of negotiations in August 1850 was an agreement between the Leeds and Liverpool and four railway companies, the ELR, L & YR, LNWR and Midland, to lease for 21 years, at an annual rent of £40,500, the tolls payable for all the canal's merchandise traffic, excluding coal, other minerals, aggregates and bricks. The lease, in which the ELR had a 33 per cent share of the merchandise traffic, would enable the railways to secure "more remunerative rates on the traffic of the district".<sup>39</sup>

The impact of the railway lease on the canal was to stabilise its traffic receipts and overall profitability in the 1850s and 1860s, as Fig. 6.2 shows with annual dividends averaging about 25 per cent. During this period coal traffic recovered to reach a peak of 1,897,000 tons in 1866,

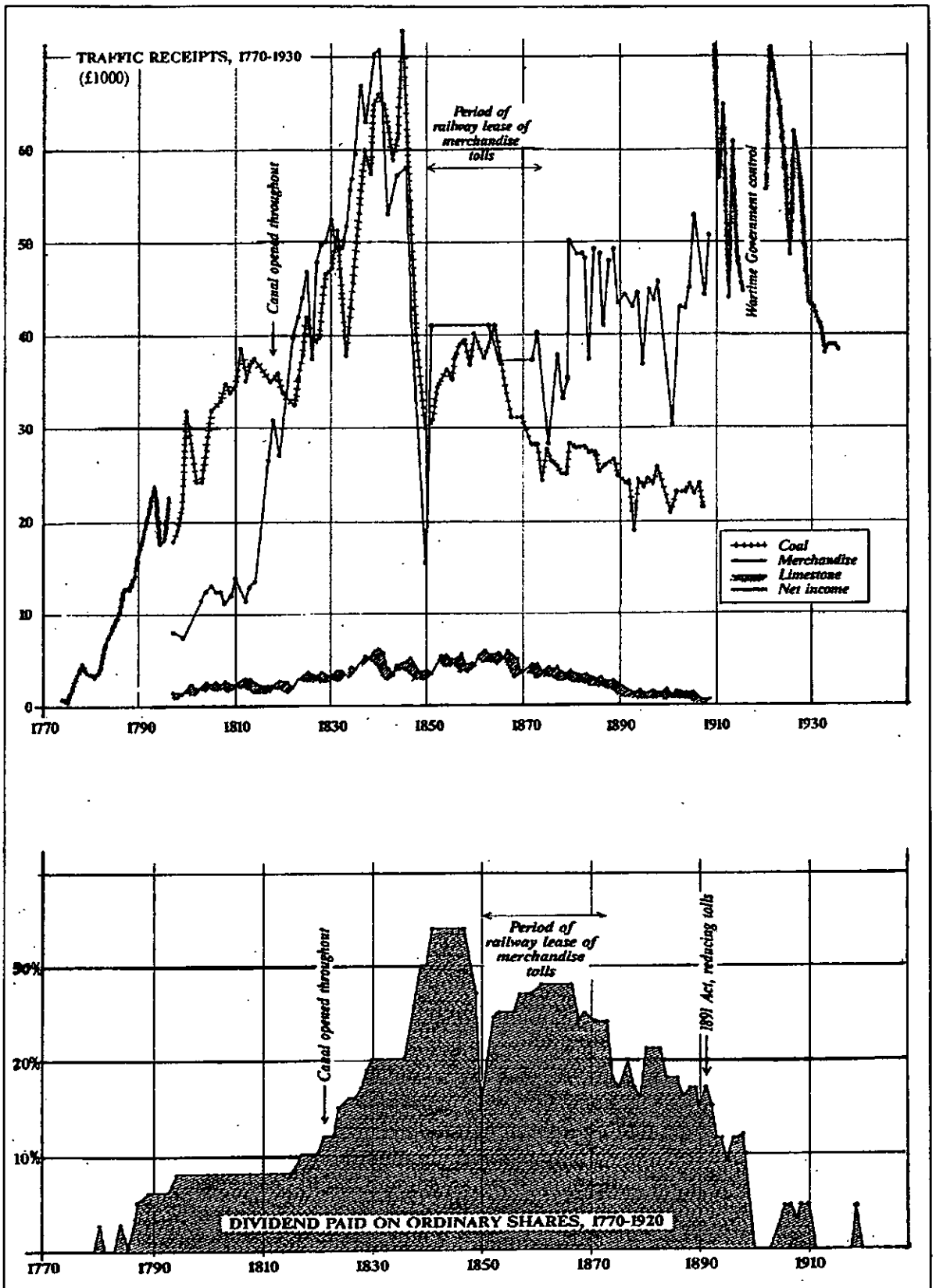
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<sup>37</sup> Mike Clarke: *The Leeds & Liverpool Canal: A History and Guide* (Carnegie Publishing, Lancaster, 1994). Clarke assumes that the canal was a serious competitor with the railways throughout the trans-Pennine districts it served, but a careful reading of his evidence for East Lancashire suggests otherwise.

<sup>38</sup> ELR Proprietors' Minutes, 31 July 1850, RAIL 176/2, PRO.

<sup>39</sup> *Ibid.*, 31 Jan. 1851, and Mike Clarke, *op. cit.*, pp. 182-186.

**Fig. 6.2: Traffic Receipts and Dividends of Leeds & Liverpool Canal, 1770-1930**



Source: Mike Clarke: *The Leeds & Liverpool Canal - A History and Guide* (Carnegie Publishing, Lancaster, 1994), p. 139

two thirds of which came from the Lancashire end.<sup>40</sup> The termination of the lease (which had been extended) in August 1874 by the Leeds and Liverpool allowed the canal to significantly expand merchandise traffic which was consolidated in the 1880s, and it is likely that this was business which the railway was struggling to accommodate at a time of rapidly rising traffic demands and did not necessarily want, rather than representing a permanent inter-modal transfer. However, coal receipts slowly declined during the post-lease period and into the Edwardian era, and limestone traffic dwindled into insignificance. Dividends also fell and none were paid in certain years after 1900. Unfortunately, as with the ELR's traffic returns, the categories of coal and merchandise in the canal company's receipts are not disaggregated by point of origin, final destination or precise characteristics. The limited evidence available from East Lancashire suggests that there was specialisation in both of these markets during and after the lease arrangement, the canal preferring to avoid direct competition with the railway. Producers and consumers of coal located within the industrialised canal corridor continued to rely on the Leeds and Liverpool for their transportation needs, and this made sense in terms of minimising transfer and handling charges for bulky mineral flows. Indeed the canal remained an important coal carrier in East Lancashire for many years, supplying the power station at Whitebirk near Blackburn into the early 1960s, for example.<sup>41</sup> Coal customers located at greater distance from the canal corridor, however, could usually be served better by the railway and feeder road cartage services. Distance from the canal was also important for merchandise traffic. It is revealing that a scheme promoted by the municipal authority in 1882 to build a short branch from the Leeds and Liverpool at Church to Accrington, terminating near the railway viaduct, failed because it was never supported by the canal company.<sup>42</sup> Additionally, demands for time savings were usually more important for finished or semi-processed manufactures and foodstuffs than minerals and raw materials. Time-sensitive flows of cotton yarn and cloth, milk and other perishables gravitated towards the railway's rapid freight services, but customers with less exacting time requirements and easy access to the canal might select this option for conveyance of merchandise to markets. For example, Howard and Bulloughs, Accrington's textile engineering giant, are known to have shipped many of their products for export along the Leeds and Liverpool from the canal-side warehouse in Church. They used the L & YR extensively too, and hence were able to choose the optimal mode of

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<sup>40</sup> Mike Clarke, *op. cit.*, p. 185.

<sup>41</sup> *Ibid*, p. 142.

<sup>42</sup> *Ibid*, p. 211.

transport according to factors such as time sensitivity and capacity constraints on the railway at seasonal peaks (see details in Chapter 3).

The Leeds and Liverpool's traffic statistics in Fig. 6.2 do not capture the full range of the contribution of the canal's activities to development in East Lancashire during the railway era. Many were niche services which the railway was not willing or able to provide. For example, large quantities of horse manure, domestic waste and "night soil", amounting to about 150,000 tons per annum in total by the 1890s, were conveyed by the canal from the larger towns like Blackburn, Accrington and Burnley, reflecting their expanding populations and the rise in urban horse-drawn traffic. The manure flows were re-cycled to fertilise the fields of the West Lancashire plain and help grow the Ormskirk potatoes, carrots and horticultural produce demanded by urban consumers, showing how closely were the agricultural and manufacturing districts of Lancashire integrated by its transport systems in a beneficial symbiosis.<sup>43</sup> The canal profitably supplied water to various industrial customers, such as cotton mills (for boiler feed and condensing purposes), and even railway companies, and some industries returned water to the canal, as with drainage from coal mines.<sup>44</sup> However, improvements in urban sanitation by the late nineteenth century meant that the canal was no longer required for sewage disposal. A cleaner canal was used increasingly for recreational purposes too, although it could never hope to match the railway's role as a mass provider of excursions for holidaymakers during the Wakes season. Scheduled packet boat services disappeared quickly once the railway arrived in East Lancashire, and the canal's passenger operators instead concentrated on niche markets for special, one-off, "travel experiences". Converted coal barges could be hired for the annual outings of schools and churches to popular destinations like the gardens at Whittle Springs, and pleasure boats, including steam launches, were used for evening or weekend jaunts into the attractive countryside of East Lancashire and beyond, sometimes as a favour for important customers of the canal like Howard and Bulloughs, though the "business hospitality" niche was embryonic before 1914.<sup>45</sup> As with industrial traffic, the Leeds and Liverpool canal came to specialise in leisure markets not directly served by railways.

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<sup>43</sup> Ibid, pp. 191-193. See also Alistair Munch: *Rural Life in South-West Lancashire, 1840-1914* (Centre for North-West Regional Studies, University of Lancaster, 1988), esp. Chapter 2: "Muck and Markets", pp. 12-14, on the farmers' purchase of "enormous quantities" of cheap urban manure.

<sup>44</sup> Ibid, pp. 112, 159, 176, 225.

<sup>45</sup> Ibid, pp. 233-240.

From the late 1840s passenger and goods services provided on the turnpike and intra-urban roads in the Accrington area responded in complex ways to the arrival of the railway. One of the immediate consequences was to multiply short-distance coach services to link local communities to the advancing railheads as they were being constructed north from the Irwell Valley and east from Blackburn and Preston. A shuttle service was provided in 1848 between Accrington to Rawtenstall “several times a day in connection with the ELR”, and similarly from Blackburn to Bolton, according to Slater’s Directory.<sup>46</sup> There is an intriguing reference in the ELR Directors’ Minutes in September 1848 to “Allen & Co.’s coaches” which were running between Burnley and Rawtenstall and whose horses were to be “taken, valued and sold on”.<sup>47</sup> When the ELR’s system had been completed, the rail hubs acted as a magnet for horse-drawn goods traffic, and also attracted feeder passenger services as towns grew rapidly. As early as April 1849, the ELR’s Directors were urged to increase the number of horses available at the goods department at Accrington station.<sup>48</sup> Local carrier services linked Accrington’s industries to the freight facilities at the railway station and later the warehouse on Charter Street, and short-distance cartage movements between towns also expanded. In 1851 about 7 carriers were operating regular services in Accrington, such as Leonard Hacking and Jacob Hargreaves to Blackburn and Thomas Haworth and John Whittaker to Burnley. About 10 carriers were recorded in 1861, including Robert Hesmondhalgh, Robert Holding and Jonathan Hargreaves on the popular services to Blackburn, and William Hartley and James Watson operating the Burnley route.<sup>49</sup> Carriers provided cartage every day for customers between Great Harwood, Church and Oswaldtwistle, and Blackburn in 1878 and 1900. In 1900 there were also daily carrier services from Accrington and Clayton-le-Moors to Blackburn.<sup>50</sup> As indicated by William Woodruff’s childhood recollections of 1920s Blackburn, the local cotton industry continued to rely on the efficient services of “streams of horse-drawn carts” to carry “mountains of grey cloth” to the railway station for many years.<sup>51</sup> Rising traffic volumes multiplied employment opportunities in cartage, driving, highway maintenance, horse care and

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<sup>46</sup> Slater’s Commercial Directory for Lancashire, 1848.

<sup>47</sup> ELR Directors’ Minutes, 22 Sept 1848, RAIL 176/6, PRO.

<sup>48</sup> Ibid, 30 April 1849, RAIL 176/7, PRO.

<sup>49</sup> Slater’s Lancashire Directory, 1851, p.15, and 1861, p. 15.

<sup>50</sup> Slater’s Directory, 1858, p. 49, and Barrett’s Directory, 1878, p. 325, and 1900, pp. 484, 591, 614, 623.

<sup>51</sup> William Woodruff: *The Road to Nab End* (Abacus, London, 2002), pp. 10-11. See Chapter 3 for the full quotation.



stabling, with about 60 of Accrington's residents working in road-related services in 1851 and 509 by 1911.<sup>52</sup>

The increase in horse-drawn vehicular traffic demanded improvements and extensions to the intra-urban road networks, as Geoffrey Timmins demonstrates, and both new and existing sections were surfaced with gritstone setts obtained from local quarries, flanked by flagstone pavements for the benefit of pedestrian mobility in "walking" towns.<sup>53</sup> The thoroughfare of Abbey Street in Accrington had been relaid with squared stones by 1850, Clayton-le-Moors Local Board of Health regularly purchased setts in the mid-1860s, and throughout urban East Lancashire the replacement of broken stones and boulders with sett paving reflected the need to improve the passage of the growing flows of wheeled vehicles, as well as curb the resulting increase in maintenance costs. Away from the well-paved thoroughfares and linking roads within urban perimeters, however, the broken surfacing of the intra-regional turnpike routes was generally not worth replacing as longer-distance traffic between towns was transferred to the railway.<sup>54</sup> There is other evidence of the contradictory impact of the railway on intra-urban and inter-urban road traffic. The direction and volume of daily or weekly coaching services provides proxy evidence for passenger traffic flows in East Lancashire before and during the railway era, and these have been selectively compiled from Pigot's and Slater's directories for Old and New Accrington, Blackburn, Burnley and Haslingden in 1828 and 1848, as summarised in Tab. 6.7.

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<sup>52</sup> Walter Holmes: *1851 Census Index for Old and New Accrington* (Accrington, 1995), Local Studies Collection, Accrington Library, and 1911 Census Report, County of Lancaster, LRO.

<sup>53</sup> Geoffrey Timmins: "Paving the Way: advances in road-building techniques in Lancashire, 1770-1870", *The Journal of Transport History*, Vol. 26 (March 2005), pp. 19-40. He concludes: "During the middle decades of the nineteenth century, as road traffic volumes continued to rise, the road building technology employed in Lancashire underwent a profound change. With high durability and low maintenance costs particularly in mind, setts became widely used, for both new and existing roads" (p. 37).

<sup>54</sup> *Ibid*, pp. 35-37.

**Tab. 6.7: Summary of Regular Stage Coach Services in East Lancs, 1828-1848**

<i>Direction of Travel</i>	<i>Accrington 1828-29</i>	<i>Accrington 1848</i>	<i>Blackburn 1828-29</i>	<i>Blackburn 1848</i>	<i>Burnley 1828-29</i>	<i>Haslingden 1828-29</i>	<i>Totals</i>
West to East	0	3	7	9	3	0	<b>22</b>
East to West	0	3	2	1	2	0	<b>8</b>
North to South	1	3/4	3	3	1	1	<b>12</b>
South to North	1	0	0	3	0	1	<b>5</b>
<b>Total Services</b>	<b>2</b>	<b>9/10</b>	<b>12</b>	<b>16</b>	<b>6</b>	<b>2</b>	<b>47</b>

*Sources:* Pigot's Directory for Lancashire, 1828-29, pp. 57-58, 71, 93, 246, and Slater's Directory for Lancashire, 1848, pp. 297, 341.

There were 12 stagecoach services originating or passing through Blackburn routinely (often daily) in 1828, and 16 by 1848, compared with only 6 in Burnley in 1828, and 2 in both Accrington and Haslingden, reflecting the relative size and status of East Lancashire's towns and townships in the pre-railway era. The fact that Accrington had about 9 regular coaching services by 1848 strongly indicates its demographic growth and potential as a nodal point for the district, and the balanced geographical pattern of these services to the west, east, and south (with none heading northwards) anticipates the T-shaped railway network with uncanny precision. The aggregated results also clearly suggest the greater strength of west-east traffic flows in East Lancashire, especially towards Halifax and Leeds in West Yorkshire, compared with the north-south axis, which was dominated by services to Manchester. Once the rail network was completed in East Lancashire by 1849, the regular longer-distance stage coach services outlined in Tab. 6.7 dwindled rapidly and Slater's Directory of 1851 recorded none for Accrington, though omnibuses were operating from Accrington on Wednesdays and weekends to Blackburn, Haslingden and Rawtenstall. No extended coaching services were listed in Slater's and Barrett's Directories for Accrington in 1858 and 1878, respectively, and again there were limited short-distance omnibus services running between Accrington and Blackburn on Wednesdays and weekends in 1858, an increasing number from Accrington to Church and Oswaldtwistle every day, and less often to Intack and Blackburn, in 1878, and in 1900 daily from Great Harwood and Clayton-le-Moors to Blackburn.<sup>55</sup> In summary, all the evidence shows a marked shift from inter-regional and intermediate inter-urban flows to short-distance intra-urban and inter-urban passenger and goods traffic, often feeding rail hubs directly, so that

<sup>55</sup> Slater's (1851 & 1858) and Barrett's (1878 & 1900), op.cit.

localised road services complemented the strategic functions of the railway well in East Lancashire.<sup>56</sup>

No systematic research has ever been conducted into passenger traffic carried on the urban tramways of East Lancashire, which were built and run by private firms, sometimes as joint ventures with Borough councils, from the early 1880s, then usually acquired outright by municipal operators when their 21-year leases expired.<sup>57</sup> They were unlikely to have had any significant suburban commuting role, for this London-based pattern of urbanisation did not characterise East Lancashire before 1914. Longer-distance inter-urban services by tram were limited and fragmented, so that a wider integrated intra-regional system never developed, partly because of the parochialism of local authorities, but more importantly because the efficient railway network generally did a far better job of linking the towns in East Lancashire and opened up multiple opportunities for an extensive connectivity. For example, Accrington Corporation Tramways extended electrified services southwards beyond Baxenden to Haslingden in 1908, Rawtenstall in 1909-10, and fitfully to Bacup from 1910, and limited traffic figures are available to show growth in demand for the Corporation's services on the well-patronised Accrington and less popular Haslingden sections before and during WW1, as summarised in Tab. 6.8 (with totals for both sections in brackets). However, there was never any scheduled through running agreed with Blackburn and Darwen Corporations in a westerly direction from Accrington, though this was technically possible. The failure to extend services from Huncoat to Burnley, the unprofitability of this short route (along Burnley Road), and the lack of serious interest in a wider scheme in 1901 by the Blackburn, Accrington, Padiham and Whalley Tramways Co. to link the industrial towns with Whalley and the Ribble Valley, are all indicative of the strengths of the existing railway network. Similarly, a proposal in 1903 by the Preston and Blackburn Tramways Co. to connect the local systems of these two towns came to nothing. The key role of East Lancashire's tramways was to offer a cheap but respectable

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<sup>56</sup> The fragmentary evidence cited in C.P.Meredith: *Transport Developments in East Lancashire, 1780-1860* (M.A. thesis, University of Manchester, 1978) seems to confirm the railway's impact on inter-urban road traffic, as indicated by the sharp drops in toll revenues in the 1840s and 1850s for the Burnley & Edenfield, Bolton & Blackburn, Manchester & Bury and Elton & Blackburn turnpike trusts, though the Haslingden & Todmorden's remarkable revenue growth from the 1820s to 1870s is an interesting exception (see graphs in Appendix I, pp. 163-167, and tables in Appendix II, pp. 168-170). No details are included of traffic volumes and types, or Accrington's roads.

<sup>57</sup> For basic information on East Lancashire's tramway systems, see: Peter Hesketh: *Trams in the North West* (Ian Allan Publishing, Shepperton, 1995), esp. Chapters 6 and 7, and Robert Rush: *Accrington's Public Transport 1886-1986* (Landy Publishing, Blackpool, 2000).

alternative to walking, but they were hardly a necessity for intra-urban movement in compact towns. Hence their function was essentially complementary to railways and they could act as useful feeders to rail hubs. The only notable exception to this was not in the Accrington area but further east, between Burnley, Brierfield, Nelson and later Colne, where the tramways directly competed with the railway on a parallel and newly electrified route from 1902, but the L & YR effectively responded by introducing an intensive and innovatory railmotor service in 1906 and halts at New Hall Bridge, Reedley Hallows and Bott Lane.<sup>58</sup>

**Tab. 6.8: Traffic Statistics for Accrington Corporation Tramways, 1907-1918**

Year	Revenue:		Passengers:		Car Mileage:	
	Accrington	Haslingden	Accrington	Haslingden	Accrington	Haslingden
1907-08	£11,171 (£11,171)		2,116,772 (2,116,772)		238,109 (238,109)	
1912-13	£27,822 (£36,082)	£8,260	4,577,019 (6,150,370)	1,573,351	531,356 (680,823)	149,467
1917-18	£36,713 (£47,271)	£10,558	5,831,742 (7,645,170)	1,813,428	529,488 (676,765)	147,277

Source: John W. Singleton (ed.): *Jubilee Souvenir of the Corporation of Accrington, 1878-1928* (Accrington, 1928), p. 95.

In conclusion, the process of development of transport modes in the Accrington district, and East Lancashire more widely, was interactive with the traffic generated by local economies before and during the railway era. Temporary choke points were encountered as existing modes struggled to cope with the demands of industrialisation, but these were removable constraints which created the incentive and market opportunity for investment in new infrastructure technologies to unlock the traffic potential. The common assumption, according to very limited evidence, is that the traditional packhorse trails, which had been adequate for a static, or slow growing, localised domestic economy in early modern times, were by the 1770s and 1780s crumbling under the pressure of the volume of supplies and manufactures carried by horses, and could not readily accommodate vehicular traffic. In an intriguing journal entry, John Wesley, who visited East Lancashire in 1788, condemned the King's Highway over the moorland tops to the east of the Accrington townships as "enough to lame my horse and shake

<sup>58</sup> C. Richard Wilby: *Railways around East Lancashire* (Wyvern Publications, Skipton, 1983), p. 4, and Peter Hesketh, op. cit., Chapter 7, pp. 101-119.

any carriage to pieces".<sup>59</sup> It is easy to dismiss the packhorse trails on the basis of similar quotations from outsiders like Wesley, but hard to prove that they were a serious constraint on local manufacturers and merchants by the late eighteenth century. If there had been such a transport constraint in this era, then why were major infrastructure investments not committed significantly earlier in East Lancashire?

The turnpike roads and the Leeds and Liverpool canal which were built during subsequent decades of traffic growth took the district's trade to the next level of development by the 1840s, but in this decade there were widespread demands for major improvements which only the railway could fulfil. The turnpikes had invested incrementally in improved stone-paving techniques to strengthen surfaces and in gradient-easing initiatives to speed flows, as Geoffrey Timmins shows.<sup>60</sup> However, piecemeal measures were repeatedly demonstrated to be inadequate to cope with rapidly growing traffic demands, and moreover neither the roads nor the canal could satisfy the desire of industrialists and merchants for much better north-south links between East Lancashire and Manchester. The reason that there was no investment in a proposed canal link towards Manchester across the moorlands, and an insignificant amount in improvements to the existing turnpike system, especially on a north-south axis, cannot have been a lack of capital. Local communities showed repeatedly that they were able to generate the financial resources for major infrastructure projects which offered promising returns at low risk, as Rosine Hart's research into investments in Lancashire's turnpikes highlights more widely.<sup>61</sup> Local investors recognised that railways were a breakthrough technology which was potentially transformatory for traffic and trade growth, and capital was mobilised swiftly.

