

LIVERPOOL ROAD STATION, MUSEUM OF SCIENCE AND INDUSTRY (MoSI), MANCHESTER

CONSERVATION MANAGEMENT PLAN



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June 2007

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Section 1 Summary

The Liverpool Road Station site, within the Museum of Science and Industry, Manchester, occupies the space between Lower Byrom Street and Water Street, with Liverpool Road as its main façade and southern boundary. The site was developed from the early nineteenth century, starting with housing at the eastern end of the site, later demolished, and then a single house at the south-western end of the site, now the Station Master's House. The site was chosen as the Manchester terminus of the Liverpool and Manchester Railway, and three of the existing structures were built for this purpose; the Passenger Station, the 1830 Viaduct, and the 1830 Warehouse. Both of the buildings are listed Grade I in recognition of their status as the oldest surviving railway passenger station and the first railway warehouse. The 1830 Viaduct is listed Grade II. The site developed from a passenger and goods station to solely a goods station, and many other structures were built as the site expanded. This expansion documents the response to the development of, and then the merging of many different railway companies, and to the expansion of the commercial traffic of a rapidly growing city, exporting goods to the world. The structures existing on the site range from the earliest at 1808 to structures built to accommodate the Museum use, in the late twentieth century.

As reflected by the two Grade I listings, the most significant section of the site is the western end, which is the most complete early railway station in the world. The site is also a prototype for nineteenth century railway buildings and contains several examples of railway innovations. The entire site documents the interconnection between the development of railways, industrial development and the growth of trade in the nineteenth century.

The buildings are well maintained and the Museum of Science and Industry is a very good steward of the site. There are some issues associated with use of the site as a Museum. These include the environmental requirements for the collections, appropriate security, and disabled access. The number of buildings and the complexity of the services is an issue for the Museum. The site is also potentially vulnerable to a loss of significance due to the very success of the Museum. Increased number of visitors require additional facilities, additional exhibition areas, and expanded educational and learning facilities. The impact of providing these could have a detrimental effect without careful design and management.

The understanding of the site, the assessment of significance and the assessment of issues form a basis for the conservation management policies. The policies provide a conservation philosophy and identify priorities for repair and conservation.

The policies form a framework to advise the development of detailed proposals for the repair and alteration of the buildings, for the redisplay of the collections as it impacts on the buildings, and for the continued maintenance of the buildings. Specific policies advise on minimising damage from interventions such as disabled access, new services, and security measures. Policies suggest a different approach to the two sections of the site based upon the assessments

of significance. A careful approach to repair and restoration is suggested for the western end, as is appropriate to the world importance of those structures, and an allowance for necessary alterations and new development for Museum use on the is suggested for the eastern side of the site, reflecting the lower level of significance of these buildings as mid- to late nineteenth century railway warehouses and sheds.

Section 2 Background Information

The large and complex Liverpool Road Station site contains two Grade I listed buildings (the Station Master's House together with the Station Building and the 1830 Warehouse) and four Grade II structures and buildings (Lower Byrom Street Warehouse, Power Hall, 1830 Viaduct and 1867 Viaduct). The entire site is located within the Castlefield Conservation Area.

The Conservation Management Plan was commissioned by the Museum of Science and Industry (MoSI), who are the owners of the site. The plan is being prepared to help retain the heritage significance of the Liverpool Road Station site in any management, repair, alteration or new development projects. Specifically it will inform the long-term management strategy for the site, shape proposals for repairs and/or restoration and the subsequent project development and maintenance plans. As a document it will also be used to support applications for planning permission Reason: It is necessary that any remains of archaeological significance are properly preserved or recorded. Roman age artefacts have been unearthed near to the site, and although it is considered unlikely, artefacts may be uncovered during excavation work. and listed building and conservation area consent.

The site is very large and complex, comprising a number of buildings, structures and areas, many of which have evolved through several phases of development, alteration and restoration. In particular, the Museum's archives contain details of several phases of repair and conversion projects undertaken to the Main building and the 1830 Warehouse. Most of the buildings are well-documented, with the museum's management and maintenance records providing details of works. The aim of this Conservation Management Plan therefore is to give a good understanding of the significance of the whole site, its individual parts and the inter-relationship between those elements, and to identify the issues and vulnerabilities of the site as a whole. Future proposals for alteration may need to refer to Museum archives and records for the detailed history of alterations to a particular space in an individual building.

As the world's oldest surviving passenger railway station, and the world's first railway warehouse, the western end of the site has been extensively researched. This plan draws heavily on a number of earlier reports and books.

The plan has been prepared by Kathryn Sather and Associates; Pauline Webb, of the Museum of Science and Industry, wrote the majority of the Understanding the Site section, the majority of the Significance section, and contributed to those sections within the Gazetteer. Several other staff members have contributed information or images as well.

The Museum of Science and Industry, Manchester City Council, the Society for the Protection of Ancient Buildings, the Council for British Archaeology, the Greater Manchester Archaeological Unit, English Heritage, the Victorian Society, and the Georgian Group will be consulted, both through provisions of a draft of the plan and through

a stakeholder workshop. Following consultation, it is expected that, along with the owners, all of the stakeholders will adopt the Conservation Management Plan.

Section 3 Understanding the Site

3.1 Location and Morphology

The Liverpool Road Station site is rectangular, with Lower Byrom Street as its eastern boundary, Liverpool Road the southern boundary and Water Street to the west. The northern boundary runs through the original site, including the 1867 Viaduct and the Great Western (or Lower Byrom Street) Warehouse built in 1878-80.

Lying close to the River Irwell, which forms the western boundary of Castlefield, the part of Liverpool Road Station now owned and occupied by the Museum of Science and Industry was a greenfield site until 1808, when one house was built at the junction of Liverpool Road and Water Street. While the site itself was undeveloped, the evolution of the surrounding area explains both why this was so and why the site was suited to become the terminus of the Liverpool and Manchester Railway.

3.2 Description of the Site

The site is extremely large and comprises a number of buildings, structures and areas. Obstacles to developing a comprehensive understanding of the site include the complex phasing, the different names which have been attached to various buildings during the evolution of the station and the groupings and names used in the listing descriptions. The approach to analysing the site has drawn on the structure of the new listing description proposed in the appendix to the 2007 White Paper, "Heritage Protection for the 21st Century", which includes the proposal for a unified national system of designation of heritage assets. Thus the gazetteer entries for each element correspond to the individual heritage asset descriptions of the overall site, including the significance, elements of special interest, history, phasing and description, including extensive illustration and historical maps.

This section comprises an overview of the site, for purposes of orientation, including a recent aerial view of the site, an historic map showing the location of each building as well as the working railway station, including rail-tracks and turntables, and museum documentation showing the current usage of the buildings. There is also a reference table summarising different names and key information for each building.

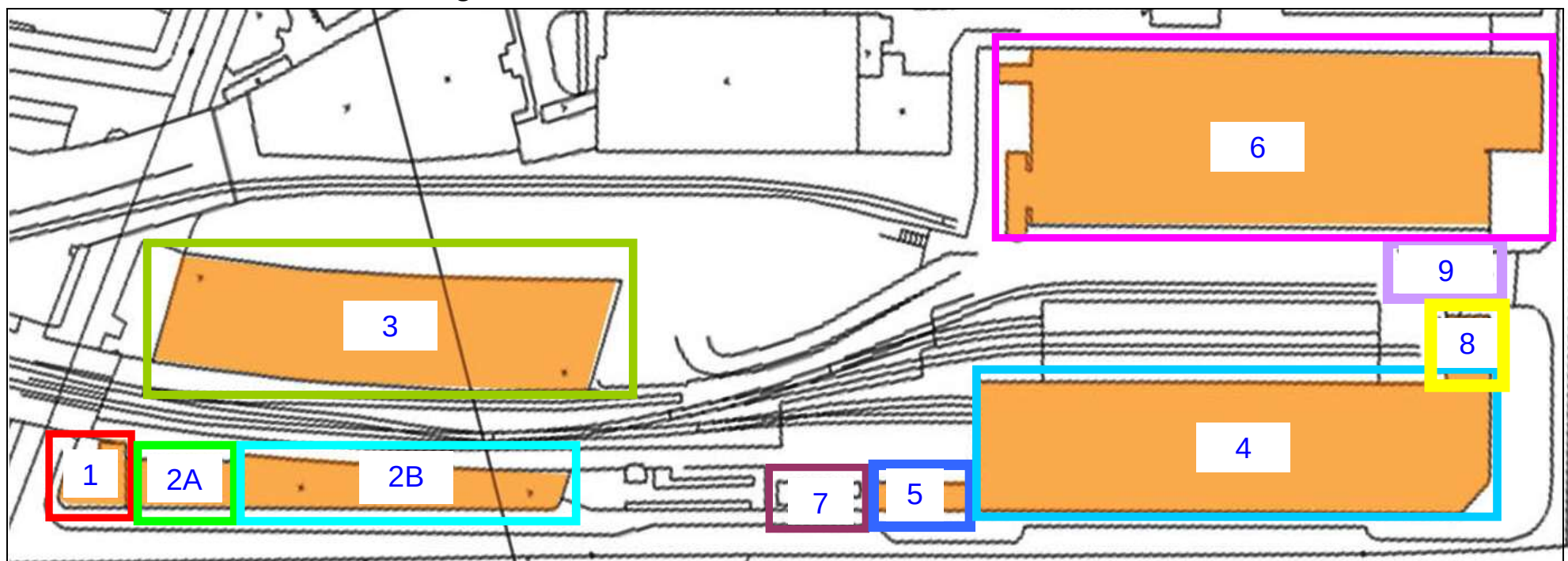
This is followed by a brief illustrated description of the buildings, structures and area, including an outline of its phasing and what remains of the original structure. Greater detail about the history and construction are provided both in Section 3.3 on History and Context and in the Gazetteer.