The eventual outcome of these local demands and investment responses in the mid and late Victorian eras was a sophisticated unified transport system which hinged on the railways at the centre, but was ably supported by the other modes as they discovered specialised roles in the

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<sup>59</sup> John Goddard: *The King's Highway* (Hyndburn Local History Society pamphlet, 1993), p.2.

<sup>60</sup> Geoffrey Timmins, *op. cit.*, pp. 23-36, and G. Timmins: "Techniques of Easing Road Gradients during the Industrial Revolution: A Case Study of Textile Lancashire", *Industrial Archaeology Review*, XXV:2 (Nov. 2003), pp. 97-117. The pair of turnpikes over the moorland plateaux between Blackburn and Haslingden, which bypassed the Accrington townships, are a good example of these incremental improvements in the pre-railway era.

<sup>61</sup> Rosine Hart: *Financing Lancashire's Industrial Development* (Ph.D. thesis, University of Central Lancashire, 2006), see Chapter 4, esp. the Blackburn-Preston turnpike: "Despite negative economic circumstances, trustees were able to garner the funds required to complete the project" (p. 235).

changed market environment.<sup>62</sup> The whole network, which could be called a “transport-scape” for want of a better term, combined all the major modes, ranging from pedestrian movements, the canal, road services, urban tramways, through to the railway itself, and was precisely adjusted to meet the multiple and diverse needs of local towns and industries, though none of this was planned in the usual sense. Individual modes were always capable of improvement and were continually improved in the railway era, but the overall system could hardly be bettered. Its essential pattern of operation was defined by complementary partnerships, usually informal, not sustained rivalry. There were intense but short-lived bouts of competition, mainly provoked by the arrival of a new transport technology, notably between railways and the canal in the late 1840s, and, to a much lesser extent, electrified tramways and the railway in the early 1900s. These two examples were certainly not representative of the entire railway era, and it may be argued that competitive “spasms” served a valuable educational purpose in testing the newcomer and enabling existing modes to decide where best to concentrate their resources. During the much longer period of market stability which quickly followed, the benefits of a highly specialised yet interdependent “transport-scape” continuously energised East Lancashire’s economies and generated enormous volumes of local and inter-regional traffic, much of which could not be carried on the railways. It was vital for the efficient functioning of the urban and industrial system that some of it was carried on the canal and roads. The theoretical implications of the existence of East Lancashire’s “transport-scape”, which has never been analysed, or even recognised, before in the academic historiography, are profound and far-reaching for developmental studies, as the next section (Chapter 7) will elaborate.

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<sup>62</sup> The only possible exception was the packhorse trails which appear to have declined into insignificance in the nineteenth century, but they have not been systematically researched in East Lancashire, unlike parts of West Yorkshire, especially by W.B. Crump (see details in Chapter 2).

## **CHAPTER 7: A NEW THEORETICAL FRAMEWORK FOR THE DEVELOPMENT OF EAST LANCASHIRE IN THE RAILWAY AGE, 1848-1914**

The aim of this chapter is to explore a workable conceptual framework which seeks to respond to, and make sense of, the distinctive historical patterns observable in East Lancashire during the railway era and discussed in depth in the four “core” empirical sections (Chapters 3 to 6). There is the opportunity to reflect here on the implications of the detailed findings from a district which was undergoing sudden and dramatic urban and industrial change in the mid-Victorian years. Indeed, the most outstanding conclusion to emerge from the evidence is this theme of transformation, unprecedented and unexpected in terms of the district’s prior history, and which constituted much more than mere quantitative growth, or “more of the same”. The changes introduced by the advent of railways represented a qualitatively different world of possibility which swiftly took shape as both new businesses and new civic structures. Moreover, all this frenetic development was resourced, promoted and controlled within local communities, not imposed or driven from outside East Lancashire. Local railways were remarkable, and possibly unique, both for their integration with their geographical domains, and their role as transformatory agent.

Here the specific purposes of theoretical reflection on all this evidence are threefold: firstly, to describe accurately and clearly what actually happened in and around Accrington without using misleading language; secondly, to explain the developmental sequence, viewed as a whole, and why the district followed this path and not another; thirdly, to supply some practical suggestions for a wider research agenda in related fields, which the Conclusion (Chapter 8) will elaborate. As indicated in the Introduction (Chapter 1), the research project was never driven primarily by any a priori theoretical commitments, and certainly not by any ambition to create a comprehensive narrative which accounted for developmental paths everywhere. Hence it must be stressed that there is no intention here to present a formal development model which could be generalised beyond the experience of East Lancashire. The main purpose of historical models is to highlight a necessarily simplified representation of a highly complex reality which offers fresh and helpful insight into contingent events, and enables us to grasp what was really important. However, robust and testable model-building demands a broad range of comparative empirical research across places and periods, far beyond the confines of this micro-study. For this reason, the

arguments here are exploratory rather than definitive in intent, embryonic rather than fully-formed in presentation, and merely suggestive of some unfamiliar theoretical terrain.

The distinctive transformations in the development paths of Accrington and other towns in East Lancashire after the arrival of railways mean that none of the conventional models of economic or urban growth are useful starting-points, and even recently developed theories which have tended to reduce the chasms and peaks of the Industrial Revolution concept to a relatively flat, uneventful, process are mainly or entirely inappropriate for defining the experiences of someone born in Accrington before the 1840s. They do not explain why fully-fledged towns should rapidly spring into being from an obscure collection of small townships and hamlets after 1848. They do not account for the dramatic economic changes during successive transport eras, from the 1780s when most goods were conveyed short distances along packhorse trails and causeys, through the arrival of the canal and turnpikes which carried greater, though still limited, traffic flows after 1800, to the modernity of the railway era in the 1850s when huge and diversified flows of freight were moved extended distances at unprecedented speeds. So not only is the superstructure of explanation missing for East Lancashire's growth path, so are most of the foundation-stones.

One still influential and provocative approach, that of Robert Fogel and his disciples such as G.R. Hawke in the New Economic History movement, was subject to general criticism in the literature review (Chapter 2), but it deserves more detailed scrutiny near the outset of this chapter. In brief, it may be argued that the totality of the evidential findings already presented constitutes a clear and compelling refutation of the cliometric model. It must be stressed that it was never the intention at the formative and early stages of this project to refute the cliometricians, but this is the unavoidable implication that emerged from the research process. The unforeseen, yet fortuitous, outcome here is that the Accrington district constituted an ideal test-bed for the assertions of Fogel and others that railways were not critically important for economic growth. Fogel may be right that railways offered marginal benefits over the canal alternative where their essential function was to shift a single commodity such as grain in bulk flows over long distances, as from the wheat-growing plains of the American mid-West to the markets of the eastern seaboard, and Hawke's contention that railways did not function well in East Anglia is also widely accepted. These two examples hardly constitute representative test-beds for any national economic analysis, and the evidence of utterly different economic and transportation systems in East Lancashire shows how questionable were Fogel and Hawke's selections.



A wide diversity of freight and passenger traffic with specific transportation requirements was conveyed in enormous volumes by the railways, roads, tramways and canal over short distances in East Lancashire compared to the USA. These flows included cotton yarn and cloth which relied on the just-in-time logistics uniquely provided by the railway, and other time-sensitive goods such as milk and perishable foodstuffs were also dependent on rapid rail services. The ELR and L and YR offered industrial customers and passengers an intensively-operated network which served all the larger towns in East Lancashire and opened up multiple opportunities for an extensive connectivity with strategic inter-regional and national services. It was particularly significant that railways allowed Accrington and the surrounding towns direct access to the main trade and transport axis which concentrated trans-Pennine economic activity into strong and enduring west-east flows between East Lancashire and West Yorkshire, and beyond as far as the ports of Liverpool and Hull. The Leeds and Liverpool canal was a circuitous west-east link which bypassed key industrial centres like Accrington, and it never developed into a network. We might add that the difficult moorland terrain of East Lancashire could never have afforded the same opportunities to the canal builders as did the American Great Plains, already served by the superb Missouri-Mississippi river basin, to establish an alternative transportation network. If there were similar opportunities for canal builders in East Lancashire, we might ask why a north-south link from the Leeds and Liverpool canal to Manchester was never constructed or even actively promoted - a factual, not a counter-factual, question. Such a canal extension to supplement the established trans-Pennine links was briefly considered towards the end of the eighteenth century, suggesting a demand to overcome the geophysical constraints on the growth of the district's trade with Manchester.<sup>1</sup> Only the arrival of rail technology in the 1840s offered a successful solution to the topographical challenge which had effectively isolated local communities even though the geographical scale was small. By drastically reducing journey times, railways released the benefits of the district's compactness.

Fogel's key theory-driven assumption that canals were a viable alternative to railways everywhere is both inappropriate and misleading as far as East Lancashire is concerned, and adoption of his methodology in this research project would have seriously distorted the limited statistical evidence available. For example, by presupposing that canals and railways were competitors for a fixed volume of business, the New Economic historian would have missed the positive externalities and general traffic gains arising from the

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<sup>1</sup> G.H. Tupling: *The Economic History of Rossendale* (Chetham Society, Manchester, 1927), p. 225 (see section on Rostow later).

*complementary* interaction of transport modes in the locality. The sophisticated “transport-scape” which unified all the major modes, as defined in Chapter 6, could not have been predicted by the cliometricians, and its existence in East Lancashire means that the overall economic contribution of any particular mode was far greater than could be calculated by social savings. Price data, such as tonnage rates charged for coal movements by canal and rail, does not directly capture the complex “network” benefits arising from the interdependence of transportation services in the district, and also the subtle, diverse and indirect externalities, such as the role of railways in transmitting creative engineering opportunities to Accrington, could not have been quantified or even anticipated by Fogel’s model. Moreover, railways were at the heart of this “transport-scape” and therefore were indispensable to the effective functioning of the entire urban and industrial system. The ELR’s compact network was highly distinctive, and possibly unique, for being so intimately identified with the territory it served, and much of this “closeness of fit” survived into the amalgamated L & YR era. If the rail component were hypothetically removed or un-invented, then the local economy would not have worked slightly less well, it most likely would have worked badly or not at all as the complex embedded linkages unravelled rapidly. To argue that canals or turnpike roads could have been substituted for railways with minimal consequences for cost, capacity, speed and overall efficiency of transportation services is patently absurd for East Lancashire. The fact that the assumptions and methodology of the New Economic History are completely unsuitable for a district which helped to pioneer industrial modernity, and where it is therefore crucial for historians to clearly understand the role of transport systems, implies a devastating blow to the ambitious universal claims of this neo-classical model and its speculative counter-factual economies.

There are certainly no externally-derived historiographical models which could be transplanted ready-formed into the unique East Lancashire landscape. Hence the challenge remains to explore new “ways of seeing” precisely what railways did for development in the district, and why. It is a worthwhile exercise to consider the work of some earlier theorists to see if there are any specific features which could be helpful or useful in this micro-study. The individual building-blocks of theory may have to be borrowed eclectically from unrelated historical contexts or other academic disciplines, but the overall conceptual direction, though inspired by these theories, also needs to reach beyond them to make robust sense of the distinctiveness of what happened in and around Accrington during the nineteenth century and to avoid distortion and misrepresentation of the available primary evidence. The final outcome of this project is a genuinely new developmental framework,

tentative rather than authoritative, which represents the fruit of extensive reflection on the empirical findings from East Lancashire.

The defining and distinguishing features of the theoretical approach adopted in this research project may be outlined in sequence, as follows: the rehabilitation of Walt Rostow's "take-off" hypothesis to interpret the distinctive development sequences observable in the district, especially around Accrington; the application and adaptation of Frederick J. Turner's "frontier" model to suit the urbanisation patterns evident in East Lancashire after 1848; the synthesis of Rostow and Turner to suggest an innovatory explanatory framework for local development; the application of this framework to interpret several specific and distinctive features of the patterns of urbanisation and industrialisation, including diversification and specialisation, independence and interdependence, and internal town structure. Some connections to other theoretical issues in economic growth and development are explored here, including the unforeseen and counter-intuitive interactions of railways with local economies, and the importance of the pre-existing conditions, human and natural, for explaining what happens during the most intensive phase of development of a town and its industries. This new conceptual synthesis will also be applied to brief case-studies from other geographical contexts in northern England to illuminate the diverse and surprising effects of railways on development, and to understand why they were not bound to have the massive beneficial outcomes they had in East Lancashire.

### **Rostow's "take-off" in East Lancashire**

"Take-off" is essentially about economic patterns in time, which are observable as curves on a graph. There is abundant evidence from demographic data, traffic returns and sequences of urban and institutional development that Accrington and district did indeed enter an accelerated and exponential phase of growth after the arrival of the ELR in 1848. Walt Rostow's staged growth model has, however, become unfashionable in the academic economic historiography, as outlined in the literature review (Chapter 2), and it needs to be carefully rehabilitated to understand the distinctive trajectories of development of regional and local economies.<sup>2</sup> In his original formulation, Rostow confined Britain's "take-off" to a very narrow period, 1783-1802, though this was later extended to c. 1780-1830, and highlighted its distinctive features as the onset of self-sustained growth, the doubling of the rate of investment as a proportion of Gross Domestic Product, and the emergence of high-

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<sup>2</sup> W.W Rostow: *The Stages of Economic Growth: A Non-Communist Manifesto* (Cambridge University Press, 1960, 1<sup>st</sup> edition, 1971, 2<sup>nd</sup> edition).

productivity “leading sectors”, notably cotton textiles. Subsequent econometric research by Nick Crafts and others suggested that the growth path of the British economy was much more gradual and fragmentary than Rostow assumed, with no clearly defined “take-off” or “Industrial Revolution”, and by 1850 most production outside the few “revolutionised” leading sectors continued to rely on small-scale, unmechanised, labour-intensive methods.<sup>3</sup> However, the national statistics obscure what was happening in smaller units of analysis, and recently economic historians such as Pat Hudson have stressed the regionalisation of growth patterns.<sup>4</sup> For example, it is widely accepted now that Lancashire experienced an “Industrial Revolution” whereas Norfolk clearly did not - indeed the East Anglian manufacturing economy as a whole had actually de-industrialised rapidly in the early nineteenth century. Therefore the first stage in the rehabilitation of Rostow, as far as this research project is concerned, is to state that the “take-off” metaphor is perfectly valid if we continue the process of disaggregation of data to isolate growth paths of local or sub-regional economies like Accrington and district.

One problem with Rostow’s thesis is that it might be interpreted to mean a rigid and mechanistic sequence of five stages: traditional subsistence economy, pre-conditions for take-off, take-off itself, drive to technological maturity, high mass consumption. In the case of Accrington and district, there was no clean succession of developmental phases, as earlier “leading sectors” continued to grow along with new industries and became embedded in a highly complex economic structure by 1900. Moreover, if Rostow’s schema is interpreted to mean economic determinism, it is clearly wrong about East Lancashire in the 1840s. The economy had reached a mature “preconditions” stage by then, but was not bound to “take off”. The point about whether there was an automatic historical sequence was not entirely clear in Rostow’s initial argument, but he later denied this in response to critics: “In fact, the theory leaves place at every stage for societies to intervene politically – and otherwise – to shape the manner in which they absorb the stock and flow of technologies...It sought to underline - not limit or render inevitable – the choices men must make as they decide how to deploy their enlarged resources.”<sup>5</sup> Hence if we are to continue the rehabilitation process for the Rostow model, it is essential that his developmental stages are interpreted flexibly in terms of open and contingent historical processes, not economic determinism. Also

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<sup>3</sup> N.F.R. Crafts: *British Economic Growth during the Industrial Revolution* (Oxford University Press, 1985).

<sup>4</sup> For examples, Pat Hudson: *The Industrial Revolution* (Edward Arnold, London, 1992). See Chapter 2 for further discussion of the historiography of regional economies.

<sup>5</sup> W.W. Rostow, op. cit., p. 177 (Appendix to second edition).

requiring clarification is the “take-off” metaphor itself: if it implies that the aeroplane (our economy) permanently leaves behind its home runway (the local resource and market base) as it reaches the upper atmosphere (high living standards), then it is seriously and demonstrably wrong about East Lancashire’s developmental path up to 1914, which continued to depend organically on its local base, even if many of its markets were now international. However, the aeroplane analogy does have the great virtue of communicating an impression of near-miraculous transformation, of a local economy now having the capacity of “flight”, the ability to do what was previously impossible.

The final step in the rehabilitation and understanding of the “take-off” model lies in clarification of Rostow’s vital “preconditions” stage, and its careful application to East Lancashire’s open economy immediately before the railway era. For Rostow, “the second stage of growth embraces societies in the process of transition...among the western European states, Britain, favoured by geography, natural resources, trading possibilities, social and political structure, was the first to develop fully the preconditions for take-off.”<sup>6</sup> Preconditions represent the economic potential described later along Turner’s frontier, and not historical inevitability. It must be stressed that there is a powerful sense of openness and contingency about the preconditions, embodying the free interplay of human agency and the economic environment. Accrington was not bound to grow in the way that it did, or even to grow at all beyond a certain point determined by local constraints. Clearly Accrington’s “take-off” did not emerge from nothing - the community had to pass through a lengthy apprenticeship first. The creator unlocks the creative potential of the apprentice, but never dictates to the apprentice. The railway did not determine Accrington’s development trajectory, but it did greatly expand creative opportunities, and remove key constraints. What were these opportunities and constraints facing the “apprentice” community on the eve of the railway age?

One of the vital preconditions was a favourable natural resource endowment. Geology was literally the bedrock of Accrington’s growth.<sup>7</sup> The alternation of sandstone and shale in the Upper Carboniferous Series, which created a distinctive stepped profile in the East Lancashire uplands, supplied copious quantities of stone products for housing and opportunities for industrial development, including mudstones and shale for brick making. The outcropping of Upper and Lower Mountain Mine seams in the area provided easy

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<sup>6</sup> W.W. Rostow, *op. cit.*, p. 6. (second edition).

<sup>7</sup> John Ransom: “The Geology of Accrington and District”, in John W.Singleton (ed.): *Jubilee Souvenir of the Corporation of Accrington, 1878-1928* (Accrington, 1928).

access to coal resources, of critical importance for steam-powered technologies, and opportunities to widen the coal market beyond the immediate locality.<sup>8</sup> Though the West Pennine Moors envelop Accrington to the south and east, a mini-rift valley formed by parallel faultlines opened up a transport corridor for the road and railway builders on the southern approach. The high orographical rainfall throughout the year fed brooks which drained the surrounding moorlands (not necessarily the fast-flowing streams of northern legend) and provided a reliable source of power for early industrialisation, and constant supplies of water for domestic consumption and the textile finishing trades. There were also extensive peat deposits on moorland plateaux, and the rights of turbary under common law meant these were freely available as a domestic fuel source. However the moorlands also represented a serious geophysical constraint on Accrington's development, isolating the district from Manchester and blocking the growth of freight flows southwards. Canal building was never a viable option in such terrain, though the fact that a link from the Leeds and Liverpool canal at Church to the Bury, Bolton and Manchester canal was projected in the 1790s indicates the desirability of the north-south route for local manufacturers and merchants eager to supply the Manchester market.<sup>9</sup>

The successful domestic textile manufacturing sector and early factory production had generated a local pool of skills and capital, and encouraged enterprise and innovation, as in mechanical engineering. There was an open social structure, with no dominant aristocracy, concentrated land ownership pattern, or "imperial" capitalists controlling things from a safe distance. Start-up costs in cotton textiles were relatively low at this stage, and space and power could be hired in local mills and workshops. Small "relational" communities favoured informal business networks and partnerships. There was the protection of a favourable legal framework, notably patent law which secured the rewards of successful innovation to local inventors, contract law which defined and made enforceable formal business agreements where informal arrangements were not possible, and the parliamentary procedure which sanctioned major infrastructure projects and allowed companies to drive through turnpikes, canals and railways in the face of petty local political squabbles and obstructive (or excessively greedy) landowners, although there was little serious resistance in East Lancashire. As well as the protection of law, there was every incentive to convert

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<sup>8</sup> A.E. Trueman: *Geology and Scenery in England and Wales* (Pelican Books, Harmondsworth, 1972, revised), esp. Chapter 12: The Pennine Moorlands, pp. 192-209, and Geological Map: Rochdale, Sheet 76, 1 inch/mile (OS published for Institute of Geological Sciences, 1971).

<sup>9</sup> G.H. Tupling, op. cit., p. 225 (Footnote 2). Tupling stated: "An Act was obtained for the purpose (34 Geo III), but the scheme was never carried out."

opportunity into successful enterprise. This could be achieved both by hard work, and by investment of modest sums of capital, accumulated by personal thrift or ploughed-back profits, in lucrative business prospects. Canny local investors were well-informed enough to assess the risks and rewards of local schemes and avoid being duped by extravagant or fraudulent promises. Accrington Corporation's heraldic motto: "Industry and Prudence Conquer" neatly encapsulates the remarkably business-friendly culture in East Lancashire – a vital precondition for "take-off".<sup>10</sup>

Strong local face-to-face communities, often cemented by Nonconformist allegiances and values in the dispersed West Pennine upland settlements, also provided a "soft" institutional framework to temper and police the workings of market individualism. Shame could operate where guilt failed in exposing and checking the worst excesses of the pursuit of economic self-interest: contractual irresponsibility, damaging speculation, fraud, deception and outright theft. Such behaviour may destroy the trust and confidence vital for the functioning of a market economy, as George Akerlof showed in his classic study of the used car trade in America.<sup>11</sup> When buyers do not believe sellers are telling the truth, they cannot discriminate between good cars and bad cars ("lemons"). Buyers therefore insist on paying low prices, below what sellers of good cars are prepared to accept. The result is that good cars are withdrawn from the market, the average quality of used cars deteriorates, prices fall further, and so on until the market collapses completely. Akerlof's original insight has since been elaborated by the schools of institutional economists and business historians interested in why individual firms, districts and regional economies succeed or fail. Mark Casson pertinently argues that: "One of the characteristics of the Industrial Revolution in Britain seems to have been the emergence of high-trust cultures amongst regional business elites. As the front-line of technological advance shifted around between....the various Pennine areas, so elite groups of businessmen emerged in these areas who were willing to collaborate in funding infrastructure improvements such as canals, turnpikes and railways. They also helped to develop supporting industries by extending credit to their suppliers."<sup>12</sup>

Trust was a vital part of how the face-to-face business networks, informal partnerships, and extended supply and service chains operated in East Lancashire, which minimised the

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<sup>10</sup> John W. Singleton (ed.): *Jubilee Souvenir of the Corporation of Accrington, 1878-1928* (Accrington, 1928).

<sup>11</sup> G.A. Akerlof: "The Market for Lemons: Quality Uncertainty and the Market Mechanism", *Quarterly Journal of Economics*, Aug. 1970 (88), pp. 488-500.

<sup>12</sup> Mark Casson: *Entrepreneurship and Business Culture: Studies in the Economics of Trust*, vol. 1 (Edward Elgar, Cheltenham, 1995), p. 91.

transaction costs associated with defining, monitoring and enforcing commercial agreements, and also cemented significant external economies of scale. Hence the “industrial district” model of the distinguished British economist Alfred Marshall, with its elaborate internal forward and backward linkages between specialised local industries, and its distinctive informal and intangible business culture, is directly applicable to Accrington and district, but it must be stressed that it functioned in a strong ethical framework.<sup>13</sup> An important example of these informal business alliances, based on trust and mutual confidence, is the partnership agreement between John Howard and James Bullough, which appears not to have been legally formalised at first.<sup>14</sup> This partnership was the keystone in the rise of Accrington’s textile engineering giant. The importance of trust in business networks, where your word was expected to be your bond, also shows how completely the cultural and economic dimensions of the growth path in East Lancashire interpenetrated each other and why we need to adopt a “comprehensive” view of development rather than a crudely reductionist economic analysis.