Aerial View of Site



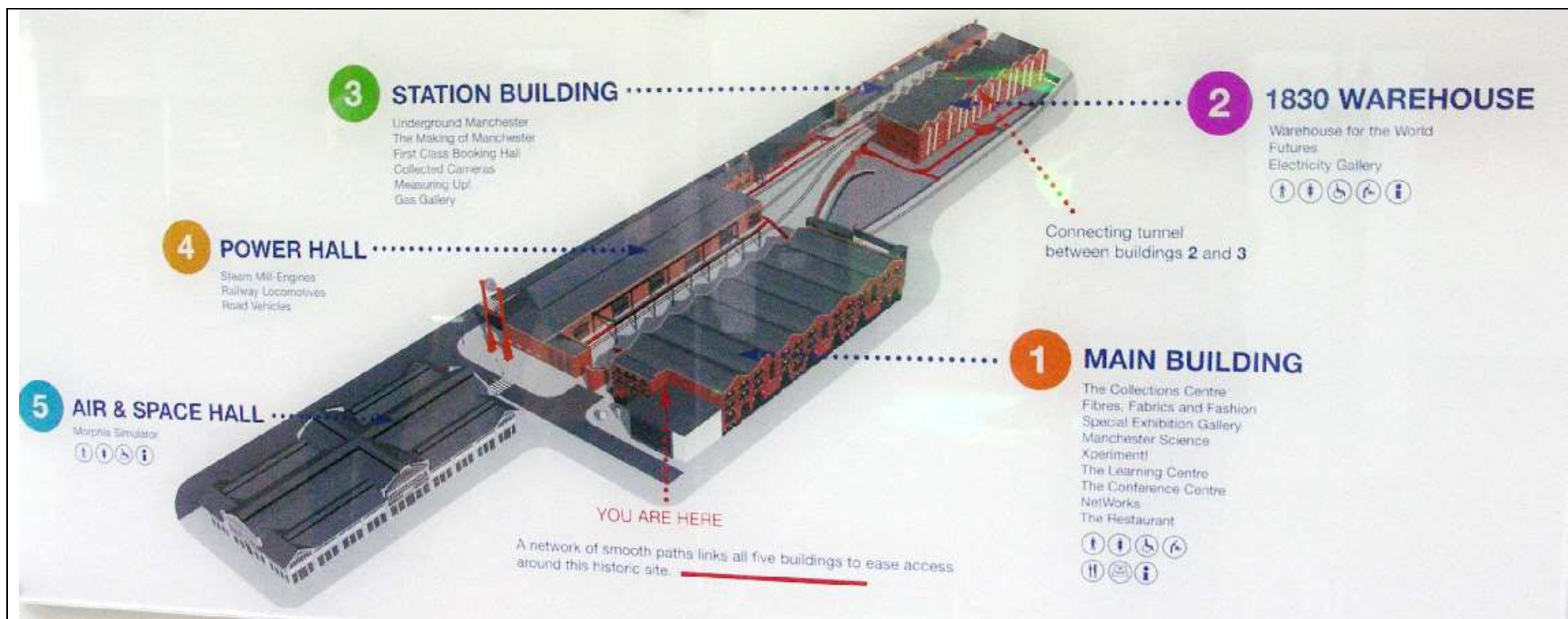
Aerial view of site, c. 1980

Location and Context of Buildings



1		Station Master's House	5		Curatorial Centre (Offices)
2A		Passenger Station Building	6		Main Building (Lower Byrom Street W/house)
2B		Carriage Shed, Carriers Offices & Shops	7		Toilet Block
3		1830 Warehouse	8		Visitor Services Block
4		Power Hall (Loading Shed)	9		Gatehouse