Transport must be seen as part of the opportunities and constraints of the “preconditions” stage, too. Rostow emphasised the opportunities but not so much the constraints of existing transport investments. He stated that: “Where data exist on the level and pattern of capital formation in pre take-off societies...it is clear that a very high proportion of total investment must go into transport and other social overhead outlays...The point of substance is that the preparation of a viable base for a modern industrial structure requires that quite revolutionary changes be brought about in two non-industrial sectors: agriculture and social overhead capital, most notably in transport.”<sup>15</sup> It was of critical importance, therefore, that the Accrington district in its own preconditions period was situated close to the well-established trans-Pennine trade and transport routes which connected East Lancashire with Preston and Liverpool towards the west, and with Leeds, Bradford and West Yorkshire towards the east. This strategic west-east economic “spine” generated dispersed patterns of industrialisation on both sides of the Pennine chain, which, it must be stressed, was never an impenetrable barrier to trade and commercial interchange.<sup>16</sup> However, the Leeds and

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<sup>13</sup> Alfred Marshall: *Industry and Trade* (London, 1919) and, more generally, his *Principles of Economics* (London, 1920, 8<sup>th</sup> edition) discuss “industrial districts”.

<sup>14</sup> The original 1857 agreement was confirmed by Deed of Co-partnership (for 7 years), when John Bullough, James’ son, joined the business, 16 Apr. 1863 (DDPSL 3/38/3, LRO).

<sup>15</sup> W.W. Rostow, *op. cit.*, pp. 24-26 (second edition).

<sup>16</sup> Stephen Caunce: “Urban systems, identity and development in Lancashire and Yorkshire: a complex question”, in Neville Kirk (ed.): *Historical Interpretations of The North and Northernness* (Ashgate Publishing, Aldershot, 2000), pp .47-70. The Pennines have not been an



Liverpool canal (completed in 1816), and the turnpike roads, south to Manchester (1790-91), west to Blackburn (1826-27), and east to Burnley (1836-37) were built for incremental economic growth, not exponential “take-off”.<sup>17</sup> The roads were reaching capacity constraints as vehicular traffic grew, prompting gradient-easing initiatives to speed flows, as on the Blackburn-Haslingden turnpikes.<sup>18</sup> Turnpikes were under-capitalised and so made minor improvements in piecemeal fashion which were repeatedly shown to be inadequate to cope with both existing and prospective traffic volumes. It was also significant that the Accrington townships did not get full benefit from the Leeds and Liverpool canal because it bypassed the area through Clayton-le-Moors and Altham two miles further north. A feeder branch or an extensive network of tramways to link the Accrington townships to the canal were never built. Unlike Bradford, the townships were not large enough to justify investment in a canal feeder. So although Blackburn, Burnley and, to a lesser extent, Church and Oswaldtwistle “took off” after the arrival of the Leeds and Liverpool canal in the early nineteenth century, the Accrington district never fully experienced a canal era. Moreover, the construction of a north-south canal between this district and Manchester was never a viable proposition in such difficult terrain, although, as already noted, the proposal for such an extension of the Leeds and Liverpool canal in the 1790s indicated the desire for a Manchester connection.

The canal and turnpikes, however, did act as pathfinders for the railway, testing the local market and proving to local investors that the traffic potential was there. Uniquely, and at heavy cost, the railway broke open the challenging constraint of the moorland barrier between Accrington and Manchester. The railway did not merely accommodate existing traffic growth better, but it linked Accrington’s manufacturers to wider and more expansive markets, directly stimulated new passenger and freight flows, and crucially it gave direct access to the lucrative trans-Pennine economic corridor. Hence the railway removed the ceiling imposed on Accrington’s development by existing inadequate and congested transport modes during Rostow’s “preconditions” stage, and unlocked and fulfilled its creative potential during “take-off”. The high levels of economic potential in the local environment converted the opportunities transmitted by the railway into a multitude of

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impenetrable barrier to transport since Roman times: “The continuous existence of a transport corridor is thus undeniable” (ibid, p. 53).

<sup>17</sup> Mike Rothwell: *Industrial Heritage: A Guide to the Industrial Archaeology of Accrington* (Accrington, 1979), p. 52.

<sup>18</sup> G. Timmins: “Techniques of Easing Road Gradients during the Industrial Revolution: A Case Study of Textile Lancashire”, *Industrial Archaeology Review*, XXV:2 (Nov. 2003), pp. 97-117.

thriving businesses, and the “soft” institutional framework facilitated and sustained this distinctive enterprise culture.

### **Turner’s frontier thesis and its relevance to East Lancashire**

Arguably new towns were created by the railways in East Lancashire as they advanced a frontier of development opportunities across a distinctive geographical environment charged with economic potential. The “frontier” thesis, which was briefly outlined in the literature review (Chapter 2), draws attention to the economic effects of movement of these opportunities across space. As the frontier advances across fertile economic soil it generates growth at multiple points. What is already there in the human environment is given new shape and structure, forming distinctive settlement patterns observable on a map. There were internal frontiers of development in East Lancashire in the mid-nineteenth century which were carried by the railways northwards and eastwards, converging on Accrington in 1848. As economic opportunities were opened up by the arrival of railways, there was explosive growth of both existing and new industries in the Accrington area, and both qualitative and quantitative social and economic change throughout the mid and late Victorian eras. Turner’s famous summary of his thesis in 1893 is worth repeating: “The existence of an area of free land, its continuous recession and the advance of American settlement westward explains American development.”<sup>19</sup> For our purposes, an appropriate paraphrase might be: “The existence of an area of untapped potential, its continuous recession and the advance of the railways from the west and the south explains Accrington’s development.”

As the literature review indicated, Turner’s thesis has since been heavily criticised as a conceptually inadequate, evidentially flimsy and highly ideological account of the history of the USA. The detailed criticisms included the following points - Turner’s geographical model, with its obsession with the American West, is monocausal, ignores the impact of industrialisation and urbanisation in the eastern states, fails to engage with the slavery of black America and its legacy in the South, deliberately understates the European influences

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<sup>19</sup> Frederick J. Turner: “The Significance of the Frontier in American History”, *Annual Report to the American Historical Association*, (Chicago, 1893), p. 1. Complete article available online, with different pagination, at <http://xroads.virginia.edu/~Hyper/TURNER/>. Turner’s thesis, once the dominant model of American development, was eclipsed in popularity in the 1930s by the more pressing policy concerns generated by the protracted economic depression and a sense that the closure of the frontier meant a prolonged stagnation of the American economy and exhaustion of investment opportunities. It has never really recovered its former status in the historical profession.

that successive waves of immigration brought but overstates the rawness and violence of frontier communities in the mid and far western territories. Also some of the language Turner used reflected his late nineteenth-century cast of mind – the implicit racism, the explicit nationalism, the repeated stress on “evolution” of political institutions – which is either offensive to contemporary sensibilities, or simply irrelevant in this research project. For these reasons it is widely assumed that the frontier thesis as stated by Turner is now discredited beyond realistic hope of recovery. As with Rostow, however, the key issue is that the developmental historian needs to strip away the extraneous distractions and penetrate to the valid core of Turner’s conceptual framework, which is that “each frontier did indeed furnish a new field of opportunity”, and, it might be added, continued to do so.<sup>20</sup> Turner may then be selectively rehabilitated by careful re-definition and adaptation of his thesis to suit other geographical and chronological contexts. It must be stressed that in practical terms Turner has less to offer this research project than Rostow, and the main interest here lies in the underlying model of spatially discontinuous development.

Clearly East Lancashire was a very different environment from the “Wild” West in America. A significant contrast was that a vast untamed natural wilderness did not lie beyond the frontier, although it must be emphasised that there was scope for rapid, even dramatic, development of the West Pennine uplands which had never previously supported high-intensive activity. There was already a settled population in the district, agriculture was never the main economic activity here, the distances and sense of scale were much smaller, the topography was difficult and costly for the canal and railway builders to penetrate, there was little long-range migration, and the inhabitants were evidently not ignorant brutes before the railways civilised them and taught them to use local resources much more productively. Turner was needlessly provocative, perhaps, in defining the frontier as “the outer edge of the wave – the meeting-point of civilisation and savagery”, and the local inhabitants certainly did not encounter a barbaric environment in East Lancashire.<sup>21</sup> It may be argued, though, that many southerners did have similar views of the settled population in the “wild” parts of northern England, beyond the geographical pale of respectability and decency, as reflected in the “industrial” novels of the mid-Victorian era, notably Charles Dickens’ *Hard Times* (1854) and Elizabeth Gaskell’s *North and South* (1855). Northern towns were self-consciously seeking, like Turner’s western frontier communities, to shed their “savage” images as Dickens’ Coketown (modelled on Preston)

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<sup>20</sup> Ibid, pp. 20-21.

<sup>21</sup> Ibid, p. 1.

and Gaskell's Milton (Manchester) in the railway age and to create a new, more inclusive, order of civilised society. Unlike the pattern of many swiftly industrialising economies today like China, characterised by extensive imports of transient labour living in temporary apartments and dormitories, citizens of these towns had a stake in the progress of their communities and sought to participate in building local democratic institutions.

Our main task here, therefore, is to clarify and elaborate the "core" economic concept of a frontier of development operating in a favourable and expansive environment such as East Lancashire during the railway era. For Turner, the frontier was the boundary between settlement and wilderness in the American West, which differentiated it from the European frontier, which was a "fortified boundary line running through dense populations. The significant thing about the American frontier is that it lies at the hither edge of free land."<sup>22</sup> Turner's more controversial "savagery" variation of this definition, as noted above, does at least dramatically convey his underlying meaning that there could be a sudden leap in the standard and order of civilised living along the frontier, and clearly this sense is relevant to where new civic institutions and urban structures were swiftly created where none existed before, as in mid-Victorian Accrington. The term "the frontier" is capable of a more precise economic expression which is more directly applicable to East Lancashire's distinctive and compact spatial landscape – it is the interface, which may be a sharp edge or a graded transition, between contrasting geographical zones of high and low levels of resource utilisation. As the frontier advances and releases the economic potential inherent in the landscape, there is a rapid intensification in the productive uses of space, natural resources, labour and capital. This intensity shift is observable as a concentration of settlement, industry and services, a surge in local population and workforce levels, and a leap in land and capital values where the potential for development exists. Economic or development "potential" here means not only on the supply side a favourable natural and human resource endowment, but also a strong sense of pent-up desire, of bottled demand, ready to be released – deals waiting to be struck and contracts to be agreed, goods prepared to be shifted to new markets, capital and enterprise eagerly seeking innovative and lucrative opportunities, a confidence and expectancy about the future yet an impatience and frustration with existing constraints. When the East Lancashire Railway (ELR) arrived in Accrington in 1848, it both represented and transmitted an opportunity frontier which liberated the creative energies of the district from the limitations of a congested and inadequate transport infrastructure. As Turner expressed this sense of potential unlocked in

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<sup>22</sup> Ibid, pp. 1-2.

a very different context, each frontier furnished “a new field of opportunity, a gate of escape from the bondage of the past; and freshness, and confidence, and scorn of older society, impatience of its restraints and its ideas, and indifference to its lessons, have accompanied the frontier. What the Mediterranean Sea was to the Greeks, breaking the bond of custom, offering new experiences, calling out new institutions and activities, the ever retreating frontier has been to the United States directly.”<sup>23</sup>

It is interesting that Turner, in the introduction to his article, quoted the Superintendent of the Census as reporting that in 1890: “the unsettled area has been so broken into by isolated bodies of settlement that there can hardly be said to be a frontier line.”<sup>24</sup> Turner never made much of the point about what the *edge* of the frontier wave looked like in detail – he was more interested in its *closure*, which presaged a new era of American history. Generally, the frontier line in East Lancashire was sharp, but also discontinuous and broken, and outlying pockets of upland settlement persisted during the railway era. Indeed, when we study the evidence at the micro level, the frontier can appear capricious, pulling away development from some remote spots on moorland plateaux or by streams on their flanks, while allowing other similar “isolated bodies of settlement” to survive and even thrive, as we saw in Chapter 4 on urbanisation patterns, for example the contrast between the fortunes of the hardy hamlet of Green Haworth near Accrington and, further south on the moorland plateau, the demise of the settlements in Musbury Clough near Haslingden, and at Haslingden Grane.

The messiness of the frontier line reflected slight variations in natural resource endowments at specific spots and different perceptions by entrepreneurs and workers of the economic opportunities available to them. Hence the “shape” of frontier micro-development was contingent on the interplay of landscape and human agency, but was not truly random. As we “zoom out” to survey a larger geographical zone, the uncertainty over what would happen at the micro level resolves itself into clear patterns of development. In East Lancashire development was concentrated by the interaction of railway infrastructure and the natural topography into a distinctive elongated corridor or “box” which stood apart from the Manchester conurbation. The boundaries between areas of high and low resource use, representing sharp divisions between localities able and not able to develop, are readily observable in the distribution of residential settlement and industrialisation on maps produced during the railway era. It must be stressed that for the trans-Pennine economies

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<sup>23</sup> Ibid, pp. 20-21.

<sup>24</sup> Ibid, p. 1.

these boundaries between zones of resource utilisation were usually clearly-defined but not linear, and as transport frontiers advanced beyond existing developed districts, the local effects were dramatic in their intensity and rapidity, rather than in terms of the extensive geographical scale seen in the American West. Development in the frontier zone during the railway era could incorporate the legacy of earlier transport innovations, as in Blackburn and Burnley where the canal remained an important organising influence, though less so in the immediate Accrington district. In southern England, especially around London, development tended to emerge organically from long-established urban foundations so there was a much weaker sense of a moving frontier of economic opportunity, and it was utterly different from the northern frontier, though perhaps urban geographers and historians could identify and clarify the physical and cultural nature of the boundaries of residential (not industrial) suburban zones like Metroland. When we study the national statistics, the consequences of the frontier are so diluted as to appear negligible. Hence micro-studies are needed to capture the dynamism and magnitude of the succession of transport frontiers within local communities.

Although individual economic agents could act in any direction, the majority of them in the frontier zone acted as though they were co-ordinating their decisions as one, illustrating the astonishing complexity of contingent development systems.<sup>25</sup> The general picture was that waves of development were advanced by railways along the larger valleys in East Lancashire in the mid and late 1840s. These frontier waves rolled in two directions as railway construction was extended, northwards from Bury and Ramsbottom in the Irwell Valley and through the West Pennine moorlands, and eastwards through lower-lying terrain from Preston and Blackburn. In 1848, when the railway was opened, the two waves converged in the relatively flat hollow on the northern flanks of the moorlands which contained the townships of Old and New Accrington. The frontiers amplified each other's effects in a T-shaped pattern, rapidly concentrating settlement and stimulating

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<sup>25</sup> Complexity theory describes how physical systems characterised by uncertainty and indeterminacy at the micro level, as in quantum mechanics, can produce patterns and structures at higher levels of aggregation of breathtaking sophistication and elegance. In some complex systems, small contingent events may have huge, unforeseeable consequences, but in other contexts they have either no or the opposite effect. Complexity theory, sometimes misleadingly called "chaos" theory, has very rarely been applied to historical studies. Its relevance to this project is apparent, but the available evidence does not allow firm "scientific" conclusions to be drawn. For a speculative exploration of the implications of complex systems for economic theory and policy-making, see Paul Ormerod: *Butterfly Economics* (Faber & Faber, London, 1998). For a scientist's view of the repeating natural patterns in complex systems, and links to the Second Law of Thermodynamics (increasing entropy), see Roy Peacock: *A Brief History of Eternity* (Monarch Publications, Eastbourne, 1990).

industrialisation. Because of the geographical confinement of Accrington, however, development could not be spatially extended very much, so had to take the form of further intensification of land use until a choke point was reached eventually. The two frontiers ultimately hit implacable geo-physical constraints in Accrington. The counter-intuitive conclusion, therefore, is that Accrington was a railway frontier town of a kind which has never been recognised before in the *English* or *British* urban historiography, though it would be familiar to American historians.

### **Integration of Rostow and Turner into a new developmental framework**

The most demanding stage in this exercise in theory is to reconcile the models of Rostow and Turner to explore a synthesis of development which has intertwined chronological and spatial dimensions. One level of this harmonisation of “frontier” and “take off” approaches is to say that they are complementary “ways of seeing” development, Turner emphasising the re-ordering of economic space in the local landscape, and Rostow the distinctive sequences the local economy passes through over time. We reach a vantage-point which should throw into sharp relief a developmental path observable as both curves on a graph and patterns on a map. Another way of expressing this is to say that Rostow and Turner provide the observer with a pair of bi-focal spectacles to view development in 3-D reality.

However, the reconciliation of Rostow and Turner needs to go beyond finding complementary linguistic metaphors to describe the same phenomena – we need to explain it too. As we seek an explanation, we explore a new framework of development which reaches beyond the descriptions of Rostow and Turner. The key question to ask is: can we penetrate to the essential causal link which integrates an advancing geographical frontier with a pattern of sequential development? Arguably the key link is movement itself. The essential feature of the pioneering synthesis of Rostow and Turner outlined here is the dynamism of the whole development system along the frontier, which hinges on two-way transfers of economic energy between railways and the local communities they serve. It is the challenge of a moving frontier which generates “take-off” where the potential exists and amplifies development sequences in its wake. “Movement” in this sense means any dynamic source which constantly re-energises the economic system, and in its specific application to the transport technology studied here, includes both physical extension of a railway network, and investment and innovation in already-built infrastructure to increase its carrying capacity and speed. Moreover, movement on a railway system is created by both locally-generated traffic and through traffic originating from beyond the district. By

contrast, a static frontier ceases to supply energy to the system and any accelerated growth phase diminishes into an eventual steady state. It is possible that the railway frontier was stuck in the first place because of technological or financial failure of the company, as with the disaster of the South Devon Railway's "atmospheric" system, which delayed the development of the region for more than a generation. An immobile frontier also implies a risk-aversion which stifles innovation, a complacent sense of safety, a cultural tendency to do what has always been done. Therefore we may expect to see path-dependent and rigidified structures take hold when the original moving frontier has lost some of its creative energy, or the dynamic catalyst has completely exhausted itself.

The conceptual synthesis here hinges on the interactive feedback loops which integrated and re-inforced two levels of development in nineteenth-century East Lancashire - railway systems and local urban economies. The economic potential of the district's natural and human resources was unlocked by the railway and converted into economic energy which transformed settlement patterns, traffic and trade flows, and the industrial landscape. Moreover, the developmental process included formation of civic political institutions as well as new businesses, town halls as well as factories. Both aspects manifested the vitality at the heart of local economies. The greater activity generated in the economic landscape was transformed into faster "movement" of the railway system itself in terms of the intensity of its operations. Railway companies sought to respond to the growth of traffic on the network by investment in enhanced capacity, and by technological and organisational improvement. In turn, railway development acted like a dynamo to generate more economic energy in local communities, which took the form of a wide and subtle array of positive externalities and embedded benefits. The resulting surge in economic growth encouraged railway companies to do even more to invest in the development of the East Lancashire corridor in a virtuous, self-reinforcing, cycle. Although the railway system was an innovatory, even revolutionary, agent in nineteenth-century East Lancashire, the existence of the feedback mechanism implies that this role was part of a complex "comprehensive" process of historical change rather than a single, one-off, act of transformation, and moreover that this process had a discernible chronological shape. When the railway frontier reached the Accrington area in 1848, it took the economy through a rapid transition from Rostow's incremental "preconditions" stage to the "take-off" into the dramatic and intensified urban and industrial change of the mid-Victorian years, followed by a third phase of consolidation up to 1914, where the railway performed a more indirect but indispensable function in holding together the developmental system it had created.



### Inter-urban relational patterns in East Lancashire

The synthesis of Rostow and Turner, as elaborated and extended into the new exploratory framework here, should help us to understand a number of related phenomena distinctive to East Lancashire's economic landscape in the railway era. For example, an apparently paradoxical combination of independence and interdependence is observable in relationships between rapidly growing urban communities, and the settlement hierarchies described in Christaller's central-place theory did not develop in East Lancashire.<sup>26</sup> It is important to note that for Christaller, "central place" meant more than size of settlement and he gave the phrase the following *functional* definition: "the localisation of the functions of a centre at the geometrical location of a settlement."<sup>27</sup> High-level functions of various types such as ecclesiastical or cultural centres, local and regional government headquarters and business service hubs were, according to Christaller, usually concentrated in the same places, whereas in northern England these functions were widely dispersed throughout the entire urban landscape, and some large towns displayed few classic central-place features. He then outlined a mathematical model of the relationship between population size and number of settlements as an ascending pyramid with, at the base, "great numbers of central places of a lower order, ie. lesser importance and smaller size" and then layers of progressively fewer but larger settlements until the narrow apex of "places of the highest order" is reached ultimately.<sup>28</sup> If these "vertical" statistical relationships of central places were translated into "horizontal" spatial patterns, we would expect to observe that a large town providing a sophisticated level of services will be surrounded by a hexagonal ring of smaller, less complex, towns, which in turn will each have their own hexagonal ring of satellite villages with basic functions, and this is what Christaller claimed to see in the maps of southern Germany.<sup>29</sup> A pattern of suburban commuter-based rings and more distant agricultural supply settlements and dependent seaside resorts did clearly emerge around the London magnet, and to a lesser extent in south Manchester, Cheshire, and the Lancashire coast, with the Liverpool conurbation displaying a clear concentric structure from its waterfront, but the assumption that this pattern (without the seaside resorts) should have been replicated around Victorian Accrington is demonstrably wrong. The town remained autonomous from the urban systems of its larger neighbours Blackburn and Burnley, and more significantly was not absorbed into Manchester's suburban system, even though at

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<sup>26</sup> Walter Christaller: *Central Places in Southern Germany* (Prentice Hall, New Jersey, 1966, translated edition, originally published in German, 1933).

<sup>27</sup> *Ibid.*, p. 17.

<sup>28</sup> *Ibid.*, pp. 58-59. The key formula was: size of central place = size of largest city/ rank of central place (p. 82).

<sup>29</sup> *Ibid.*, pp. 224-225 (Map of the Distribution of Central Places in Southern Germany).

first glance urban geographers might wrongly assume that the Accrington-Manchester route was a commuter railway. Accrington certainly benefited from the Manchester connection in several ways, but traded with the regional centre as an equal partner, not as a subordinate supplier of labour and other resources.

However if the frontier advanced as described in East Lancashire, then we would expect to see multiple nuclei, or mini-centres, emerge rapidly in its wake as it converted local resources into institutional forms. Because of the localisation of most resources and many markets at the start of the process, these economic nuclei were not dependent on one another or on any more distant centre. Furthermore, their urban and industrial structures became increasingly differentiated as the frontier amplified the effect of slight local variations in the resource and market base. As the mini-centres grew, they interacted with each other through inter-urban trade and traffic flows which were facilitated, although not generated, by local transport improvements to road and canal services. These economic flows had by 1900 encouraged the small towns and townships to coalesce into a mini-conurbation around Accrington, designated “Hyndburn” here, forming a hub and ring system which was open on the southern moorland fringe, and yet simultaneously they retained a large measure of economic, civic and cultural autonomy.<sup>30</sup> Although superficial examination of the historical maps might suggest that this urban system was a miniaturised version of the London and Manchester conurbations, its development trajectory and internal structure were radically different.