Current Usage and Nomenclature (NB reverse orientation of preceding map and plan)



Site plan in entrance hall, showing layout of buildings and suggested tour

Reference Table summarising different names and information for Buildings

Gaz Ref. No.	Approx Date	Grade if Listed	Historic Name / Use	Museum Ref No.	Museum Name	Other Name
1	1830	I	Station Agent's House	3	Station Master's House	
2A	1830	I	Coach Offices	3	Station Building	Passenger Station or Departure Station
2B	1830-31		Carrier's Offices, Carriage Shed & Shops	3	Station Building	
3	1830	I	Warehouse 3	2	1830 Warehouse	The Old Warehouse
4	c. 1855	II	Shipping Shed	4	Power Hall	Transit Shed, Goods Shed, Freight Shed; (erroneously) the Continental Shed
5	c. 1860-65		Freight or Goods Offices		Curatorial Centre	
6	1880	II	Great Western Railway Warehouse	1	Main Building	New Warehouse, Continental Warehouse, Lower Byrom Street Warehouse
7	c. 1950		Toilet Block		Toilet Block	
8	1981-82		Entrance Hall		Visitor Services Building	
9	1981-82		Gatehouse		Gatehouse	

3.2.1 Building 1: Station Master's House

The Station Master's (or Station Agent's) House was built in 1808 for John Rothwell, partner in the nearby Rothwell & Harrison dyeworks on Water Street. After the construction of the Liverpool Road Station it retained its residential function, providing accommodation for the Station Agent. In the early twentieth century the ground floor, including the façade, was converted for shop use. In 1982 it was restored to its earlier appearance as part of the Museum restoration works; since then it has been used for offices.



Station Master's House, front elevation

The building is a late Georgian three-storey corner house (with basement) on a sloping site with the principal elevation on Liverpool Road. The symmetrical front façade has three bays while the Water Street façade has 2 bays. It is trapezoidal in plan with an oblique corner and a one-bay extension to the rear, where there is a service yard. It has a pitched and gable slate roof, with three chimney stacks. The main façade is dominated by the front door, positioned between stone Doric pilasters topped by a pedimented stone architrave, and the large sash windows.



Rear of Station Master's House, as seen from the platform



Station Master's House yard

The extension to the rear almost abuts the 1830 viaduct at first floor level. A modern fire escape access the rear of the house at second floor level. At ground floor level there are heavy timber double gates from Water Street into the service yard with the back door and access to the arches of the viaduct.

3.2.2 Building 2A: Station Buildings: Passenger Station

The Passenger Station (or Coach Offices) was built in 1830 and comprised the first and second class booking offices on street level and separate waiting rooms, accessed by separate staircases, on first floor or platform level. It was intended for departures only, with arrivals descending from the other side of the track to Water Street, until a separate arrivals station was built on the other side of Water Street in 1837. The building was extended eastward in two stages; these are covered in the following section. When passenger services terminated in 1844, the building was used for goods offices. In 1982 the Station was restored to museum usage and the first class booking hall fittings reconstructed. The staircase to the second class had been removed prior to 1975.



Station Building. To left is Station Master's House (not shown) and to right are former Shops and Carriage Shed



Station Building from tracks and Station Master's House to right

The two-storey (with basement) building has its main façade on Liverpool Road, forming a continuous façade with the Station Master's House on the west and the Carriers' Offices and Shops on the east. The main façade is mainly of brick disguised by the application of stucco, which has a rusticated ashlar-effect finish on the ground floor and a smooth finish on the first floor, whereas the brickwork is exposed on the rear elevation. The door cases, ground floor sills, stringing, cornice and coping are sandstone. The gabled roof is of slate with three chimney stacks. It is rectangular in plan on the sloping site, with two large rooms on each floor, and is almost symmetrical around the imposing projecting entrance bay with double doors between double square stone pilasters below a stone headstone and moulded architrave. Above this is a grand four-by-three sash window set between stone mullions, with narrow lights at each side. The door to the second class hall is at the eastern end and is less imposing. The main ground floor windows echo the upper central window formation but have arched lintels. A wrought-iron light

extends over the doorway and a stone sundial baluster, visible from the first class waiting room, was added in 1833.

At platform level, to the rear of the building, door open on to the platform from each waiting room. Initially the space was left uncovered; a roof was added in 1834.

3.2.3 Building 2B: Station Buildings: Carrier's Offices, Carriage Shed and Shops

This extension to the Passenger Station was built in two sections: two carrier's offices were added in 1830 (distinguished by being stucco on both floors) and eight shop units were added in 1831 (stucco ground floor, bare brick at first floor), with the first floor serving as a carriage shed. From 1840 the Railway Company used the shop units as workshops. The building now contains the Museum's exhibition on the history of Manchester on the ground floor and basement, while the original carriage sheds have been partly glassed in to provide museum design studios and workshops, with the balance providing a picnic space. The exterior was reconstructed in the early 1980s and the interior remodelled to accommodate a continuous exhibition.



Liverpool Road elevation of former Carriage Shed & Shops



View of former Carriage Shed from tracks

The building is a long narrow, slightly irregular rectangle of two storeys with basement. The Liverpool Road façade is brick. The eight two-bay shop units were separated by stone pilasters up to the moulded stone cornice. The first floor window lintels and the moulded coping of the parapet is also of stone. The gable roof is of slate with four chimney stacks. Most, but not all, shops had a door between two sash windows; others had a door to the west and a single window or a door with two windows to the side. The east end of the building is angled with a curve to the main facade and has no window at ground floor level in the last curved bay. The first floor carriage shed was open on the north side.

3.2.4 Building 3: 1830 Warehouse

The warehouse was built to provide warehousing facilities for the railway. The company originally advertised for five separate warehouses, which was executed as a single warehouse with five

double bays. David Bellhouse Junior was awarded the work in April 1830, for completion by 15 August. Each bay was designed to operate independently for vertical movement of goods and to accommodate goods being delivered both by rail (by turntable and transverse tracks entering the building) and by road, and the transshipment between.

The building was altered in 1831, with the insertion of a mezzanine floor in the three bays nearest Water Street. An engine house was built between the warehouse and Water Street in 1831, with power being transmitted to the building via a vertical shaft up the west façade and from there across the building. A water tank was also added to the top floor of the east end. Various goods were stored over the following years, including spirits, requiring the addition of bars at the windows. With the conversion to museum usage glass lifts and staircases were introduced in the 1990s, as well as modern glazing and automatic doors and other facilities. The eastern bay was more extensively adapted, including the addition of a steel and concrete frame in the Electricity Gallery.



East and north elevations of 1830 Warehouse.

The building is a parallelogram, 320 x 70 feet, with a slight curve to accommodate the line of the railway on the southern elevation. It is timber framed (with cast iron columns in the basement) with brick walls and a slate roof (with some glazing). Stone is used for the sills and lintels, cornice and coping blocks for the gable ends. It is of five storeys (including the basement), but presenting only two to the southern (rail) elevation. The main northern façade is characterised by the strong vertical lines of the brick pilasters and the vertical lines of the loading doors. The transverse gable roofs end in gables with stone copings, linked by short flats; the gables are accentuated by lunettes above the moulded cornice. The loading bays are surmounted by openings for the hoist jibs, which remain in varying degrees of repair.

3.2.5 Building 4: Power Hall

Also known as the Transit Shed and Shipping Shed, this is not the original transit shed for the site, which was smaller and located further west. The larger structure was built in about 1855 to provide space for immediate unloading and transhipment of goods on to carts and trucks and overnight “garaging” for locomotives. It was modified externally with the addition of the crane gantry on the northern elevation which was in place by 1881. The Power Hall was used during the 1980 celebrations for 150th anniversary of the railway to accommodate locomotives involved in the cavalcade. Subsequently it became the first permanent gallery of the Museum. Internal alterations included provision of adequate footings to accommodate the engines and concrete and deck paths for visitors; external alterations included the addition of an extension at the north-east corner (see Building 8 below)



Power Hall and Gantry from north

It is a very high single-storey building, rectangular in plan with six bays. The walls are of brick, with stone facings and quoins at the western end. The hipped M-roof is of slate, with some glazing. The Lower Byrom Street elevation has blind windows and brick dentillation detail. The corner between this and the Liverpool façade is splayed with a wide wagon entrance (now glazed). The Liverpool Road façade has alternating round-headed blind windows with stepped surrounds and large square-headed wagon doorways with stone fenders. The original sliding doors have been replaced with glazing. The west elevation has a large metal concertina door for locomotives and a smaller inserted door for pedestrians. The south elevation has inserted glass and metal door and window frames in the original wagon entrances.