Not only, therefore, were the higher levels of Christaller’s settlement pyramid missing for Hyndburn, there was no widespread base of small rural central places by 1900. Interestingly, he noted that: “the importance of transportation facilities is the most significant factor determining the size and distribution of towns.”<sup>31</sup> However, Christaller seemed to have assumed that transport development was superimposed on an existing urban settlement pattern, which merely resulted in “a shift of the distribution of the population” in favour of higher-order central places at the expense of lower-order or dispersed places.<sup>32</sup> He never seems to have considered the possibility that a sophisticated urban system, like

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<sup>30</sup> For a pioneering exploration of the role of these multi-layered urban systems in the north of England, including the identification of mini-conurbations, see Stephen Caunce: “Urban systems, identity and development in Lancashire and Yorkshire: a complex question”, in Neville Kirk (ed.): *Historical Interpretations of The North and Northernness* (Ashgate Publishing, Aldershot, 2000).

<sup>31</sup> W. Christaller, *op. cit.*, p. 47.

<sup>32</sup> W. Christaller, *op. cit.*, pp. 104-107 (The Traffic).

Hyndburn, could rapidly emerge after the arrival of a transport innovation. Furthermore, central-place theory is misleading on the relationship between hub and ring within the Hyndburn cluster. As Accrington grew throughout the railway era, it did not absorb resources from the surrounding urban ring as Christaller implied, but served and fed its growth with transport and other services.

Jon Stobart's urbanisation model, which was outlined in the literature review (Chapter 2), is partly inspired by Christaller's study of central-place networks, and, not surprisingly, has similar problems when applied to the Hyndburn mini-contribution.<sup>33</sup> He too assumes a set of long-established urban systems, the lack of any fundamental innovation or change beyond the re-distribution of the existing settlement pattern in favour of higher-order places, and the hegemony of metropolitan centres over their hinterlands in north-west England. A particular criticism of Stobart is the limited secondary role he attributes to transport development. In his model, investment in transport infrastructure is a dependent variable of economic growth whose origins lie elsewhere, and is then impressed on a pre-existent urban landscape resting on solid and stable foundations. Stobart misses the possibility that transport, although not isolated from the preceding process of local development, could act, autonomously, as an economic dynamo in its own right to constantly energise existing and novel industrial activity, convert opportunity into successful enterprise, and transform dispersed settlement patterns into new, fully-formed, towns in the Pennine uplands, as already explained. Railways were the central catalyst and sustainer of functional specialisation, commercial growth and spatial integration in Accrington and district, not their essentially passive accompaniment, and the interest lies in why Stobart argues that towns rather than turnpikes, canals and river navigations performed these roles in eighteenth-century Cheshire and southern Lancashire. Hence his model serves as a useful counterpoint to the developmental concepts discussed here and a stimulus to debate.

### **Intra-urban structure in Accrington**

The new integrated framework should also shed light on why individual towns, especially Accrington, grew in the way they did in the railway age, and on their internal configuration. We can outline several theoretical possibilities for the dynamic railway frontier to shape urban structures and land-use patterns in a flat and uninterrupted terrain of high economic potential (see Fig. 7.1). There is the "corridor" or "spine" effect along the railway route

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<sup>33</sup> Jon Stobart: *The First Industrial Region: North-West England, c.1700-60* (Manchester University Press, 2004), especially Chapters 6 and 7.

of urban sociology and geography, an internal concentric zone structure of retail and other commercial services immediately around the hub (the Central Business District), an industrial zone, and graded residential rings.<sup>34</sup> Each urban function will locate itself in relation to the transport hub, depending on specific needs for accessibility and the ability and willingness to pay for privileged sites. Concentric zone models predict that competition for space will force land and rental values to peak levels in urban centres. Finally, if we combine the “hub” and “spine” effects we have a circular core of development which is extended along the major transport corridors emanating outwards. Growth will be more extensive the more rail routes converge on the hub, amplifying each route’s dynamic effects.

Something like this outline is clearly observable on the maps for Edwardian Accrington, where both the hub around the huge triangular junction and the three projecting arms of the T-shaped rail network were attracting and organising urbanisation, as Fig. 7.1 shows. Industrial location within 2 miles radius of Accrington station appears to have been critical, as the counter-example of the demise of Shoe Mill in Baxenden, which was relatively inaccessible by the rail network at any point, clearly illustrates. However, the interaction of the railway’s presence in the townscape and the detailed local topography prevented the emergence of a coherent concentric zone pattern, contrary to F.P. Atkinson’s crude models of local urban morphology.<sup>35</sup> The barrier effects of rail infrastructure (Accrington viaduct was over 60 ft high and the radiating arms ran on low embankments 15-20 ft high) and the local streams and valleys combined to restrict internal movement and to define distinct neighbourhoods. Furthermore, factories, which had themselves migrated towards the railway, acted as magnets in their own right for related development of housing and services, and the largest of these factory zones was associated with the Howard and Bulloughs complex. The geographical expansion of Accrington from the railway hub was seriously constricted towards the south and the east by the steep moorland fringes. Hence the “pure” effects of the railway frontier on intra-urban space and structure in a flat and featureless plain were considerably distorted in practice, though still recognisable in the map evidence.

### **Complex industrialisation patterns in East Lancashire**

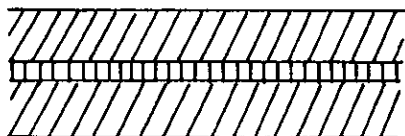
Similarly, our developmental framework should account for the distinctive patterns of industrialisation evident in East Lancashire, notably the unusual combination of rapid

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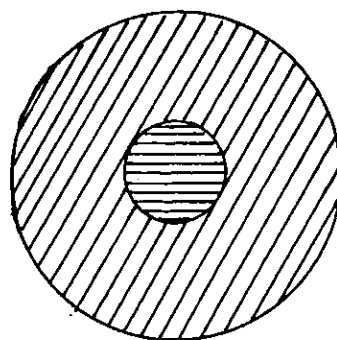
<sup>34</sup> Leading members of the Chicago school who developed the concentric zone model were Ernest Burgess, Louis Wirth, William Thomas and Florian Znaniecki.

<sup>35</sup> F. Peter Atkinson: *Common Elements in the Urban Morphology of Three Lancashire Mill Towns* (M. Phil. thesis, University of Nottingham, 1972).

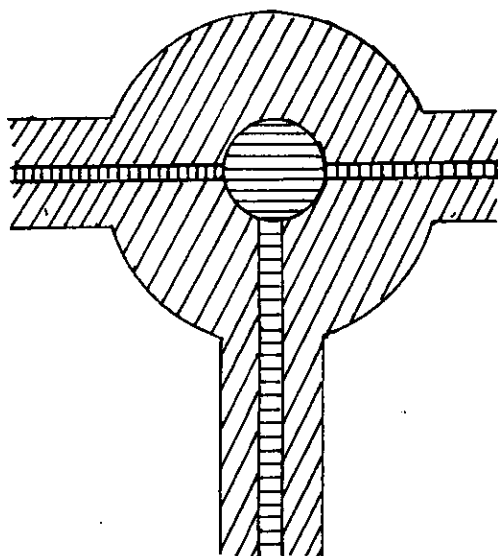
**Fig. 7.1: Some Effects of Railways on Urban Morphology**



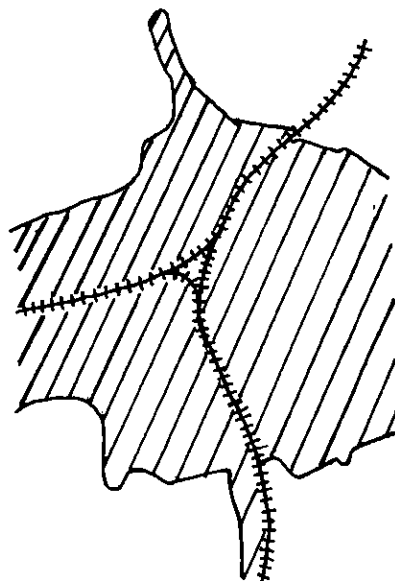
"Spine" or "corridor" effect on development along rail route



"Hub" effect of rail centre, forming concentric pattern



T-shaped pattern, combining "spine" and "hub" effects



Accrington's built-up core around rail network, 1909

itself, where industries, services and housing are concentrated in a narrow linear belt for ease of transport access. These intensively-developed corridors, about a mile wide and a mile and a half long, can be discerned between Accrington and Church and Accrington and Huncoat, and to a lesser extent south of Accrington centre towards Baxenden. There is also the "hub" effect, where around a major railway junction or station (a transport "node"), a circular pattern of urbanisation develops, which may have, according to the Chicago school

diversification and specialisation which poses a challenge for conventional economic theory. Why did each town here “do its own thing” in terms of product portfolio and markets served? Why did industrialists not only specialise, but specialise in very different products and services, so that East Lancashire’s economy was highly complex by 1914 and not simply the archetypal story of cotton and coal? For as we widen the circles of reference from the individual firm, to the sector, town, district and region, the more remarkable appear the varied patterns of ingenuity, adaptability and innovation, in some ways akin to the so-called “Cambrian explosion” in the geological record of an astonishing multitude of fully-formed, highly-complex creatures which had no obvious precursors. Accrington, in particular, acted as an incubator for diverse industrial products, methods and institutions. Each firm even in similar sectors seems to have decided to concentrate on products and markets differentiated from its neighbours, so that in pre-1914 textile engineering, for example, Howard and Bulloughs in Accrington specialised in ring-spinning machinery for export markets and Northrops in Blackburn produced automatic weaving looms for “cotton” Lancashire, while Butterworth and Dickenson in Burnley concentrated on traditional non-automatic Lancashire looms and preparatory equipment for mainly local customers.<sup>36</sup> Hence the region’s firms during their “golden age” avoided the direct and destructive price competition which broke out during the inter-war slump.

The classical “comparative advantage” theory of Ricardo and Mill does not offer a sufficient explanation in itself, for it claims that trade between producing and marketing centres encourages specialisation according to relative production costs, not diversification as well.<sup>37</sup> As we can clearly see, East Lancashire’s towns were never dominated by a single export-orientated industry. However from the perspective of the conceptual synthesis adopted here, we can also perceive that while the railway frontier would enlarge and accelerate regional trade patterns, which probably stimulated the division of “cotton” Lancashire into specialised spinning and weaving districts along the lines of comparative advantage, it also expanded the range of possibilities for “doing things differently” by opening up new and distant markets and by unlocking subtly variegated combinations of resources in the local landscape.

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<sup>36</sup> D.A.J. Livesey: *The Textile Engineering Industry of NE Lancashire* (Cambridge thesis, n.d, c.1950s), p.28.

<sup>37</sup> David Ricardo: *On the Principles of Political Economy and Taxation* (1817) and John S. Mill: *Principles of Political Economy* (1848) were foundational texts for the liberal, free-trading, orthodoxy still dominant today in economics. Their key model of “comparative advantage” is reproduced in most standard economics textbooks without any sense of engagement with the historical complexity of real-world economies.

In addition, the advancing frontier is associated with intensification and geographical concentration in the use and allocation of resources, as already argued, so we would expect “industrial districts” to emerge, cemented by external economies of scale, or positive externalities, as described by Alfred Marshall.<sup>38</sup> Here individual firms do not need to internalise all aspects of the production process, for they can outsource more cheaply some logistical, finishing, distribution and support functions to local contractors. There is perhaps, too, an intangible cultural atmosphere in such places which permeates human interaction and nurtures the exchange of information and ideas. Something like a mini-industrial district was established before the railway’s arrival in the cotton textiles sector, with its supporting cast of supply and service chains around Accrington, Church and Oswaldtwistle, but diversification was very limited beyond this, whereas during the railway era several innovatory sectors developed which were linked indirectly and culturally to other local industries, not, as Marshall assumed, by direct functional relationships around a single key sector. So the picture presented here of a railway frontier which stimulates firms to expand and extend from their local economic base does offer some fresh insight into East Lancashire’s astonishing diversity in depth by 1914.

#### **Impact of the railway frontier on economic growth or decline**

We also need to consider the nature of the wider economic interactions between the towns or districts connected directly by the railway frontier. Clearly any active transport system, like a dynamo, generates economic energy, and is bound to have effects on trade and traffic exchange within a region, but these are sometimes unexpected and counter-intuitive. The integrated framework presented here sheds light on the interesting possibility that a rail-served local economy may not benefit from dynamic regional markets and networks, despite the major improvements in connectivity. If two areas with comparably high levels of economic potential are linked by a railway, then there is every incentive to trade and they grow together. This in turn encourages the railway to invest in improvements in services and infrastructure which stimulates further trade and traffic growth, and so on. Hence the process is interactive, positively re-inforcing and mutually beneficial for both trading partners, and the railway. If, however, the areas have low economic potential, then they will still trade, but they will exhaust their resource base and hit development ceilings quite early in the process, so a positive feedback mechanism between districts and the railway is absent or arrested.

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<sup>38</sup> Alfred Marshall: *Industry and Trade* (London, 1919).

The intriguing scenario is when the two rail-connected districts have significantly different qualities of resource base and levels of economic potential. Here the railway will act as a siphon, assisting the flow of resources such as labour out of areas of low potential to where they can be more profitably and intensively employed, and depleting the local economic base indefinitely. In this case there is no genuine two-way trade between equal and independent partners, but a relationship of dependent supplier to a controlling economic centre, similar to the colonial “enclave economy” deliberately created by a dominant imperial power. Also the railway, by stripping inefficient producers of their protection of high transport costs into the district, and bringing in cheap goods from outside, may precipitate the rapid collapse of local industries, as appeared to have happened in the case of coal mining in Blackburn in the mid-nineteenth century.

More generally transport systems of various types may have unexpected “siphon” effects when local economies are connected to regional centres, as the recent motorway era in East Lancashire strikingly illustrates. Significantly, there had been no dramatic shift or improvement in local transport modes and technologies in the 1950s and 1960s, at a time when the motorway network was being planned and constructed elsewhere in Lancashire and beyond according to national rather than local priorities. The late construction of motorways (the M65/M66) in East Lancashire seemed to have reflected a more general neglect by central government of the district’s needs for infrastructure investment in this period. When they eventually arrived in the Accrington area in the mid-1980s, it was far too late to reverse the long-term structural decline of the nineteenth-century staple industries and the wider and rapid manufacturing collapse. Symbolic of this collapse in the early and mid-1980s was the demise of Platt Saco Lowell’s textile engineering operation, successor to Victorian giant Howard and Bulloughs, which reflected a loss of competitiveness in key export markets, not, as might be assumed, the terminal decline of Lancashire’s cotton firms, who were never major customers.<sup>39</sup> Although recession-induced falling sales in Far Eastern markets and the decision of the major UK banks to foreclose on emergency loans administered the final blows, overseas customers had during the 1970s increasingly rejected the huge integrated and specialised production packages of Platt Saco Lowell in favour of

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<sup>39</sup> Stephen Aris: *Going Bust: Inside the Bankruptcy Business* (Andre Deutsch, London, 1985), especially Chapter 8: The Listening Banks. The remnants of Stone Platt’s textile engineering division (called Platt Saco Lowell), essentially two struggling and much-reduced plants in the USA and Accrington, were sold by the banks’ receivers to American entrepreneur John D. Hollingsworth in March 1982. “What was lost through a mixture of managerial incompetence, worldwide recession and bankers’ caution was what had once been one of the proudest names in British engineering” (ibid, p. 155).



the sophisticated, programmable and flexible looms supplied by West German and Swiss manufacturers like Sulzer. More widely, little remained in recent years in Accrington of the great staple industries of the railway age, apart from Marshalls Products (brick-making, tiles, etc.), operating at Whinney Hill, but for many years controlled from Halifax rather than locally, and latterly part of the Hansons conglomerate. The example of Accrington's manufacturing demise illustrates how important the timing of transport investment and innovation may have been in sustaining a relentless downswing already well underway. Indeed, the denudation of the district's economic base even accelerated as its labour was exported to Manchester via heavy commuting flows along the motorway.

Hence it is possible to argue that railways (or motorways) should be built only where there is a reasonable expectation they will liberate a district's economic potential rather than confirm its structural decline or weakness. If the economic soil and climate are poor, then careful and patient attention must first be paid to nurturing and nourishing the seeds of growth before investing in a new transport system. The assumption that there is an automatic link between such investment and local development or regeneration is profoundly misguided, as the experience of East Lancashire during the motorway era from the 1980s sharply underlines, and indeed the historical tendency of many road schemes is to have a siphon rather than a developmental effect. Moreover, a transport system built at the wrong place, in the wrong time, or in the wrong way may permanently blight the developmental prospects of a district by absorbing most or all available capital resources during the construction phase and by burdening operators with high fixed and marginal costs which suppress any potential traffic growth which might have been generated in more propitious circumstances. The disastrous experiment with the "atmospheric" railway appears to have had this long-term effect on communities in south Devon after the 1840s.

### **Some comparisons from beyond East Lancashire**

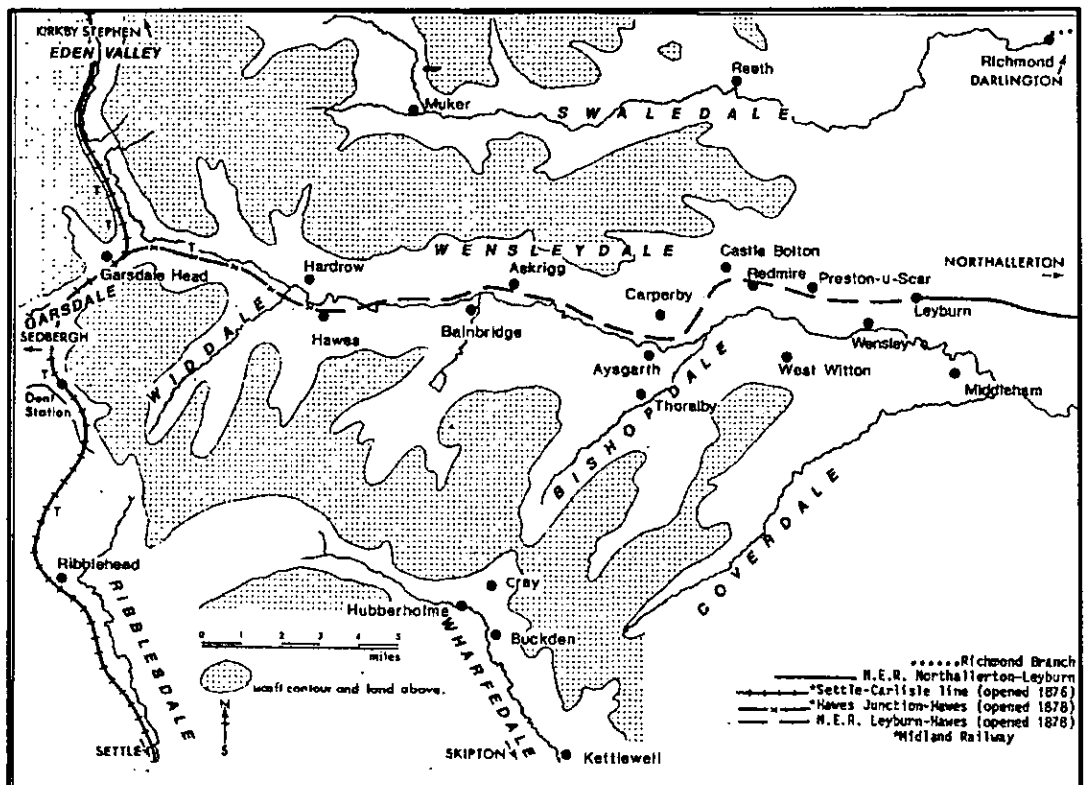
The integrated framework suggested here may be illustrated in sharp relief by comparing the paradigm of Accrington and district with three other geographical contexts in the north of England from the Victorian and Edwardian eras. The intention is to show, firstly, that there was no inevitability in the relationship between railways and development, and secondly, to highlight how important it is for historians to understand the "pre-conditions" stage of any district or regional economy in all its complexity, because it is the nature and level of prior development and economic potential which will shape what happens after the arrival of railways (or other transport innovation). One of the most important of these "pre-

conditions” is access (or the lack of it) to long-established commercial and transport corridors, as will become clear in these three comparisons.

The first example (or counter-example) is drawn from Wensleydale, part of the remote non-urban Dales landscape in North Yorkshire, which from 1878 was served throughout by a west-east railway from Hawes Junction (later re-named Garsdale) on the Settle-Carlisle line to Northallerton on the East Coast main line (see the map of Wensleydale’s rail links, Fig. 7.2). The line was constructed in two main sections by the Midland (MR) and North Eastern Railways (NER), and many of its services were worked jointly by these companies. The railway certainly had significant consequences for Wensleydale’s dual economy, based on pastoral agriculture and minerals, including lead mining and stone quarrying, but these were utterly different from Accrington and district. The key agricultural change was a rapid transition from processing of dairy products, especially butter and cheese, to large-scale liquid milk production for distant urban markets, mainly in the north-east of England. Only rapid rail services made such time-sensitive flows of high-value perishables possible. There were also large-scale movements of livestock and minerals (mainly sandstone and limestone) out of the valley. Lead mining was already declining in importance in the late 1870s, and the railway did nothing to reverse this. Some local craft industries collapsed because the railway brought in cheap mass-produced goods. Moreover, the railway certainly increased mobility and widened horizons, but the result was an acceleration of the drift of the population eastwards out of Wensleydale in search of work and better pay and prospects. There is an interesting internal comparison within the Yorkshire Dales with the more isolated Swaledale, which runs parallel to most of Wensleydale, but a few miles to the north (see Fig. 7.2). Swaledale was never directly rail-connected, although there were several proposals to do so in the 1840s, 1860s and late nineteenth century, and so supplies and products had to be laboriously carted from and to stations in Upper Wensleydale, such as Hawes and Askrigg. Swaledale’s lead mining industry apparently peaked in the early 1870s, before railways arrived in the adjacent valley, and had diminished into insignificance by 1900, although it lingered longer than in Wensleydale. Hence the local economy became dependent on sheep-farming, there was no industrial development, and de-population continued unabated. In fact, Swaledale’s absence of a direct rail link made little difference to its long-term fortunes compared to the presence of the railway in Wensleydale.

Hence not only did the railway fail to induce a “take-off” of urban and industrial growth in the northern Dales, it contributed to their long-term economic and demographic decline.

**Fig. 7.2: Railways built in the Wensleydale area in North Yorkshire**



Source: Christine Hallas: *The Wensleydale Railway* (Great Northern Books, Ilkley, 2002), p. 4

It must be stressed that the Dales economy was not genuinely or classically rural, so the failure to industrialise in response to the opportunity presented by the railway seems all the more puzzling. Christine Hallas' otherwise admirable survey of Wensleydale's economy does not fully explain why it should continue to decline *after* the railway arrived.<sup>40</sup> The key lies in the low level of economic potential within the valley *before* the railway era. It simply lacked the prerequisites for industrial and urban advance. There was no ample local supply of key natural resources for industrialisation, especially coal (which had to be "imported" relatively expensively, apart from a limited and isolated operation at Tan Hill colliery near the head of Swaledale), a platform of skills, capital and enterprise from a thriving rural manufacturing sector had not developed, and, most fundamentally, Wensleydale and Swaledale were simply in the wrong place. They were too far south of the Tyneside industrial zone and, more importantly, too far north to benefit from the main west-east trans-Pennine transport corridor which generated huge trade and traffic flows between East Lancashire and West Yorkshire, and more widely between Liverpool and Hull. Hence a west-east rail orientation was not sufficient by itself for development to occur; it also had

<sup>40</sup> Christine Hallas: *The Wensleydale Railway* (Great Northern Books, Ilkley, 2002, 3<sup>rd</sup> edition).

to connect the urban industrial systems and their ports and marketing centres in northern England. The Wensleydale railway connected no major economic centres in North Yorkshire and was cross-country but not truly coast-to-coast, joining two trunk north-south lines which were orientated towards the MR and NER's long-distance express services rather than local development. Certainly the multitude of proposed southerly rail extensions from Wensleydale in the nineteenth century were "lines of desire" to tap into the lucrative trans-Pennine corridor, but the fact that they were never built or even attracted serious capital suggests that construction costs would have been prohibitive in a difficult terrain – the railways would have had to cut across the lie of the land with extensive tunnelling, bridging and so on – and the potential returns to investors meagre or non-existent.<sup>41</sup> Therefore the railway generated energy to suck resources out of a valley with low economic potential to regional urban centres with high potential – it was a siphon, not a catalyst. Moreover, positive feedback loops did not develop between the railway and the local economy, and it is probable that the interactions were negative as the conceptual framework here suggests. Our synthesis also implies that the timing of the arrival of the railway was a critical issue – Wensleydale's economy was already in a long-term downswing by the late 1870s, and it amplified and reinforced the economic cycle.

Another contrast in the north of England is quite telling. If before 1914 you were a passenger waiting at Preston station for a train, and your destination was a town in East Lancashire, your eastbound journey, courtesy of the Lancashire and Yorkshire Railway, would have taken you along one of the most intensively-operated and highly-developed rail corridors in the country with numerous urban stopping places, industrial sidings, goods sheds, and marshalling facilities to handle the huge volumes of both originating and through traffic, as Chapter 6 on traffic and trade flows demonstrated. If, however, your journey was northbound by a London and North Western Railway (LNWR) service towards Carlisle, or beyond into Scotland, you would have passed through long stretches of empty, though scenic, terrain which was and still is largely untouched by "civilisation", but attracts much attention in the enthusiasts' picture publications. Their dramatic photographs of Anglo-Scottish steam express trains pounding over Shap summit and battling against the wild inhospitable Cumbrian landscape actually serve as "unwitting testimony" for the one really important omission: development. There were few local freight facilities to accommodate the minimal amount of originating traffic, notably granite and limestone from Shap, and the

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<sup>41</sup> Ibid, pp. 9-23 (Chapter 2: Proposed railways in Wensleydale – in some ways the least satisfactory chapter).

**Fig. 7.3: Carnforth's Railways (EDINA Digimap Tiles 19sd47se/19sd57sw)**



*Source:* OS County Series 1:10560 (Lancashire and Furness), 2<sup>nd</sup> Edition, published 1893-1894

products of the ironworks at Carnforth.<sup>42</sup> However the ironworks, opened in 1866 and closed in 1929, owed its existence, not to the West Coast line unlocking local resources, but to the chain of railways which connected haematite iron ore from Furness and West Cumbria with coke from south Durham - see Fig. 7.3, an EDINA Digimap of Carnforth's rail links.<sup>43</sup> The trunk line merely handled a small part of the cross-country mineral traffic flows, which were largely the responsibility of the Furness Railway (FR) and NER, and pig or cast iron products from Carnforth were mainly conveyed along the Upper Aire valley

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<sup>42</sup> See the near-complete absence of goods sidings and depots along the Preston-Carlisle line in Alan Jowett: *Jowett's Railway Atlas of GB and Ireland* (Guild Publishing, London, 1989), especially map nos. 35, 37, 42.

<sup>43</sup> Fig. 7.3 and Fig. 7.4 are extracted from the EDINA Digimap database of historical OS maps. © Crown Copyright and Landmark Information Group Limited 2009. All rights reserved

route (operated jointly by the FR and MR) to markets in West Yorkshire.<sup>44</sup> So Carnforth's limited industrialisation was nothing like Accrington's rapid "take-off" from a local base. Moreover, the main line did not serve any major population centres between Lancaster and Carlisle, so local passenger traffic was always unimportant. All of the intermediate stations, except Oxenholme (for Kendal and Windermere) and Penrith, had been closed to passengers by 1970 with scarcely a murmur of protest, many in the 1950s and 1960s by BR and some before this, such as Clifton & Lowther in 1938, and Lambrigg as early as 1849.<sup>45</sup>

The West Coast route was built primarily to convey passengers speedily from and to London and the major cities in the West Midlands, Lancashire, and central Scotland, and secondly, to accommodate long-distance freight flows. Local development was never a priority for the LNWR, and rail investments were determined by the Premier Line's national strategic priorities. It is significant that the section of the West Coast main line between Preston and Carlisle was and still is double track, unlike the extensive quadrupling south of Preston, suggesting that "grade separation" of fast through services and slow local traffic was never considered important here. Furthermore, most of Lancashire north of the River Ribble, and the whole of Westmorland, lacked abundant local natural and human resources for industrialisation, and were too isolated from the main axis of trans-Pennine economic activity further south. Therefore, the West Coast rail "spine" did not energise the local economies north of Preston, nor did the LNWR and its successors, the LMSR and BR, ever make any serious attempt to do so beyond the initial opening of stations and limited goods sidings to test the market. When local traffic growth failed to materialise and showed no realistic prospect of doing so, the LNWR's investment strategy seems to have actively closed the door on development north of Preston from a relatively early date. By contrast, the investments of local railway companies along the East Lancashire corridor were well-rewarded in terms of traffic development, and so there was every commercial incentive to do more in a virtuous circle.

A final brief counter-example in this section serves to underline the "hub" effect of Accrington's role as a railway frontier town. The ELR's T-shaped network, where routes converged from three directions to form a massive triangular junction around Accrington station, was rare in British railway history. It was not a junction of main line and branch: the three routes had similar operational status and carrying capacity, and this configuration

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<sup>44</sup> David Joy: *A Regional History of the Railways of Great Britain; The Lake Counties, Vol. 14* (David & Charles, Newton Abbott, 1990), pp. 131-132, with map of Carnforth's railways.

<sup>45</sup> *Ibid.*, pp. 30, 33, 37-38.

appears to have been highly significant in Accrington's development. The only comparable T-shaped system (inverted) in northern England seems to have been between Halifax, Keighley and Bradford, centred on a huge triangular junction and station at Queensbury (see the EDINA Digimap, Fig. 7.4).<sup>46</sup> This system was built by the Great Northern Railway (GNR) at great financial cost and physical hardship from the mid-1870s and during the 1880s, with extensive tunnelling, bridging and earthworks to penetrate the difficult moorland terrain. The network was built partly to serve the small upland townships specialising in woollen and worsted textiles which had grown on the plateaux beyond Halifax and Bradford, such as Holmfild, Denholme, Clayton, Queensbury and Thornton. Indeed, the genesis of the system was the desire and promotion by local industrialists, notably the Fosters associated with the well-known Black Dyke Mills in Queensbury, of a scheme for rail communications with Bradford. However, there were also grandiose visions for a trunk route from Halifax through Keighley and the upper Aire valley to Scotland. When the Midland Railway seemed on the verge of achieving this long-cherished ambition, the GNR stepped in to take over the local scheme (the Bradford and Thornton Railway) and secure its territory from interlopers like the MR.<sup>47</sup> Hence this extravagant system was built by the GNR essentially for the wrong reasons of inter-company politics and was never intended mainly to meet the local needs and priorities of wool textile communities.

Queensbury, opened for goods services in 1878 and passengers in 1879, failed to "take off" as a transport hub, quite unlike Accrington, despite the fact that both were Pennine towns (although Queensbury's altitude was notably higher around the 1000 ft and 1100 ft contours), and both were expensive for the railway builders to reach. Passenger services were progressively cut back and withdrawn completely in 1955, and most of the GNR's "alpine" routes in West Yorkshire had been closed to all traffic by BR in the mid-1960s, a major waste of investment. According to Gordon Biddle, "it is unlikely that receipts ever covered the capital cost", but this cannot have been just because of the railway system's "alpine nature", though high operating costs may have acted as a permanent deterrent to traffic development.<sup>48</sup> The most likely explanation is, as the conceptual synthesis here suggests, that the Queensbury district lacked the economic potential for extensive industrialisation, and this fed a negative feedback loop between the town and neighbouring communities, and the railways that served them, so that poor traffic prospects meant low

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<sup>46</sup> See also Alan Jowett, *op. cit.* (map no. 47).

<sup>47</sup> Alan Earnshaw: *Pennine Branch Lines* (Ian Allen Publishing, Shepperton, 1993), pp. 76-89.

<sup>48</sup> Gordon Biddle: *Britain's Historic Railway Buildings; An Oxford Gazetteer of Structures and Sites* (Oxford University Press, 2003), pp. 434, 441 (comments on Hewenden viaduct).

**Fig. 7.4: Queensbury Station (EDINA Digimap Tiles 40se13sw/40se03se)**



*Source:* OS County Series 1:10560 (Yorkshire), 2<sup>nd</sup> Edition, published 1894-1895

investment in the railways once constructed, which discouraged growth of traffic, and so on. The town was some distance from Queensbury station itself, at a higher level on the moorland plateau, as clearly shown on Fig. 7.4, and proposals to build a short but steep light rail link for passengers and/or freight repeatedly came to nothing, which suggests that further significant investment could not be justified.<sup>49</sup> During the railway age, the district was not located on any major trans-Pennine routes and was too isolated from the industrial and commercial centres of West Yorkshire in the valley bottoms. There was much more to the developmental system than simply railways, however important their potential as an agent of economic transformation. Hence, contrary to East Lancashire's experiences, railways often had minimal or negative economic effects.

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<sup>49</sup> A. Earnshaw, *op.cit.*, p.85.



In summary, the development of East Lancashire in the nineteenth century was a remarkable process which needs to be understood in its own terms, not through the distorting prism of inappropriate theory. The district was able to grow rapidly and sustainably without hitting implacable resource constraints and congestion costs at an early stage. New civic institutions and industrial structures were pioneered during the railway era. The railway frontier took Accrington and district into an accelerated and intensified phase of development which the Rostow and Turner “spectacles” help us to see in greater clarity and depth. Why Lancashire, West Yorkshire and large swathes of northern England were the first set of developing regional economies in the world to get it so consistently right on so many different levels is a vital and fascinating question for the economic historian to address. It is the hope that this micro-study has, in its own way, identified some new and surprising aspects of the contribution of transport investments to growth patterns. The provisional theoretical framework pioneered here to explain what happened in and around Accrington clearly points beyond itself to extensive, but largely unexplored, historical territory. Any credible and robust developmental model for the trans-Pennine corridor would demand a greatly enlarged and comparative research agenda, and some proposals for this wider agenda are outlined in the Conclusion.

## CHAPTER 8: CONCLUSION

Why is it *that* important to study the development of these unfamiliar, utilitarian towns in East Lancashire and their unromantic, hard-working railways? Why do the main outcomes or “product” of the research process really matter? One response to these questions is that of the “purist” historian, which is that this micro-study should extend the boundaries of historical knowledge, and this is to be valued in its own right, not for any practical benefits it may bring. The search for historical truth needs no other justification. From this perspective, the history of what happened to Accrington and district during the railway era is highly significant, for here and elsewhere in the trans-Pennine regions of northern England the modern economic world based on factory-based mass production systems, extensive mechanisation, sophisticated transport systems and rapid town formation was successfully pioneered. Moreover, these events were unusual and surprising in terms of the orthodox models of urban and economic development. Another answer to the question of why this thesis matters is that it matters to researchers working in related fields of urban, transport or developmental studies. The hope is that this research will inspire wider comparative study, and that the empirical outcomes and theoretical explorations here will prove helpful in comparable case-studies. There is no expectation that the precise findings will be replicated elsewhere, but they should stimulate a productive debate among historians interested in these issues. An alternative response is that developmental history should teach us useful lessons as we look to encourage the future growth of local or regional economies. In this sense, history is not an abstract academic discipline – we should expect to acquire a measure of practical wisdom as well as “pure” knowledge. It cannot, however, be a formal aim of any historical thesis to outline the logical policy implications of the research, which could be elaborated in contexts where these academic conventions do not apply. The comments here must be focussed on the evidence.

The presentation of the empirical conclusions, and observations of their wider significance, will be structured under five headings, though they should ideally be read as a whole, and from the perspective of the main objectives and general conceptual approach of the research project, as outlined in the Introduction (Chapter 1). Firstly, the key findings of the four evidential sections on industrialisation patterns, town formation and continual urban growth, institutional responses and adaptations of local rail businesses, and the changing configuration of trade and traffic flows (Chapters 3 to 6) will be summarised separately. Secondly, the evidence of these distinct components will be synthesised into a coherent description which reflects on East Lancashire’s developmental path in the railway era and

seeks to capture its essence. The next section will outline the implications of the research outcomes for the “comprehensive” methodology adopted here and alternative approaches. Fourthly, the pioneering theoretical framework of Chapter 7, which uses an unusual combination of the “frontier” and “take-off” concepts as a platform for exploring why Accrington and district followed a distinctive development trajectory after railways arrived, and not another path, will be re-stated concisely and defended against possible objections. Finally, a prospective research agenda for comparable fields of transport and economic history will be suggested to test the wider applicability of the new developmental synthesis.

### **Summary of the evidence of development in Accrington and district, 1848-1914**

The distinctive development trajectory of the district was observable in the evidence of four discrete, though overlapping, dimensions of human experience and economic activity, and the first of these, patterns of industrialisation, was discussed in Chapter 3. Industrial development in Accrington and district was characterised during this period by both an acceleration and a qualitative transformation of growth after a lengthy period of solid but unexceptional progress which, nevertheless, was essential to highlight the area’s potential for railway investment. An alternative way of expressing this transition is to say the local economy moved from a preparatory “pre-conditions” stage to a sustained “take-off” after the railway arrived in 1848. The “take-off” phase did not hit early resource constraints, but there was a noticeable slackening of growth after 1900 as the spatial and economic limits of the local environment were eventually encountered. In particular, the economic structure became ossified by the concentration of fixed “sunk” capital in a confined area which contributed to an unusual variety of “path dependency”. As the local economy grew, it exhibited an unusual and seemingly paradoxical combination of diversification and specialisation. There was a recognisable pattern of development from existing sectors, like cotton textiles and coal mining, to new sectors, notably mechanical engineering and brick making. Hence, the town rapidly progressed through a clear sequence of sectoral expansion and innovation which, nevertheless, did not supersede or eclipse the earlier industrial stages. By 1914, Accrington’s economic base was highly sophisticated, and this distinctive phenomena of complexity cannot be readily explained by conventional economic theory such as comparative advantage, which predicts that trade stimulates specialisation, not diversification as well. Furthermore, the district maintained and even strengthened its independent, self-contained, economic foundation during the railway era. This local base had long pre-dated railways. Control of the key industries lay with Accrington’s business leaders, not with external interests on “colonial” lines. Labour, capital, technical knowledge,

business networks and natural resources were all available locally. The fact that railways re-inforced this localised pattern of development contradicts the established historiographical wisdom that they tended to “nationalise” the economies of provincial communities.

Industrialisation was sustained by the rapid growth of trade with other towns in Lancashire and beyond. A regional railway network created new opportunities for Accrington to interact economically with other urban and industrial centres, and to benefit from better access to the dynamic markets, business networks and commercial services of Lancashire and adjacent counties. Accrington’s growth was not just a result of closer integration into a thriving regional economy, however, and ironically greater connectivity also enabled the town to “do its own thing” in terms of product portfolios and markets served. Indeed, each firm seems to have made a conscious decision to avoid direct price competition with its counterparts in comparable sectors like textile engineering. Hence another apparent paradox is that both independence and interdependence characterised Accrington’s economic relationships with the outside world. There was also a strong sense of integrated, multi-layered, development of a local industrial district which was characterised by concentration and clustering of related, though not always similar, key “export” industries, with a supporting cast of parallel supply and service chains. Railways did not create this industrial district structure, but the “just in time” system uniquely made possible by rapid rail services integrated logistical and distribution networks, especially in the cotton sector. The backward and forward linkages generated between various sectors cemented powerful positive externalities, or external economies of scale, which further intensified Accrington’s development. To summarise this section, railways liberated the potential inherent in the local economic landscape of the 1840s and stimulated diverse and complex patterns of industrialisation throughout the Victorian and Edwardian era which enabled Accrington to rise as a town of national, even international, industrial importance. The progression in East Lancashire was from economic localisation to eventual globalisation, but towns did this on their own terms without losing connections to their industrial origins, and human and natural resource base.

The evidence for the second dimension of development, which was the formation and growth of a distinctive urban system in the Accrington district after the arrival of the railway in the late 1840s, was discussed in Chapter 4. The district was characterised by a dramatic acceleration and concentration of demographic and physical growth in the mid-Victorian era

following a lengthy period of incremental progress which had “thickened” settlement into small industrial townships and hamlets but had not produced true towns. It must be stressed how non-urbanised and dispersed the West Pennine landscape around the Accrington area had been throughout the early modern era and up to the mid-nineteenth century. The railway propelled Accrington into exponential, not evolutionary, urban development which was sustained during the second half of the nineteenth century, constituting a transformatory “take-off” phenomena readily observable in the population charts. However “take-off” had inherent geophysical limits, though these were encountered much later as growth slowed markedly during the Edwardian era. Building land was in short supply, the urban environment was congested, and pollution and squalor deterred investment in middle-class housing. A similar pattern is observable in the smaller townships surrounding Accrington which also “took off” as they became rail-connected, notably Great Harwood and Rishton. However, the development of Church and Oswaldtwistle was stimulated much more by the Leeds and Liverpool canal in the first half of the nineteenth century, and in fact the growth rate of the combined population of these two townships outstripped Accrington’s growth up to the eve of the railway era. The result of “take off” at multiple points in the district was the formation of a distinct urban cluster or mini-conurbation by 1911, with a population of over 100,000, which had economic coherence and logic, though never political expression, in the railway age. This mini-conurbation, which for convenience was labelled “Hyndburn”, was sandwiched between, but never overwhelmed by, its larger neighbours of Blackburn and Burnley. Accrington functioned as the transport and service hub for the open ring of smaller, but autonomous, towns and townships.

Within the individual towns in Hyndburn the railway was the central organising principle. It concentrated industrial and residential development, reversing the previous tendencies to dispersal, and also defined the physical parameters and configuration of urban space which restricted internal movement between neighbourhoods and narrowed the possibilities for future development. These towns also exhibited clear patterns of institutional development in the second half of the nineteenth century. “Soft”, small-scale, informal arrangements for the Accrington townships were formalised into “hard”, town-wide structures during the mid-Victorian era, culminating in municipal incorporation during the 1870s. The Urban District Council structure for the smaller towns and townships replicated Accrington’s civic experience about twenty years later. The new institutions imposed greater coherence and order on the urban landscape, and both channelled and stimulated a growing sense of civic loyalty and pride. This set of intense local identities which underpinned urban institutions,

and was sometimes expressed as a defensive, or introspective, parochialism, was indirectly strengthened by railways because they reduced the practical necessity for people to travel far in their everyday lives by bringing in food, consumer goods and business services. This surprising finding contradicts the usual historiographical assumption that railways, by stimulating mobility of people and ideas, integrated provincial urban communities into a national culture. To summarise the argument, Accrington and its smaller neighbours developed as recognisable and coherent “proper” towns during the railway era where none existed before. The railway created orderly, self-confident, prosperous urban communities which were neither anonymous adjuncts of a larger urban centre, such as Manchester and Blackburn, nor parts of an amorphous, sprawling conglomeration. The sudden and swift emergence of “railway towns” in and around Accrington without urban precursors was a distinctive and perhaps unique phenomena in the Pennine landscape, though it must be emphasised that rapid urbanisation patterns were common in northern England and were utterly unlike the organic growth from a long-established civic, cultural and institutional base seen in London and the South East. The astonishing paradigm of a railway town like Accrington clearly deserves theoretical elaboration.

The next broad strand of developmental evidence in Chapter 5 centred on the adaptation of railway companies operating in East Lancashire to their local human and physical environment. The institutional responses of the three constituent micro-companies, the unified system of the East Lancashire Railway (ELR) and the later amalgamated regime of the Lancashire and Yorkshire Railway (L & YR) exhibited highly distinctive characteristics during the era from the mid-1840s to 1914 which denoted their greatest influence and significance in the district. A critically important feature was localisation of both ownership and management (which were not clearly separated in the formative stage of the 1840s). The available records of shareholders strongly suggest that the necessary capital to launch and complete the rail project was mainly raised from sources within East Lancashire, especially larger towns like Blackburn and Bury, and this ensured that management was accountable to well-informed and active local investors. Another important finding is that companies consistently made appropriate and intelligent choices of technologies to both construct and operate the rail system. At a time when railway engineering was still exploratory and experimental, it was essential that workable and practical solutions were found to the problems posed by a difficult moorland terrain which had deterred canal investment. It cannot be emphasised too much how important the decision to adopt and adapt a proven engineering package, which had been pioneered by George and Robert

Stephenson and improved by the mid-1840s, was for the economic development of East Lancashire, yet the scale and significance of the technical challenge and achievement have been relatively neglected by railway historians. Furthermore, the operational difficulties of the geo-physical environment continued to stimulate technological innovation within the framework of the Stephensonian system during the ELR and the L & YR eras. The persistence of local control and knowledge helps to explain why companies consistently made the right engineering choices. A further aspect of company localisation was a marked sense of territoriality distinctive to East Lancashire. In the early days this territorial stewardship was asserted defensively against distrusted rivals and interlopers on the interfaces of rail systems, but, positively, it also implied co-operation and eventual amalgamation with other companies where this suited the economic development of their domains, especially when the rapidly growing volumes of passenger and freight traffic in the 1850s implied powerful benefits of operating as an enlarged and integrated network. An implication of territoriality was that the business cultures of these railway companies were in many ways a projection and extension of the local communities they served. An unusual combination of both outward-looking interconnectedness and dogged independence, a willingness to relate to the wider world on local terms, characterised corporate identity and purpose.

It is highly interesting and significant, too, that both rapid traffic growth within East Lancashire and the consciousness of local cultural sensibilities seem to have generated specific responses at the level of corporate governance which persisted for many years after the amalgamation of the ELR and L & YR. In particular, it has never been recognised before in railway historiography that the ELR, with a geographically small and self-contained rail network, developed a modern Chandler-style corporate structure, with functional specialisation of management and clear separation of ownership and control, as early as 1849. Perhaps it is not surprising that organisational innovation should be found in the fertile business climate of East Lancashire in the mid-nineteenth century. Multiple layers of business evidence point to the conclusion that railways worked and worked well to serve East Lancashire's towns and industries because they intelligently adapted, and innovated within, a pre-existing technological and operational framework which suited local natural, economic and cultural requirements. They therefore prospered as East Lancashire prospered from the late 1840s, avoiding the technical and financial failures of railway companies elsewhere when the imposition of an imported and inappropriate "grand vision" on the landscape set back the development of their districts for a generation or more.

Contingent corporate choices made a huge difference to economic outcomes. Furthermore, the ELR, and the L & YR on a bigger scale, behaved as long-term development agencies with a clear strategic vision of how railways should function in the trans-Pennine economic corridor. They invested in development of their systems where new traffic could be generated and existing customers better served, and the commercial and financial returns from economic development of their domains consistently justified and rewarded these investments, and encouraged them to do even more to build traffic in a virtuous circle. Milking of customers for short-term profits would have been foolish and counter-productive.

The final strand of evidence in Chapter 6 discussed traffic and trade flows in East Lancashire. These were characterised by a transition from incremental growth up to the 1840s, which was straining the capacity of existing modes of transport, especially the turnpike roads, to exponential growth after the railways arrived. Railways enabled traffic to “break out” of the practical constraints implied by existing technologies and generated positive, mutually re-inforcing, feedback loops between trade and transport development after 1848. Furthermore, the relationship between railways, turnpikes, local roads, the canal, and later urban tramways, was essentially complementary, not competitive, in Victorian East Lancashire, and, contrary to the conventional views of technological progress, there was no clean and simple succession of transport modes. The turnpike road and canal operators adapted well to the arrival of the newcomer and discovered and developed “niche” markets within a rapidly changing and expanding local economy, and more specialised functions which the railways either could not or would not perform. Hence an integrated and sophisticated transport system, a unified “transport-scape”, developed which served East Lancashire’s industries and towns very well before 1914, and it is hard to believe that a better alternative was available. For example, while long-distance inter-regional stagecoach services disappeared on the turnpikes as the railheads advanced, local feeder passenger services and short-distance cartage of goods to and from rail centres multiplied, so towns became very busy with horse-drawn traffic and urban road systems were extended and improved. Indeed, it may be argued that railways generated so much traffic that some of it *had* to be accommodated on the roads and canal, and therefore firms like Howard and Bulloughs were able to optimise their choice and use of transport services to deliver products to customers. Railways carried two broad categories of freight traffic in East Lancashire, both in huge quantities: firstly, inter-regional trade flows passing through Accrington, which was developed as a major transport hub, especially for transfer of traffic from Yorkshire, and, secondarily, locally-generated trade as the urban industrial base



expanded, with Accrington in addition becoming a key originating point for freight movements. Passenger traffic growth was also dramatic after 1848, but was *unanticipated* because all the evidence suggests that the ELR had been designed and planned essentially as a general and heavy freight haulier. Remedial investment enabled the L & YR to supply this highly elastic market well with intensive services by the end of the nineteenth century.

Traffic flows formed a highly distinctive and unusual T-shaped configuration in East Lancashire during the railway era, with freight and passenger movements heading west, east and south from and through Accrington. Railways underlined and re-inforced the historic importance of the west-east transport routes which had linked the economies of Lancashire and Yorkshire across the Pennines since Roman times, and it was the trans-Pennine artery which received the majority of the investment by the rail companies in industrial sidings, goods sheds, and marshalling yards. Accrington, in particular, benefited immensely from the direct access railways provided to the lucrative west-east trade flows and their development of the trans-Pennine corridor. Railways also pioneered new north-south traffic flows, such as inter-district coal movements within Lancashire. It was highly significant for Accrington's rise that the ELR broke open the geophysical constraints of the difficult moorland terrain which had isolated the district from Bury and Manchester and blocked the growth of both passenger and freight flows southwards, though the west-east links proved to be stronger towards the end of the railway era and ultimately more enduring. In summary, therefore, the T-shaped transport and trade pattern was responsible for the dynamic development of industrial towns after 1848, with Accrington becoming a key transfer and originating centre for East Lancashire. The continuity of this pattern of intra-regional and inter-regional traffic flows since the mid-Victorian era is powerfully suggested by the remarkable fact that the modern motorway network which was developed from the 1980s (the M65/M66) reproduces the T-shaped rail system and is also centred on Accrington. It appears that the "T" pattern was Accrington's distinctive signature, and it organised and held together the local economic and transport systems in vibrant harmony during the railway era and beyond.

### **Synthesis of the evidence of the local developmental path**

The evidence, once it has been analysed in terms of these four categories, also needs to be synthesised into a coherent and satisfying picture to identify the whole developmental trajectory. It must be concluded from all the available primary evidence that in East Lancashire a dynamic, integrated, urban industrial system grew rapidly during the railway

era, sustained for many years by complex interactions between the various components. In particular, the existence of a powerful positive feedback mechanism integrated the development of railway companies and the rail-served towns. The available aggregated figures for traffic volumes and revenues, and the demographic and other evidence for urban growth, suggest that the relationship between railways and towns was interactive and mutually beneficial throughout the Victorian and Edwardian eras. This was particularly true of the ELR's compact network in the late 1840s and 1850s, which was remarkable, and probably unique, for its combination of local control and close fit with the territory it served. Even after amalgamation into the much larger L & YR system in 1859, the cultural and institutional legacy of the ELR's localism and territoriality was perpetuated for many years.

Therefore, the causal links between transport innovation and wider development patterns clearly ran in both directions. Historians may view Accrington and district through the lens of the railway, or the railway through the lens of Accrington and district – both are equally valid perspectives on what happened after 1848. However, the most appropriate “way of seeing” this relationship is in terms of a *rail-embedded* development system which had two distinct stages between 1848 and 1914: a phase of dramatic town formation and frenetic industrial expansion and innovation in the mid-Victorian decades, organised around the transport hub in Accrington, and then a phase of consolidation and maturity during the late Victorian and Edwardian years, in which the railway held together and nurtured the urban economy it had generated. Local railways were more than an initial trigger for growth in East Lancashire – they were an inseparable and indispensable part of how the development process unfolded as a whole so that the local economy simply could not have functioned in the same way if railways had never arrived in the district or had suffered a technological or financial collapse. It is difficult to see railways having any independent existence outside of local development, and it is also true to say that there was much more to development than any particular transport mode, however significant. Towns were not created where nothing existed before in the local economy. Unlike Crewe or Swindon, Accrington was never dominated by a single railway company and its demand for labour, and the town's economic, social and cultural characteristics reflected both its pre-railway history of human development, and its natural resources and landscape. Moreover, civic political institutions, the financing of key industrial sectors like cotton, and the formation of railway companies, all exhibited the same pattern of organisational growth, which was characterised by local control tempered by a hard-headed pragmatism and an aversion to wasteful grandiose investments. The question of *why* Accrington and nearby smaller towns followed these

progressive and sustained trajectories, and not alternative pathways of development, during the railway era demands the creation of an innovative theoretical approach.

### **Methodological implications of the evidence of local development**

The central methodology of this thesis is the elaboration of the “comprehensive” history of a compact and manageable geographical unit, in the sense defined in the Introduction (Chapter 1). The focus on the urban system of Accrington and district offered a unique vantage-point to see the development path in close-up action, whereas some of this clarity of vision would have been lost in a wider regional study, and entirely absent in a national analysis. This research project confirms and emphasises the value of localised studies, set within the relevant circles of regional, national or global context, for understanding the growth process. The local focus makes it much easier to achieve a synthesis of all the significant elements which define and direct development, including landscapes, resources, markets, cultures, networks and institutions. Hence explanation of specific events in this thesis demanded the integration of multiple layers in the developmental process through comparative analysis across time and space. The methodology of comprehensive history was used to illuminate the underlying chronological and geographical patterns of development and the complexity of the contingent interplay of human agency and the natural and economic environments. It was important to avoid the sterile reductionism and rigid determinism of alternative approaches, such as those associated with neo-classical economics, which would have seriously distorted the evidence of local development.

In contrast, many of the conventional methods and models used in developmental studies were demonstrated either to have inadequate descriptive and explanatory power, or were completely inappropriate for the East Lancashire environment. This is especially true of the counter-factual imaginary economies of the cliometric school associated with Robert Fogel, as discussed in detail in Chapters 2 and 7. The self-contained geographical territory around Accrington, which in the nineteenth century was undergoing the parallel and simultaneous processes of transport innovation and rapid industrialisation, provided an ideal environment for testing this model. The presence of the sophisticated and interdependent “transport-scape”, which was deeply embedded in local economic structures, and the absence of a viable alternative canal or turnpike network to the railways, not only meant that cliometric methodologies had nothing to offer this micro-study, but also called into serious question their general claims and assumptions, a crucial conclusion for economic historians. The accumulated evidence from a district where railways really mattered in economic

transformation constituted its own remarkable refutation of Fogel's model, though it must be emphasised that this was never the project's original or primary intention.

It is also worth commenting in more detail on the validity of the contrasting "soft" methodologies of cultural history, especially those approaches inspired by radical post-modernist philosophy, which were briefly outlined in Chapter 1. Various general criticisms have been made by professional historians recently of the subjectivism of post-modernism, which have sometimes been extended to the production of cultural history, and they include the following: an arcane, alien vocabulary; tendencies towards an unhealthy self-absorption, even narcissism in extremes; an "absolute" relativism which contradicts itself; an ultimate sterility of scholarship lacking any evidential basis. The surprising and counter-intuitive outcomes of this research project underline the argument that the starting-point for disciplined historical study, whatever the genre, is the inherent fascination of the external evidence of past worlds, not the projections of the subjective self. A more specific objection to post-modernist methodologies is rooted in the clear evidence that cultures and identities in and around Accrington were part of how the development process functioned as a whole, and therefore cannot be reduced to the level of the individual. Groups and communities experienced and transmitted multiple layers of identity as they interacted with a specific economic and geophysical environment, and consequently cultural expression was complex, distinctive and intimately linked to urbanisation, industrialisation, local resources and topography. Public buildings, housing styles, neighbourhood attachments, civic allegiances, business cultures, even the engineering creations of local railway companies, embodied and reflected, directly or indirectly, the prosperity, economic independence and the natural "base and space" of East Lancashire. A critical weakness of radical post-modernism is that it ignores the "hard" physical dimension which was so important for local development. For example, steam locomotives made sense in a coal-rich landscape and were designed to cope with its severe gradients – they were not simply the product of engineering "discourses" and their designers' whims. If they had been, they most probably would not have worked well or at all. Hence, the tendency of radical post-modernism to collapse historical reality to individual perceptions and mental projections is profoundly misguided and unhelpful here, and it follows that post-modernist cultural history had nothing of value to contribute to this research project.

### **Theoretical implications of the local developmental process**

Any conceptual framework needs to make sense of the various strands of evidence, as summarised above, for the four overlapping components of Accrington and district's

development system discussed in this research project: industrialisation sequences; urbanisation patterns; transport innovation; trade and traffic flows. It may be recalled that the literature review (Chapter 2) highlighted two potentially fruitful, yet highly controversial, concepts which the theoretical section (Chapter 7) then discussed critically and sought to integrate selectively into a new developmental synthesis. These were W.W. Rostow's staged "take-off" model, which has a direct practical relevance to the dramatic growth phases of local economies, and F.J. Turner's American "frontier" thesis, which offers more tentative and intuitive insights about East Lancashire's very different environment. To the best of the author's knowledge of the pertinent historiography, this is the first time that aspects of Rostow and Turner have been combined in this way, or even bracketed together in the same research project. Once these models, particularly Turner's, had been stripped of superficial and irrelevant distractions, the suggestion that Accrington was a "frontier" town which "took off" after railways arrived could be pursued further with greater clarity and confidence. It must be stressed that the main aim of this exploratory synthesis of the valid insights of Rostow and Turner is to use existing conceptual tools to aid understanding of the essentials of a very complex historical phenomena, rather than to generate a formally-developed and testable model, which is beyond the scope of this limited micro-study. Not only does this new approach reconcile the "ways of seeing" of the metaphors of Rostow and Turner, it also seeks to illuminate the key causal connection between a distinct chronological sequence, from "pre-conditions" to "take-off", and a spatially discontinuous economic zone. At the heart of the explanatory framework here is the "movement" and dynamic integration of the entire developmental system along the T-shaped geographical frontier, generated by energy transfers in both directions between the railways and the local urban and industrial communities they served. The dynamism of the local urban industrial system hinged on the release and fulfilment of economic potential by the ELR and L & YR as they continually invested in the development of the trans-Pennine corridor to handle the huge surge of traffic flows, both originating and through, which in turn stimulated and sustained further growth in a virtuous, self-reinforcing, cycle.

Moreover, while this micro-study was partly inspired by Rostow and Turner and must fully acknowledge its conceptual reference points, it could be argued that the new developmental synthesis explored here has much to offer the "take-off" and "frontier" models in terms of explanatory range and depth. It was applied to various specific and distinctive features of the local social and economic system, such as industrial diversity and complexity, inter-urban relations characterised by both independence and interdependence,

and an internal urban structure defined by “hub and spine”, and found to account for the available evidence better than the formal models which were developed in other contexts, as with the comparative advantage argument and metropolitan central-place theory. It must be stressed that this theoretical framework was created only after careful and prolonged consideration of the empirical patterns of industrial, urban, trade and transport development in and around Accrington after 1848, and it is not directly applicable to other districts.

Some developmental historians may object that the approach adopted here ignores the role of stimuli other than transport investment on both the demand and supply sides of local economies, such as a revolutionised agricultural sector, the emergence of a sophisticated banking system, capital market innovation, or the policy initiatives of local or national state agencies. No doubt all these factors explain growth paths in general terms, but this criticism misses the point of the purposes of historical theory. All formal development models are necessarily selective and simplified views of a highly complex historical reality, and their key function is to isolate the relationship between specific causes and consequences of events. Although the innovatory theoretical framework here could not be called a formal model, it focuses on railways simply because they seemed more significant than any other factor in the sudden and rapid rise of Accrington and district as prosperous, independent and civilised urban communities. It is also intended to complement, rather than compete with, other developmental approaches which highlight variables and causal connections more appropriate in different contexts, and to widen the range of ideas available to researchers, rather than to monopolise conversation.

A different sort of objection to this developmental synthesis is that while it may seek to fulfil two purposes of historical hypotheses, description and explanation, it has no place for a third task: “scientific” prediction. If we could project it backwards into the 1840s, it could never have told contemporaries what would happen to Accrington once railways arrived. It would have been silent in anticipating the rise of both textile and brick making engineering to national and international significance, for example. This strand of criticism is associated with the tendency in economic history to seek to identify universal and immutable laws of human development akin to those in the natural sciences. Once the initial set of conditions are specified, scientific models should be able to predict accurately. However we may note that even in the “hard” physical sciences, prediction is not uniformly a necessary or even desirable feature of hypotheses now, and there is explicit recognition in some disciplines of complex systems characterised by uncertainty and indeterminacy at an elemental level. A

crucial characteristic of the theoretical framework here is its description of an open developmental process which was contingent on the interaction of human agency and the economic environment. The detailed “shape” of the developmental frontier can appear capricious, therefore, though the overall patterns are clear and stable. All that the historian can say is that certain broad kinds of development were more likely than other kinds within East Lancashire, for example that its economy would follow a manufacturing rather than agricultural path during the railway era. It is conceivable that the mathematically-inclined researcher could specify a probability function for various possible economic outcomes in the district, but this assumes we know all the opportunities and constraints facing historical agents. Therefore, the fact that the theoretical synthesis here has no predictive value is a strength, not a weakness, because this makes explicit the contingency and messiness of the developmental system. We might add that the formal neo-classical models which do claim to be able to predict outcomes in economic history, based on deductions from certain abstract assumptions about human behaviour, have been found most wanting in this research project, especially Fogel’s cliometric methodology.

#### **A comparative research agenda for developmental issues**

Although the conceptual framework of this project is specifically intended to illuminate the connections between railways and wider development patterns within East Lancashire, some aspects and implications of it may be useful and helpful to transport and economic historians researching similar themes and issues in other chronological and geographical contexts. The Accrington district has served as a highly unusual test-bed for theoretical enquiry and so clearly the detailed conclusions of this micro-study are very unlikely to be replicated elsewhere, but the hope is that there will be points of contact with other research projects, especially those focused on the development of northern England. Indeed the implications of some of the detailed evidential findings are potentially vast and far too numerous to be worked out within the confines of this micro-study. The interest also lies in whether the general innovations of the conceptual framework here have better descriptive and explanatory powers in other contexts than the orthodox models of development. Hence this section of the conclusion constitutes an extended plea for comparative historical inquiry into the precise role of railways and other transport modes in development. Were other frontier towns created by railways in this country, or have they been missed in the historical record? To what extent did other English railway companies function as development agencies for the districts they connected? Did rail-based “just-in-time” logistical systems operate outside Lancashire in the Victorian era? How common was bureaucratic corporate

organisation in the railway industry during the 1840s and 1850s, or was the ELR a unique early example of a small locally-based company with a modernised structure? Perhaps this thesis will provoke new questions to be asked about the developmental process and how railways and transport innovations generally function within specific economic landscapes.

A prospective agenda for wider comparative research into the relationships between transport and development may usefully be outlined here. To a great extent the brief case-studies of other railways in northern England which were outlined in the theoretical section served as counter-examples to the Accrington paradigm, showing how this comparative history might be done using features of the new developmental framework here. Three broad types of comparison could be pursued by historians to test the wider application of aspects of this synthesis – different places, different periods, different transport modes. In terms of geographical comparisons in northern England, we might expect to see similar rail-generated phenomena of rapid and complex industrialisation and urbanisation in the cotton and wool textile districts stretching eastwards from Preston through the whole of East Lancashire and into West Yorkshire as far as Bradford and Leeds. Like pearls stretched out on a string, towns developed in linear succession at multiple points along the west-east trans-Pennine transport corridor during the railway era, though the effects seem to have been most dramatic and concentrated in the Accrington district. Access to the lucrative trans-Pennine routes and their ports at either extremity (Liverpool and Hull) was a key factor in explaining development or the lack of it in northern England, as the three counter-examples in Chapter 7 of the “empty” districts adjacent to the West Coast line between Preston and Carlisle, Wensleydale in the Yorkshire Dales, and Queensbury in West Yorkshire illustrated. It may be recalled that even though the Wensleydale railway was a west-east Pennine route, it was not coast to coast and did not join any major economic centres, while Queensbury, though rail-connected at great expense, was not directly served by any major through route. In these cases railways had very limited positive effects on local economic development and indeed in the case of Wensleydale they seem to have accelerated demographic and industrial decline by acting as a siphon to suck resources out of the valley. Perhaps researchers could elaborate and extend these comparisons of the complex and sometimes unexpected impact of railways in northern England.

The conceptual framework of this research project has much less to say directly about the south-eastern region of England, simply because the economic and urban structures and the transport systems of the metropolis and its hinterland were utterly different from East



Lancashire in the railway era. Indeed this study challenges the widespread historiographical assumption that the experience of London, with its extensive surrounding rings of dormitory towns and agricultural supply settlements, its radial railway network and intensive suburban commuter services, should be reproduced throughout the country. Possibly some of the developmental concepts of this study have an indirect and tangential application to the South East by implying that where districts lacked a strong and independent economic base, they were likely to be annexed or absorbed by a powerful metropolitan centre which sucked in labour and other resources as rail networks were extended. Transport and economic historians researching London and its satellite towns would probably be better served by adaptation and refinement of the existing orthodox models of railways and development. One interesting comparison geographically closer to East Lancashire would be between the districts north and south of Manchester. Something like the South East's experience was generated in the prosperous suburbs and towns of south Lancashire and north Cheshire which were connected to Manchester by heavy commuting flows by railway from the late nineteenth century, but there was no extensive suburbanisation north of Manchester and towns like Accrington, Blackburn and Burnley remained independent of Manchester's urban system for many years during and beyond the railway era. Why did Victorian railways have diametrically opposite effects on development patterns around Manchester?

Chronological comparisons are also desirable to investigate the wider applicability and relevance of this project's developmental synthesis. It was created to explain how railways functioned in an era when they were the leading mode of inland transportation, which in the case of East Lancashire extended from the late 1840s to World War 1. It is likely that railways functioned in a different way in the inter-war era when their dominant position in freight traffic was challenged by competitive road haulage services, and the private motor car and bus services started to erode passenger revenues on some routes. In addition, it would be fascinating to explore the effects of the Grouping of British railway companies in 1923 on the developmental paths of the northern economies. The L & YR's west-east transport network (which included shipping services) perfectly complemented the trans-Pennine trade and commercial zone which integrated the economies of Lancashire and Yorkshire. However, the Grouping era bisected the L & YR's domain, roughly along the Pennine "spine", between the London, Midland and Scottish Railway (LMSR) serving Lancashire, and the London and North Eastern Railway (LNER) in the Yorkshire half. There were a few jointly-operated routes and services in northern England, but the L &

YR's distinctive inter-regional presence and strategic vision was lost and investment policy of the LMSR and LNER was determined by national priorities, especially in the case of the metropolitan-based LMSR. This fragmentation meant that railways did not function, as the L & YR had for many years, as a development agency for the whole of the trans-Pennine economic zone, and therefore it is likely that Grouping influenced institutional responses of railway companies to the structural decline of the staple industries in Lancashire and Yorkshire during the 1920s and 1930s. The legacy of the Grouping era was perpetuated in the regional structure of the nationalised British Railways/British Rail after World War 2, when short-sighted managers failed to perceive the importance of the strategic trans-Pennine routes and treated them as backwaters in their geographical domains. Consequently trans-Pennine passenger services were withdrawn in the BR era, routes were rationalised and denied new investment, and in 1970 the Colne-Skipton line was closed to all traffic, seriously disrupting communications between East Lancashire and West Yorkshire. It is inconceivable that in this myopic way the L & YR would have severed its own artery which channelled the lifeblood of the northern economies it served so well. In summary, the conceptual framework here invites detailed comparisons of the effects on developmental paths of factors peculiar to railway operations and structures in different periods. Within this framework, the timetable evidence for East Lancashire's passenger and freight services in Chapter 6 could be extended across the entire trans-Pennine corridor and into the Grouping and BR eras to model and analyse traffic flows and to determine whether the investment and commercial policies of railway companies were leading or lagging indicators for the health of the local economies they served.

Additionally, it might be an interesting exercise to test the application of aspects of the developmental concepts here to other modes of transport. Projecting backwards from the railway era, it seems that the Leeds and Liverpool canal was very significant for the early industrialisation of Blackburn, Burnley, Church and Oswaldtwistle within East Lancashire, though Accrington derived noticeably less benefit. As mainly a carrier of heavy, bulky and/or low-value commodities, it was particularly suitable for a local economy based on cotton textiles and coal, but with limited industrial diversification and range of markets served. Projecting forwards to the era of mass motorised communications, particularly after the arrival of motorways in the district in the mid-1980s, it is now evident that this mode of transport had negligible positive effects on local industrial development. It is a truism of transport studies that roads, viewed at a local level, tend to disperse residential patterns and encourage large out-of-town developments in retail and leisure services, whereas the

tendency of railways is to concentrate both settlement and industrial activity around transport hubs within urban centres. It must be stressed that this perspective misses the really important economic effect of the motorway era in East Lancashire, which was to encourage extensive intra-regional commuting flows to centres outside the immediate district, especially Manchester, and, to a considerably lesser extent, Preston. Hence the towns within East Lancashire are steadily being absorbed into Manchester's extended suburban ring system and are increasingly becoming economic dependencies of the dominant regional centre, though they still retain a large measure of political and administrative autonomy. Were these social and economic tendencies inherent in the technology of private motor vehicles themselves, which extended opportunities for individualised, point-to-point, mobility, or were they also contingent on the set of "pre-conditions" embedded in the local economic landscape, as our theoretical framework suggests? Detailed comparative studies of the canal, railway and motorised ages, within East Lancashire and beyond, would be necessary to clarify, test, and expand these suggestions into a workable developmental synthesis for other transport technologies.

It is also worth pointing out that the era when roads and private motor technology constituted the hegemonic mode of inland transportation, marginalising or totally eclipsing, especially in some rural areas, other modes, was a striking aberration in the long sweep of British transport history. The mass motorised age, which in Britain started generally in the early 1960s and which now shows unmistakable signs of approaching its end as it hits various implacable resource constraints, was quite unlike the railway era, roughly from the 1840s to World War 1. Railways, although the leading Victorian and Edwardian transport sector, never overwhelmingly dominated the scene to the exclusion of everything else. As we have seen in East Lancashire, the services provided through the canal and turnpike systems complemented and integrated with railways well, and it was vital to the efficient and effective functioning of the local economy that they did so. Why did railways and motor vehicles have these contrasting effects on other transport technologies, and what were the wider implications for economic development?

The empirical and theoretical conclusions of this thesis, therefore, constitute an invitation to historians in comparable fields to build on the foundations laid here, while others might seek to use them wisely for practical purposes also. Beyond any possible wider and indirect benefits of these conclusions, however, the hope is simply that the challenging and unfamiliar research topic of Accrington and the Hyndburn communities in the railway era,

and the detailed presentation of the picture of their unexpected progress, will have stirred a sense of historical wonder and imagination, and stimulated some new and searching questions to be asked of economic and urban development. A fearless respect for evidential truth, a willingness to challenge the fetters of inappropriate theory, an open-minded curiosity and an abiding capacity for surprise will be desirable qualities for pioneers in unexplored historical territory seeking to chart the influence of railways on development.

## BIBLIOGRAPHY

### **Primary Sources: Unpublished Manuscript**

#### *Railway companies in East Lancashire*

BB & AER/BBA & CER, Minutes of Proprietors, 1844-1845, RAIL 51/1, Public Record Office (PRO); Minutes of Committee of Management and Directors, 1844-1845, RAIL 51/2, PRO; Directors' Report, 28 July 1845, DDX DDBd/55/3 (in Richard Bolton's correspondence), Lancashire Record Office (LRO); 1844 sectional plans, PDR 158-159, 1845 deviation, PDR 196, bridge plans for Accrington-Colne route, DP 447 1/1-24, LRO.

B & PR, Minutes of Provisional Committee, 1844, RAIL 50/1; Minutes of Board of Directors and Proprietors, 1844-1846, RAIL 50/2; Contract plans for timber bridges over Lancaster Canal tramway and at Pleasington, field plans and longitudinal route sections, 1845, RAIL 50/3-4, all PRO.

MB & RR, Minutes of Proprietors, 1844-1845, RAIL 176/1; Directors' Minutes, 1844-1845, RAIL 176/5, all PRO.

ELR, Minutes of Proprietors, 1845-1859, RAIL 176/1-3; Directors' Minutes, 1845-1859, RAIL 176/5-14; Half-yearly Reports and Accounts, 1850-1858, RAIL 1116/1-7, all PRO.

L & YR, Half-yearly Reports and Accounts, 1858-59, RAIL 1116/8; Minutes of Directors and Proprietors and other records, 1847-1871(?), RAIL 343 series, all PRO.

Board of Trade Inspection Reports for ELR in MT 6 series, PRO, esp. Blackburn-Accrington, 22 June 1848, MT 6/5/57; Stubbins Junction-Accrington station, 17 Aug. 1848, MT 6/5/81; Blackburn and Burnley branches, 25 Sept. 1848, MT 6/5/102; Accrington Station, 1 Dec. 1849, MT 6/7/150.

#### *Local business records (non-rail)*

The Howard and Bulloughs' collection (textile engineering) in DDPSL 3 series, LRO, esp. balance sheet, expenditures and receipts, Jun.1893-Dec.1907, DDPSL 3/21/1; impersonal ledgers, 1871-1909, DDPSL 3/20/1; credit ledger, 1917-1930, DDPSL 3/31/1; Indian, Russian and Continental order book, Apr 1871-July 1906, DDPSL 3/4/1; inventory of

patents, July 1863-Dec 1887, DDPSL 3/38/3; Deed of Dissolution of Co-partnership, James Bleakley and John Howard, 24 Feb.1857, DDPSL 3/38/2; Deed of Co-partnership (for 7 years), John Howard and John Bullough, 16 Apr. 1863, DDPSL 3/36/1.

Hitchon Gear and Automobile Co. Ltd., balance sheets, 1905, DDPSL 3/38/27, LRO.

Christopher Whittaker & Co. Ltd., brick making engineering records in DDX 1219 series, LRO, esp. folders of loose plans produced for the Accrington Brick and Tile Co., n.d., DDX 1219/2/65, and overseas customers, DDX 1219/1. Other engineering records of Whittakers at LRO, not fully catalogued yet, include plans and detailed drawings of tandem compound steam engine for Sykeside Mill, Haslingden, 1907, DDX 2098/8163, see also DDX 1866/6877 and DDX 1862/9469, etc.

Martholme Colliery, Sales Ledgers, 1866-67, CYC 2/17, LRO.

Great Harwood Colliery, Sales Ledgers, 1865-67, CYC 2/18, LRO.

George Hargreaves and Co. Ltd (coal mining), Revenue Account, Accrington District, 1895-1921, NCHa 1/1; Coal Ledger, Rossendale and Baxenden, 1870-1890, NCHa 2/1; Coal Account, Accrington District, Apr 1916-1932, NCHa 2/2, all LRO.

Bury Brothers (cotton textiles), Private Ledger, 1866-1923; Private Stock Book, 1901-1923; General Trade Account, Jun 29, 1907– Feb 27, 1915, DDX 812 series, LRO.

### **Primary Sources: Printed or Published**

#### ***Share Prospectuses:***

B & PR Prospectus, 12 Dec 1843, DDX 116/36, LRO.

BB & AER (Extension Railway) Prospectus published in *Manchester Guardian*, May 8 1844, and *Manchester Courier*, May 11 1844 (See Appendix D).

MB & RR Prospectus, 7 Dec 1843, DDX 118/12, LRO.

#### ***Maps:***

Airey's Railway Maps, Lancashire & district, RAIL 1032/98, PRO.

Bacon's County Map and Guide to Lancashire for Cyclists and Tourists, n.d., c. 1905.

EDINA Digimap database of historical OS maps. © Crown Copyright and Landmark Information Group Limited, 2009. All rights reserved.

Geological Map: Rochdale, Sheet 76, 1 inch/mile (OS published for Institute of Geological Sciences, 1971).

Google Earth database of satellite images for Lancashire and northern England © 2009.

Greenwood's Map of Lancashire, c. 1818, LRO, available on-line at

[www.lancashire.gov.uk/environment/oldmap/greenwood/](http://www.lancashire.gov.uk/environment/oldmap/greenwood/).

OS Sheets, Accrington, 1844-48, 1890-91, 1909, 6 inch: 1 mile series, Local Studies Collection, Accrington Public Library.

OS Landranger Map 103, Blackburn & Burnley, 1:50,000 scale (Southampton, 2003).

Yates' Map of Lancashire, c. 1786, LRO, available on-line at

[www.lancashire.gov.uk/environment/oldmap/yates/](http://www.lancashire.gov.uk/environment/oldmap/yates/).

#### ***Trade Directories:***

E. Baines: *History, Directory and Gazetteer of the County Palatine of Lancaster*, 2 vols. (Liverpool, 1825).

Barrett's *Directory of Blackburn and District*, 1878-1912.

Heap's *Directory of Bury*, 1850.

Pigot & Co's *National Commercial Directory, 1828-29 - Cumberland, Lancashire, Westmoreland* (Manchester, 1829).

Rogerson's *Directory of Bury*, 1818.

Slater's *Commercial Directory for Lancashire*, 1848-1882.

Worrall's *Directory of Bury & Bolton*, 1871.

#### ***Railway Timetables:***

Bradshaw's *Railway Guide*, Oct 1848, Nov/Dec 1869, Aug 1887, April 1910.

ELR 1848 & 1858 Timetables, RAIL 981/73 & 981/74, PRO.

L & YR Working Timetable, 1 Nov 1869, National Railway Museum (NRM).

L & YR Working Timetable, Oct 1905, for Rose Grove-Blackburn line, in K.D Westall: *The North Lancs Loop* (L & YR Society Branchline Series No 10, 1993).

#### ***Local and Provincial Newspapers (on micro-film):***

*Accrington Gazette*, Accrington Public Library.

*Accrington Observer (and Times)*, Accrington Public Library.

*Accrington Times*, Accrington Public Library.

*Blackburn Standard*, Blackburn Public Library.

*Blackburn Times*, Blackburn Public Library.

*Manchester Courier*, Manchester Central Library.

*Manchester Guardian*, Manchester Central Library.

*Preston Guardian*, Harris Library, Preston.

***Photographs and Illustrations:***

Photographs, lithographs, and other printed illustrations of Accrington district in Local Studies Collection, Accrington Public Library.

Railway photographic archive, esp. of ELR locomotives and Accrington station, in Horwich collection (binders 41 and 144), NRM.

***Census data:***

Census Reports for Lancashire, British Parliamentary Papers, 1801-1931.

Census Enumerators' Returns for Accrington in 1851, available on micro-film and extracted in Holmes' *1851 Census Index for Old and New Accrington* (Accrington, 1995).

Lancashire Census on CD-ROM, 1891, UCLAN Library, Preston.

Religious Census of 1851, England and Wales, British Parliamentary Papers, 1852-1853.

***Miscellaneous:***

B.J. Babbage: *Report to the General Board of Health: The Townships of Old and New Accrington* (London, 1850).

Board of Trade Railway Accident Reports, 1860, NRM.

Catalogue of Howard and Bullough American Machine Co., Accrington Public Library.

Illustrated Catalogue of Cotton Preparing, Spinning, Doubling and Manufacturing Machinery made by Howard & Bullough Ltd. (Accrington, 1900), DDPSL 3/37/3, LRO.

Illustrated Catalogue of Brick, Tile and Pipe-making Machinery, C. Whittaker & Co. Ltd., Accrington Public Library.

Hitchon Gear and Automobile Co. Ltd., 1905, 4-page leaflet advertising the Hitchon Weller car, DDPSL 3/38/27, LRO.

Memorandum and Articles of Association of Accrington Brick and Tile Company Ltd., Accrington Public Library.

Plan of the Haslingden Wesleyan Circuit, 1822, in Methodist Collection at John Rylands Library, Manchester.



## Secondary Sources

### ***Published Books:***

- Richard Ainsworth: *The Old Homesteads of Accrington and District* (Accrington, 1928)
- J.S. Allen and R.H. Mattocks: *Industry and Prudence: A Plan for Accrington* (Borough of Accrington, 1950)
- Michael Anderson: *Family Structure in Nineteenth-Century Lancashire* (Cambridge University Press, 1971)
- Stephen Aris: *Going Bust: Inside the Bankruptcy Business* (Andre Deutsch, London, 1985)
- Christopher Awdry: *Encyclopaedia of British Railway Companies* (Guild Publishing, London, 1990)
- P. Bagwell and P. Lyth: *Transport in Britain: From Canal Lock to Gridlock* (Hambledon & London, London, 2002)
- John T. Baron: *A Cotton Town Chronicle* (Accrington, 1978)
- Gordon Biddle: *Britain's Historic Railway Buildings: An Oxford Gazetteer of Structures and Sites* (Oxford University Press, 2003)
- Geoffrey Body: *Great Railway Battles – Dramatic Conflicts of the Early Railway Years* (Silver Link Publishing, Peterborough, 1994)
- H.A.V. Bulleid: *The Aspinall Era* (Ian Allen Ltd, Shepperton, 1967)
- Mark Casson: *Entrepreneurship and Business Culture: Studies in the Economics of Trust, Vol. 1* (Edward Elgar, London, 1995)
- Mark Casson & Mary B. Rose (eds.): *Institutions and the Evolution of Modern Business* (Frank Cass, London, 1998, paperback edn.)
- A. D. Chandler: *Railroads: The Nations First Big Business* (Columbia University Press, New York, 1965)
- A. D. Chandler: *The Visible Hand: The Management Revolution in American Business* (Harvard University Press, Massachusetts, 1977)
- Walter Christaller: *Central Places in Southern Germany* (Prentice Hall, New Jersey, 1966, translated edition, originally published in German, 1933)
- Mike Clarke: *The Leeds & Liverpool Canal: A History and Guide* (Carnegie Press, Lancaster, 1990)
- Nick Crafts: *British Economic Growth during the Industrial Revolution* (Oxford University Press, 1985)
- R.S. Crossley: *Accrington Captains of Industry* (Accrington, 1930)

- R.S. Crossley: *Chronological Notes and Men of Mark* (Accrington, 1924)
- Francois Crouzet: *The Victorian Economy* (Methuen, London, 1982)
- W.B. Crump: *Ancient Highways of Halifax Parish*, vols. 1-8 (Halifax Antiquarian Society, 1924-1928)
- W.B. Crump: *Huddersfield Highways down the ages* (Tolson Memorial Museum, Huddersfield, 1949)
- Ronald Y. Digby & Alice Miller (ed.): *An Accrington Miscellany* (Borough of Accrington, 1970)
- Colin Divall: "Going Places? Visitors, Enthusiasts and the Public History of Transport", inaugural address as Professor of Institute of Railway Studies, York, 1999, available on-line at [www.york.ac.uk/inst/irs/irshome/~qpers/inaugural.htm](http://www.york.ac.uk/inst/irs/irshome/~qpers/inaugural.htm)
- H.J. Dyos: *Victorian Suburb: A Study of the Growth of Camberwell* (Leicester University Press, 1961)
- H. J. Dyos & D. H. Aldcroft: *British Transport: An Economic Survey from the Seventeenth Century to the Twentieth Century* (Leicester University Press, 1969)
- H.J. Dyos & M. Wolff: *The Victorian City: Images & Realities*, 2 vols. (Routledge, London, 1973)
- Alan Earnshaw: *Pennine Branch Lines* (Ian Allen Publishing, Shepperton, 1993)
- Cliff Edwards: *Railway Records: A Guide to Sources* (Public Record Office, London, 2001)
- Richard J. Evans: *In Defence of History* (Granta Books, London, 1997)
- Robert W. Fogel: *Railroads and American Growth* (John Hopkins Press, Baltimore, 1964)
- John Goddard: *The King's Highway* (Hyndburn Local History Society pamphlet, 1993)
- Denis Griffiths: *Locomotive Engineers of the GWR* (Guild Publishing, London, 1988)
- Denis Griffiths: *Locomotive Engineers of the LMS and its Major Constituent Companies* (Patrick Stephens Ltd., Yeovil, 1991)
- Christine Hallas: *The Wensleydale Railway* (Great Northern Books, Ilkley, 2002, 3<sup>rd</sup> edn.)
- S. Halstead & C. Duckworth (eds): *Aspects of Accrington* (Wharcliffe Books, Barnsley, 2000)
- C. Hamilton-Ellis: *British Railway History* (Allen & Unwin, London, 2 vols., 1954, 1959)
- Brian Haresnape: *Bulleid Locomotives* (Ian Allen, Shepperton, revised edition, 1985)
- G.R. Hawke: *Railways and Economic Growth in England and Wales, 1840-1870* (Oxford University Press, 1970)
- Mac Hawkins: *The Somerset & Dorset Then & Now* (David & Charles, Newton Abbot, 1995)
- Peter Hesketh: *Trams in the North West* (Ian Allan Publishing, Shepperton, 1995)

- D. Hogg: *A History of Church and Oswaldtwistle, 1760-1860 and 1860-1914* (Local History Society, Accrington, 1971)
- Pat Hudson: *The Industrial Revolution* (Edward Arnold, London, 1992)
- Pat Hudson (ed.): *Regions and industries: a perspective on the Industrial Revolution in Britain* (Cambridge University Press, 1989)
- Walter Holmes: *1851 Census Index for Old and New Accrington* (Accrington, 1995)
- G.O. Holt: *A Regional History of the Railways of Great Britain, vol. 10: The North West* (David & Charles, Newton Abbot, 1978)
- C. Humphery-Smith (ed.): *The Phillimore Atlas and Index of Parish Registers* (Phillimore, Chichester, 1995)
- F.K. Illingworth: *History of Coke-Making in NE Lancashire* (Accrington, n.d.)
- M. Jackson: *The Accrington Mudstones: A Field Study* (Accrington, 1973)
- David Joy: *A Regional History of the Railways of Great Britain, vol. 14: The Lake Counties* (David & Charles, Newton Abbot, 1990)
- Alan Jowett: *Jowett's Railway Atlas of GB & Ireland* (Guild Publishing, London, 1989)
- John R. Kellett: *The Impact of Railways on Victorian Cities* (Routledge, London, 1969)
- A.G. Kenwood & A.L. Lougheed: *The Growth of the International Economy, 1820-1990* (Routledge, London, 1992, 3rd edn.)
- J. Lane & D. A. Anderson: *Mines and Miners of S. Lancashire, 1870-1950* (Anderson & Lane, Parbold, n.d.)
- R.G. Lipsey & K.A. Crystal: *Principles of Economics* (Oxford University Press, 1999, 9<sup>th</sup> edn.)
- Alfred Marshall: *Industry and Trade* (London, 1919)
- Alfred Marshall: *Principles of Economics* (London, 1920, 8<sup>th</sup> edn.)
- John Marshall: *The Lancashire & Yorkshire Railway*, 3 vols. (David & Charles, Newton Abbot, 1969-1972)
- Eric Mason: *The Lancashire & Yorkshire Railway in the Twentieth Century* (Ian Allan Ltd., Shepperton, 1961)
- A.J. Mullan: *Streamlined Steam – Britain's 1930s Luxury Expresses* (David & Charles, Newton Abbot, 1994)
- Alistair Munch: *Rural Life in South-West Lancashire, 1840-1914* (Centre for North-West Regional Studies, University of Lancaster, 1988)
- J. Nadin: *Coal Mines around Accrington and Blackburn* (Northern Mine Research Society, Keighley, 1999)

- Rev B. Nightingale: *Centenary History of the Lancashire Congregational Union* (Manchester, 1906)
- O.S. Nock: *Railway Race to the North* (David & Charles, Newton Abbot, 1958)
- O.S. Nock: *The Settle and Carlisle Railway* (Patrick Stephens Ltd., Yeovil, 1992)
- Douglass C. North: *Growth and Welfare in the American Past: A New Economic History* (Prentice Hall, New Jersey, 1966)
- Paul Ormerod: *Butterfly Economics* (Faber & Faber, London, 1998)
- George Ottley: *A Bibliography of British Railway History* (HMSO, London, 1983, 2<sup>nd</sup> edn.)
- W. Pateman: *Dunshaw: A Lancashire Background* (Museum Press, London, 1948)
- Roy Peacock: *A Brief History of Eternity* (Monarch Publications, Eastbourne, 1990)
- Harold Perkin: *The Age of the Railway* (David & Charles, Newton Abbot, 1971)
- Sidney Pollard: *Peaceful Conquest: The Industrialisation of Europe, 1760-1970* (Oxford University Press, 1981)
- J. Randall: *Women in Industrialising Society: England, 1750-1880* (Oxford University Press, 1990)
- A. Redford: *Labour Migration in England* (Manchester University Press, 1926)
- M. Robbins: *The Railway Age* (Routledge & Kegan Paul, London, 1962)
- L.T.C. Rolt: *Isambard K. Brunel* (Longmans, London, 1957)
- L.T.C. Rolt: *Thomas Telford* (Longmans, London, 1958)
- L.T.C. Rolt: *George and Robert Stephenson* (Longmans, London, 1960)
- L.T.C. Rolt: *The Landscape Trilogy* (Sutton Publishing, Stroud, 2001)
- L.T.C. Rolt: *Red For Danger* (John Lane The Bodley Head, London, 1955, 1<sup>st</sup> edn., Sutton Publishing, Stroud, 1998 reprint)
- Mary B. Rose: *Firms, Networks and Business Values: The British and American Cotton Industries since 1750* (Cambridge University Press, 2000)
- Mary B. Rose (ed.): *The Lancashire Cotton Industry: A History since 1700* (Lancashire County Books, Preston, 1996)
- W.W Rostow: *The Stages of Economic Growth: A Non-Communist Manifesto* (Cambridge University Press, 1960, 1<sup>st</sup> edn., 1971, 2<sup>nd</sup> edn.)
- Mike Rothwell: *The Oswaldtwistle Cotton Industry, 1760-1960* (Accrington, 1974)
- Mike Rothwell: *Industrial Heritage: A Guide to the Industrial Archaeology of Accrington* (Accrington, 1979)
- Mike Rothwell: *Industrial Heritage: A Guide to the Industrial Archaeology of Blackburn* (Hyndburn Local History Society, 1986)

- R.W. Rush: *Accrington's Public Transport, 1886-1986* (Landy Publishing, Blackpool, 2000)
- R. W. Rush: *The Tramways of Accrington, 1886-1932* (Light Railway Transport League, London, 1961)
- R. W. Rush: *The East Lancashire Railway* (The Oakwood Press, 1983)
- David St. John Thomas & Patrick Whitehouse: *The Trains We Loved* (David & Charles, Newton Abbot, 1994)
- Roger Scola: *Feeding the Victorian City – the Food Supply of Manchester, 1770-1870* (Manchester University Press, 1992)
- G. Sellers: *Walks on the West Pennine Moors* (Cicerone Press, Milnthorpe, 1983, revised)
- J. Simmons: *The Railway in Town and Country, 1830-1914* (David & Charles, Newton Abbot, 1986)
- J. Simmons: *The Railways of Britain* (Macmillan, London, 1986, 3<sup>rd</sup> edn.)
- J. Simmons: *The Victorian Railway* (Thames & Hudson, London, 1991)
- J. Simmons & G. Biddle (eds.): *The Oxford Companion to British Railway History* (Oxford University Press, 1997)
- John W. Singleton (ed.): *Jubilee Souvenir of the Corporation of Accrington, 1878-1928* (Accrington, 1928)
- D.N. Smith: *The Railway and its Passengers* (David & Charles, Newton Abbot, 1988)
- J.P. Smith: *The Genealogists' Atlas of Lancashire* (Henry Young & Sons, Liverpool, 1930)
- Paul Smith: *The Handbook of Steam Motive Power Depots, Vol 3: North Midlands, Lancashire and Yorkshire* (Platform 5 Publishing, Sheffield, 1990)
- Jon Stobart: *The First Industrial Region: North-West England, c.1700-60* (Manchester University Press, 2004)
- E. Stones: *The Development of Education in Accrington, 1790-1903* (Accrington, 1957)
- John T. Swain: *Industry before the Industrial Revolution: North-East Lancashire, c. 1500-1640* (Chetham Society, Vol. 32, Manchester University Press, 1986)
- Stuart Taylor: *Journeys by Excursion Train from East Lancashire, Part One: Colne, Nelson, Burnley, Accrington & Blackburn* (Foxline Publishing, Romiley, 1995)
- L.W.Thomason: *The Growth & Decline of the Blackburn Coal Industry* (Blackburn, n.d.)
- G. Timmins: *Made in Lancashire: A History of Regional Industrialisation* (Manchester University Press, 1998)
- A.E. Trueman: *Geology and Scenery in England and Wales* (Pelican Books, Harmondsworth, 1972, revised edn.)

- G.H. Tupling: *The Economic History of Rossendale* (Chetham Society, Manchester, 1927)
- William Turner: *Pals: The 11th (Service) Battalion (Accrington), East Lancashire Regiment* (Leo Cooper, Pen & Sword Books Ltd., Barnsley, 1993)
- John K. Walton: *Lancashire: A Social History, 1558-1939* (Manchester University Press, 1987)
- John K. Walton: *The English Seaside Resort: A Social History, 1750-1914* (Leicester University Press, 1983)
- John K. Walton: *Wonderlands by the Waves: History of the Seaside Resorts of Lancashire* (Lancashire County Books, Preston, 1992)
- John K. Walton: *The British Seaside: Holidays and Resorts in the Twentieth Century* (Manchester University Press, 2000)
- Max Weber: *The Protestant Ethic and the Spirit of Capitalism* (Unwin Hyman, London, 1930, translated edition, originally published in German, 1905)
- K.D. Westall: *The North Lancs Loop* (L & YR Society Branchline Series No 10, 1993)
- William Westall: *The Old Factory: A Lancashire Story* (Chatto & Windus, London, 1899)
- Phil Whalley: *Accrington Stanley F.C.* (Tempus Publishing, Stroud, 2001)
- T.R. Whisler: *The British Motor Industry, 1945-1994* (Oxford University Press, 1999)
- H.P. White: *A Regional History of the Railways of Great Britain, vol. 2: Southern England* (David & Charles, Newton Abbot, 1982)
- H.P. White: *A Regional History of the Railways of Great Britain vol. 3: Greater London* (David & Charles, Newton Abbot, 1971)
- C. Richard Wilby: *Railways around East Lancashire* (Wyvern Publications, Skipton, 1983)
- Rev. C. Williams: *Jubilee Memorial of Accrington Mechanics Institute* (Accrington, 1895)
- William Woodruff: *The Road to Nab End* (Abacus, London, 2002)

***Journal and Book Articles:***

- G.A. Akerlof: "The Market for Lemons: Quality Uncertainty and the Market Mechanism", *Quarterly Journal of Economics*, Aug. 1970 (88)
- Derek Aldcroft: "The Railway Age", *Refresh*, no.13 (University of York, autumn 1999), available on-line at [www.ehs.org.uk/society/pdfs/Aldcroft%2013b.pdf](http://www.ehs.org.uk/society/pdfs/Aldcroft%2013b.pdf)

- Maxine Berg and Pat Hudson: "Rehabilitating the Industrial Revolution", *Economic History Review*, Vol. 45, No. 1, Feb. 1992
- Dan Bogart: "Turnpike trusts and property income: new evidence on the effects of transport improvements and legislation in eighteenth-century England", *Economic History Review*, vol. 62, Feb. 2009
- Stephen Caunce: "Urban systems, identity and development in Lancashire and Yorkshire: a complex question", in Neville Kirk (ed.): *Northern Identities: Historical Interpretations of the North and Northernness* (Ashgate Publishing, Aldershot, 2000)
- P.J. Hudson and L. Gregory: "Brickmaking in Accrington", *Lancashire History Quarterly*, vol.3, no.2, Jun. 1999
- John R Kellett: "Writing on Victorian Railways - an Essay in Nostalgia", *Victorian Studies*, Sept. 1969
- Bob Mills: "Train Control and Passenger Workings on the Lancashire & Yorkshire Railway", *LYR Focus*, no. 64 (L & YR Society, 2007)
- Philip Payton: "An English Cross-country Railway: Rural England and the Cultural Reconstruction of the Somerset and Dorset Railway", in Colin Divall (comp.): *Railway, Place and Identity* (Working Papers, Institute of Railway Studies, 1997)
- Colin G. Pooley & Jean Turnbull: "Migration and mobility in Britain from the eighteenth to the twentieth centuries", *Local Population Studies*, no. 57, autumn 1996
- John Ransom: "The Geology of Accrington and District", in John W. Singleton (ed.): *Jubilee Souvenir of the Corporation of Accrington, 1878-1928* (Accrington, 1928)
- George Revill: "Migration, mobility and community: Midland Railway headquarters and the railway suburb of Derby, 1850-1890", in Colin Divall (comp.): *Railway, Place and Identity* (Working Papers 2, Institute of Railway Studies, 1997)
- Suzanne Schwartz: "Economic Change in North-East Lancashire, c.1660-1760", *Transactions of the Historic Society of Lancashire and Cheshire*, Vol. 144, 1994
- Lynton J. Smith: "The Impact of the Liverpool and Manchester Railway on a South Lancashire township: Newton-le-Willows, 1821-1851", *Transactions of the Historic Society of Lancashire and Cheshire*, Vol. 114, 1979
- J. Stobart: "Regional Structure and the Urban System: North-West England, 1700-1760", *Transactions of the Historic Society of Lancashire and Cheshire*, Vol. 145, 1995
- G. Timmins: "Techniques of Easing Road Gradients during the Industrial Revolution: A Case Study of Textile Lancashire", *Industrial Archaeology Review*, XXV (2), Nov. 2003

G. Timmins: "Paving the Way: Advances in Road-building Techniques in Lancashire, 1770-1870", *The Journal of Transport History*, vol. 26, March 2005

Steve Toms: "Windows of Opportunity in the Textile Industry: The Business Strategies of Lancashire's Entrepreneurs, 1880-1914", *Business History*, Vol. 40, No. 1, Jan 1998

Steve Toms and Igor Filatotchev: "Corporate Governance, Business Strategy and the Dynamics of Networks: A Theoretical Model and Application to the British Cotton Industry, 1830-1980", *Organization Studies*, Vol. 25, No. 4, May 2004

Frederick J. Turner: "The Significance of the Frontier in American History", *Annual Report to the American Historical Association* (Chicago, 1893), available on-line at <http://xroads.virginia.edu/~Hyper/TURNER/>

William Turner: "Patterns of migration of textile workers into Accrington in the early nineteenth century", in D. Mills & K. Schurer (eds): *Local Communities in the Victorian Census Enumerators' Books* (Leopard's Head Press Ltd, Oxford, 1996)

John K. Walton: "Recent Work on the History of Lancashire and Cheshire since the late eighteenth century", *Transactions of the Historic Society of Lancashire and Cheshire*, Vol. 146, 1996

***Theses and Dissertations:***

F. Peter Atkinson: *Common Elements in the Urban Morphology of Three Lancashire Mill Towns* (M.Phil. thesis, University of Nottingham, 1972)

Margaret Clegg: *A Study of the Changing Industrial Structure in Two Cotton Towns: Accrington and Darwen* (University of Liverpool dissertation, n.d.)

Rosine Hart: *Financing Lancashire's Industrial Development* (Ph.D. thesis, University of Central Lancashire, 2006)

Mark A. Haydock: *Oak Street Congregational Church, 1838-1964: A Spiritual Journey* (M.A. thesis, University of Sheffield, 1986)

D.A.J. Livesey: *The Textile Engineering Industry of NE Lancashire* (Cambridge University thesis, n.d., c. 1950s)

D. Mercer: *The Industrial Development of Accrington* (De la Salle Training College dissertation, Manchester, n.d.)

C.P. Meredith: *Transport Developments in East Lancashire, 1780-1860* (M.A. thesis, University of Manchester, 1978)

Ken Tindall: *The Growth and Development of an Industrial Cotton Town* (R.I.B.A. thesis, 1943)



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**APPENDIX A: CHRONOLOGY OF COTTON TEXTILES SITES BUILT  
IN ACCRINGTON AREA, 1780-1914**

<i>Built</i>	<i>Name of Textiles Site</i>	<i>Successive Functions</i>	<i>Ceased</i>	<i>OS Ref.</i>
Pre-C19	Madder (Woolhurst) Mill	Fulling, spinning, dyestuffs grinding	1850s	SD 765 281
Pre-C19	Scaitcliffe Printworks	Carding, calico printing, spinning	c.1836	SD 759 283
Pre-C19	Baxenden Printworks	Carding, printing/bleaching, dyeing		SD 776 259
Pre-C19	Rothwell Mill (Lower)	Fulling/dyeing, bleaching, chemicals	1913	SD 760 272
Pre-C19	Rothwell Mill (Higher)	Dyeing (from 1863)	1902	SD 761 271
Pre-C19	Whitcroft Bleachworks	Fulling, bleaching, printing/dyeing	1913	SD 770 265
Pre-C19	Duke Street Mill	Carding/spinning	c.1820	SD 761 285
Pre-C19	Shoe Mill	Carding/spinning, weaving (1850s)	1860	SD 766 266
Pre-C19	Woodnook Mill	Carding/spinning, weaving, finishing		SD 760 277
Pre-C19	Lower Grange Mill	Carding/spinning, weaving	1925	SD 761 283
1792	Broad Oak Printworks	Bleaching, calico printing/finishing	1970	SD 767 279
c.1795	Plantation Mill Printworks	Fulling, calico printing	1934	SD 774 287
c.1807	Hagg Bleachworks	Bleaching, chemicals, dyeing/printing	1934	SD 752 289
1821	Higher Grange Mill	Integrated spinning/weaving	1867	SD 763 282
1834-37	Broad Oak Mill	Integrated spinning/weaving	1929	SD 759 283
1836-43	Union Buildings Mill	Integrated spinning (to 1893)/weaving	1932	SD 759 287
c.1843	Holme Mill	Weaving	1928	SD 757 288
1844-50	Spring Mill	Integrated spinning (to 1887)/weaving	1929	SD 760 286
1847	Pleck (Progress) Mill	Integrated spinning/weaving, doubling	1936	SD 761 287
1849-50	Fountain Old Mill	Weaving	1899	SD 756 283
1850	Commercial Mill	Integrated spinning (to 1886)/weaving	1897	SD 757 282
1850	Scaitcliffe Mill	Integrated spinning (to 1931)/weaving	1932	SD 758 282
1851-52	Park Mill	Weaving	1959	SD 764 286
1852	Hyndburn Mill	Integrated spinning/weaving	1916	SD 756 288
1853	Paxton Mill	Weaving	1927	SD 755 285
1853	Willows Mill	Weaving (to 1886), textile engineering	1896	SD 754 284
1853-54	Highbrake Mill	Integrated spinning/weaving	1941	SD 772 306
1854	Alliance Mill	Integrated spinning/weaving	1962	SD 774 261
1854	Hillock Vale Mill	Weaving	1926	SD 771 296
1853-54	Melbourne Mill	Weaving	1936	SD 763 288
1855-56	Royal Mill	Weaving	1929	SD 757 281
c.1856	Heifer Bank Mill	Weaving	1930	SD 763 287
1856	Victoria Mill (Baxenden)	Weaving	1962	SD 775 260
1856-60	Victoria Mill (Accrington)	Integrated spinning (to 1912)/weaving	1962	SD 759 280
c.1860	Spring Hill Mill	Weaving	1930	SD 746 279
1860	Albert Mill	Weaving	1930	SD 757 281
1861-62	Bradshaw Street Mill	Integrated spinning/weaving	1890	SD 762 289
1862-68	Oak Vale Mill	Weaving (built by PLC)	1936	SD 768 277
1862-90	Woodnook Spinning Mills	Spinning (2 units built by PLC)	1936	SD 759 278
1865	Milnshaw (Albion) Mill	Weaving	1930	SD 758 289
1866	Perseverance Mill	Weaving	1968	SD 761 283
1876-77	Ellesmere Mill	Weaving	1960	SD 759 280
1878-79	Lodge Mill	Weaving	1936	SD 758 281
1885-86	Wellington Shed	Weaving (extension to Lower Grange)	1929	SD 761 283
1890	Union Mill	Weaving	1964	SD 746 281
1899-00	Fountain New Mill	Weaving	1959	SD 753 287
1905	Peel Mill	Weaving (built by PLC)	1959	SD 755 291
1912-13	Queen Mill	Weaving (built by PLC)	1964	SD 765 293
1912-13	Hambledon Mill	Weaving (built by PLC)	1977	SD 761 296

*Source: Mike Rothwell: Industrial Heritage: A Guide to the Industrial Archaeology of Accrington (Accrington, 1979).*



## **APPENDIX C: PROSPECTUS OF EXTENSION RAILWAY (BB & AER), 1844**

“Blackburn, Burnley and Accrington Extension Railway to join the Manchester, Bury and Rossendale Railway near Haslingden. Capital £400,000 in shares of £25 each. Deposit £2 10s per share.

### **Provisional Committee**

Peregrine Edward Towneley, Esq., Townley Park, near Bury. William Turner, Esq., Flaxmoss House, near Haslingden. Edward Peel Thomson, Esq., Primrose, Clitheroe. John Grundy Jnr., Esq., Belle Vue, near Bury. John Brooks, Esq., Sunnyside, Rossendale. Samuel Ashton, Esq., Woodhill, near Manchester. John Robinson Kay, Esq., Limefield, near Bury. William Brocklehurst, Esq., Colthurst, near Clitheroe. Thomas Ashton, Esq., Bashull Lodge, near Clitheroe. George Hardman, Esq., Oak Hill, near Rawtenstall. Richard Hacking, Esq., Heaton Grove, near Bury. Thomas Wrigley, Esq., Timberhurst, near Bury. (With power to add to their number).

**Bankers:** The Bury Banking Company, Bury.

**Consulting Engineer:** John Hawkshaw, Esq., FGS., Manchester.

**Acting Engineer:** C E Cawley, Esq., of Manchester

**Solicitors:** Messrs T A & J Grundy, Bury.

This railway is projected for the purpose of connecting the populous towns of Blackburn, Burnley, Accrington, Clitheroe, Colne and Whalley with the town of Manchester, by a junction with the Manchester, Bury and Rossendale Railway, near Haslingden, and to those at all acquainted with the extent of population and number of manufactories which the proposed railway would accommodate, little need to be said to demonstrate its desirableness. The towns of Blackburn, Burnley and Accrington and the district immediately surrounding them comprise a population of at least 90,000 persons, principally engaged in the cotton, woollen, calico printing, bleaching and dyeing trades, and have now a large traffic with Manchester, Liverpool and the rest of the Kingdom, for which there is at present no means of transit save by hilly and inconvenient roads and a very circuitous canal navigation. Each year increases the extent of this traffic and if the resources of the district

were fully developed by improved means of communication, it would be difficult to calculate its future amount.

Six miles north of Burnley is the town of Colne, the centre of a population of upwards of 20,000 inhabitants employed in manufactures, which might easily be connected with the proposed railway. Colne is situated on the borders of a fine grazing country and forms a point of communication for the transit of sheep and cattle continually passing to the manufacturing districts of Lancashire, especially to the Manchester market. Clitheroe, another manufacturing town, eight miles north of Accrington, with upwards of 6,000 inhabitants in the town alone, is known as a place furnishing a large supply of lime to Manchester and the intervening Lancashire towns from the valuable and inexhaustible bed of limestone on the banks of the River Ribble. In the neighbourhoods of Accrington, Burnley and Colne are valuable mines of freestone, slate, etc.

The projectors, in addition to the primary object of connecting this manufacturing and mineral district by the junction before mentioned with Manchester, the great market for the manufactures of Lancashire, feel satisfied that a project which will secure a direct and economical communication for a population of upwards of one hundred and twenty thousand inhabitants with the port of Liverpool and the manufacturing towns of South Lancashire and at the same time, by means of the proposed Blackburn and Preston Railway, form a connection with the port of Fleetwood and the towns in the western parts of Lancashire, is an undertaking which will secure public support.

The proposed extension will require the making of about seventeen miles of railway; and the projectors have already had such steps taken as enable them to state that they apprehend no difficulties in the nature of the country through which the proposed line will pass, to prevent the construction of an economical railway, and confidently anticipate that the traffic which this railway will command will be abundantly sufficient to secure an ample return for the capital required for its formation – however accurate estimates of the cost, and correct table of the traffic, will be prepared, and shortly submitted to the public.

The subscribers will be required to pay the deposit of £2 10s per share on allotment, in order to enable the company to comply with the standing orders of Parliament. Each subscriber must sign the usual parliamentary contract and subscribers' agreement when called upon to do so. The liabilities of the shareholders will be limited by the Act of

Parliament to the amount of their shares. Application for shares may be made in the subjoined form to the solicitors, Messrs T A & J Grundy, Union Street, Bury, Lancs.”

### **Form of Application**

The Provisional Committee of the Blackburn, Burnley and Accrington Extension Railway Company.

I request that you will allot to me ..... shares in this company on the terms named in the prospectus; and I undertake to take the same, or such portion thereof, as may be allotted to me, to pay the deposits thereon, and to execute, when thereunto required, the parliamentary contract and subscribers' agreement.

Dated this ..... day of 1844.

Signature.....

Description.....

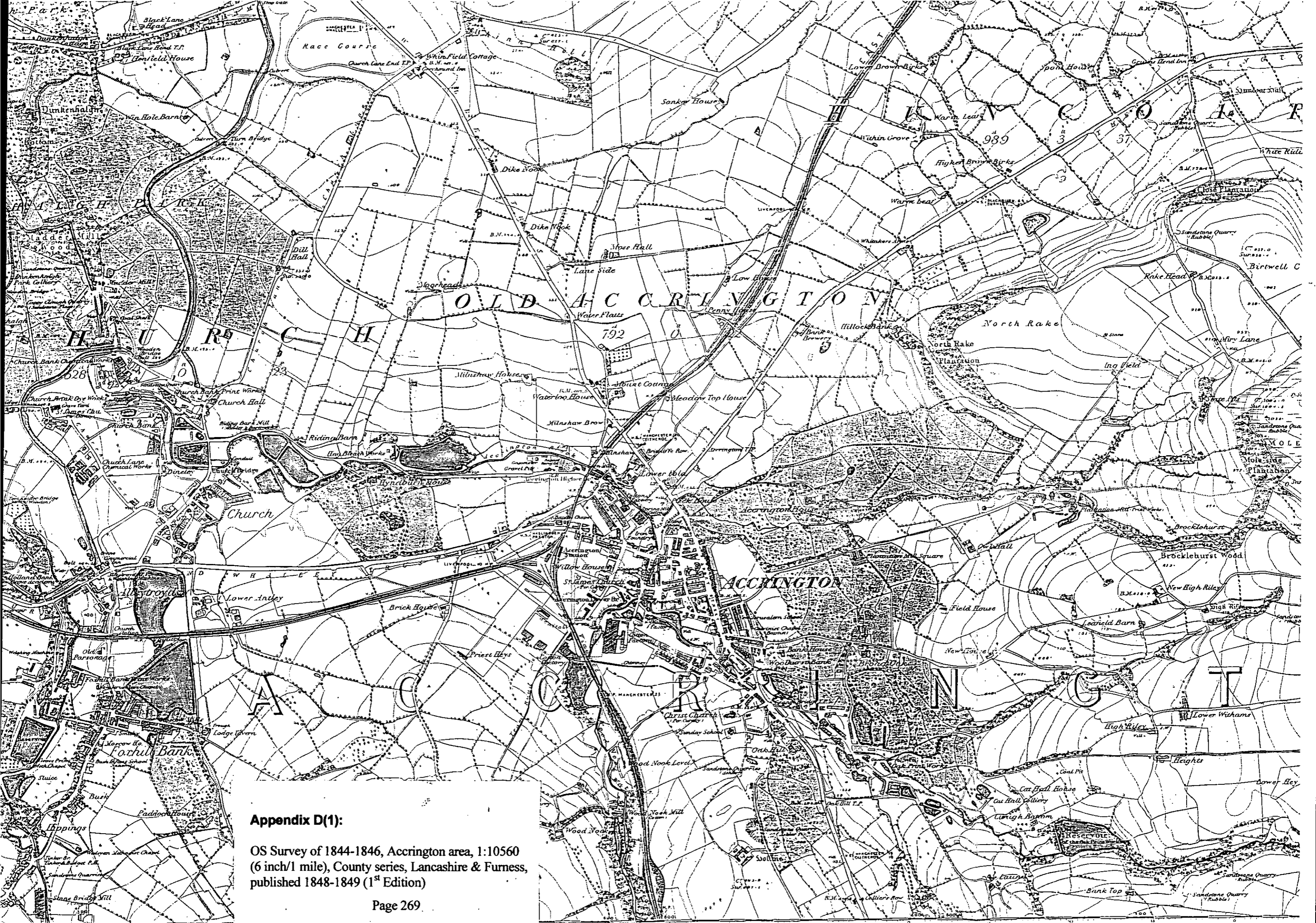
Residence.....

*Source:* The Prospectus of the Blackburn, Burnley and Accrington Extension Railway (BB & AER) appeared in full in the *Manchester Guardian*, 8 May, 1844, p. 1, and also in the *Manchester Courier*, 11 May, 1844, p. 5, with identical wording (both newspapers in Manchester Public Library). The BB & AER was re-named the Blackburn, Burnley, Accrington and Colne Extension Railway (BBA & CER) when the company was incorporated on 30 July 1845.



**Appendix D(2):**  
 OS Survey of 1890-1891, Accrington area, 1:10560  
 (6 inch/1 mile), County series, Lancashire & Furness,  
 published 1894-1895 (2<sup>nd</sup> Edition)

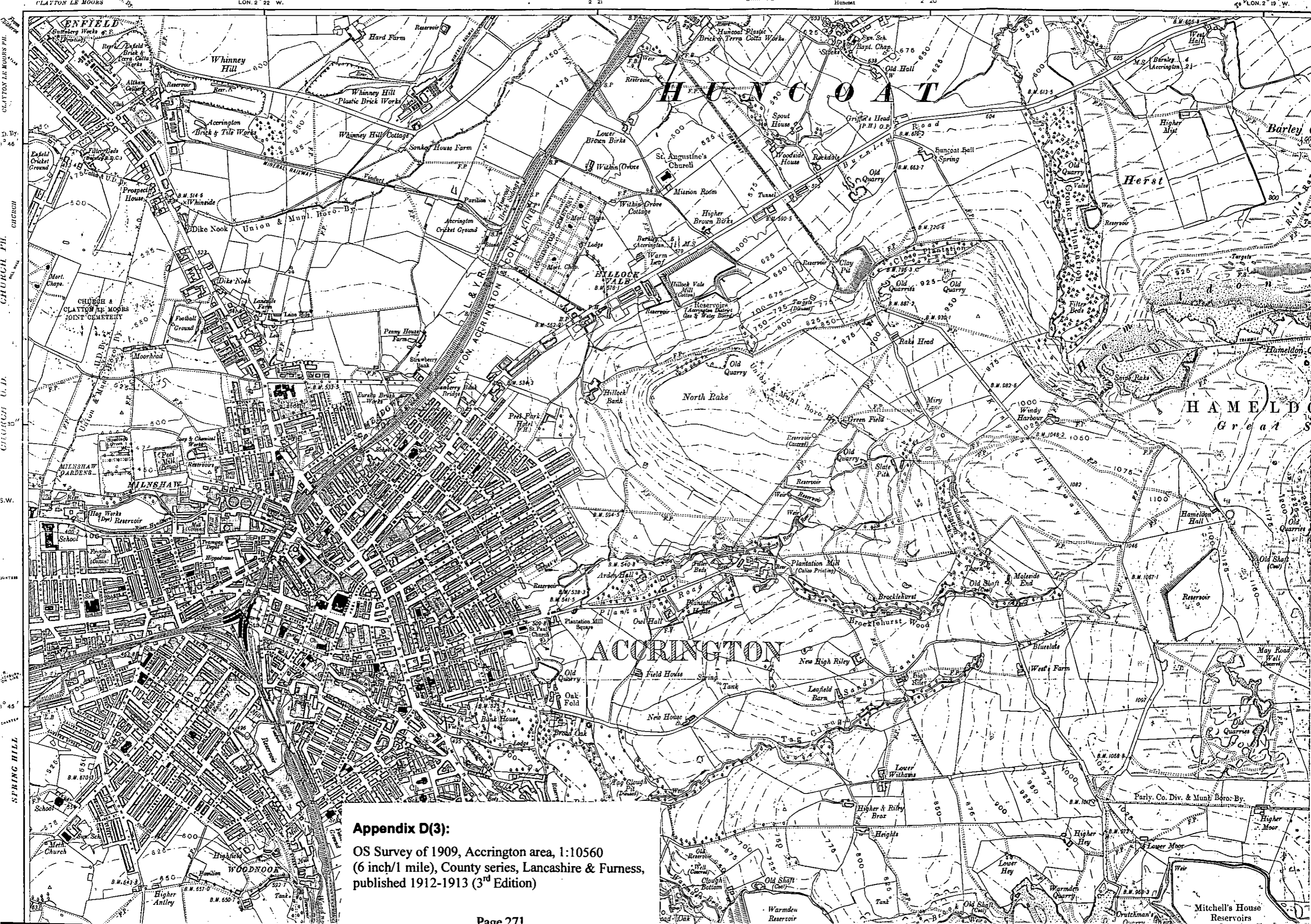
Lon. 2° 22' W.



**Appendix D(1):**

OS Survey of 1844-1846, Accrington area, 1:10560  
(6 inch/1 mile), County series, Lancashire & Furness,  
published 1848-1849 (1<sup>st</sup> Edition)





**Appendix D(3):**  
OS Survey of 1909, Accrington area, 1:10560  
(6 inch/1 mile), County series, Lancashire & Furness,  
published 1912-1913 (3<sup>rd</sup> Edition)