3.2.6 Building 5: Curatorial Centre

The Curatorial Centre is also known as the former Goods or Freight Offices. Thought to have been built in about 1860-65 (it appears in an 1876 map), it is unclear from the discontinuity of brickwork on

Liverpool Road whether it was originally a single-storey building or whether the discontinuity was caused by the subsidence which tilted the Freight Offices. Built to provide office accommodation for freight services, by 1961 it provided a canteen or mess on the upper floor, possibly replacing the canteen in the Station Building after operations became more focused at the east end of the Station. During the 150th anniversary celebrations it was used as a shop and exhibition centre and work from this adaptation was not properly documented. Following the opening of the Museum it was used as an education centre but now provides office accommodation for Collections staff. In the late 1980s the existing tilt was worsening and stabilisation by underpinning of the foundations was instigated. It has been altered both internally (adapted to curatorial use in 1989) and on the northern façade.



Curatorial Centre from central Upper Yard



Liverpool Road elevation of Curatorial Centre and part of Power Hall (to right of green door)

The rectangular two-storey building is of red brick with a pitched slate roof. It is four irregular bays. It had a street level entrance off Liverpool Road with an imposing brick and stone round-arched doorway beneath a stone pediment as well as doors on to the Upper Yard, which is about a metre above street level at the junction between the Curatorial Centre and Power Hall. The door and window arches are round-headed with stone keystones and the windows have stone sills. The Liverpool Road façade has a dentillated string course. The northern façade shows that two ground floor windows have been lengthened and a first floor window altered.

3.2.7 Building 6: Main Building

This building, also known as Lower Byrom Street Warehouse or Great Western Railway Warehouse, was constructed between 1878 and 1880. A fireproof building, it had cast-iron columns and wrought-iron girders, with hydraulic hoists on the top floor. As goods traffic declined through the twentieth century it became the main warehouse. The warehouse was sold to the museum in 1981 and converted for museum purposes in several phases between 1984 and 2000. It currently provides a collections and archive centre in the basement, space for permanent and visiting exhibitions, shop, café and meeting rooms on the ground floor, with space for permanent exhibitions, meeting rooms and offices on the second and third floors, the latter having a restaurant as well.



Lower Byrom Street elevation of Main Building, with modern entrance extension to right

The three-storey warehouse (with basement) is a large seven-bay rectangular building on a east-west axis with entrances for railway lines through the west end from the 1876 viaduct. The original Lower Byrom Street façade was L-shaped; this has been filled in and extended to the street edge with a modern glass structure, which opened in 2000, housing a café/shop on the ground floor and offices above. The building is of red brick with detail in blue brick and sandstone, with a pitched slate and glass roof over each bay. The southern elevation overlooks the Upper Yard and each bay has two pairs of segmentally headed windows of diminishing height. The blue brick is used for the plinth, the keystones, the bands between the floors and vertical strips extending to the windows and doors.

3.2.8 Building 7: Toilet Block

The Toilet Block was built between 1948 and 1955. Prior to this the space had been a ramp and road between the two levels (up to sometime after 1913). By 1926 three small office buildings had been erected which were later demolished to make way for the toilets. Now adapted for visitors' toilets, the four uneven bays comprise

men's, women's and disabled toilets and a cleaner's room respectively.

It is a single-storey structure of brick with a concrete plinth and window surrounds and a flat overhanging roof. The doors are all recent; the windows have metal frames.



Toilet Block from Upper Yard

3.2.9 Building 8: Visitor Services Block

Built as part of the renovation of the Power Hall in 1981-2, this originally housed the Museum entrance and shop but was converted to staff offices and rest room facilities in 1988 when the new entrance was created in the Lower Byrom Street Warehouse. It is built on the site of the earlier wall, gates and offices which controlled access to the yard from Lower Byrom Street.

The rectangular brick building extends from the eastern end of the north façade of the Power Hall. The fenestration, with large round-headed window arches, implies a single-storey building although it is two-storey, and the brick dentillation and stone coping blocks echo the character of the adjacent building. The floor level is higher than the main floor of the Power Hall, resulting from the sloping site.



Visitor Services Block

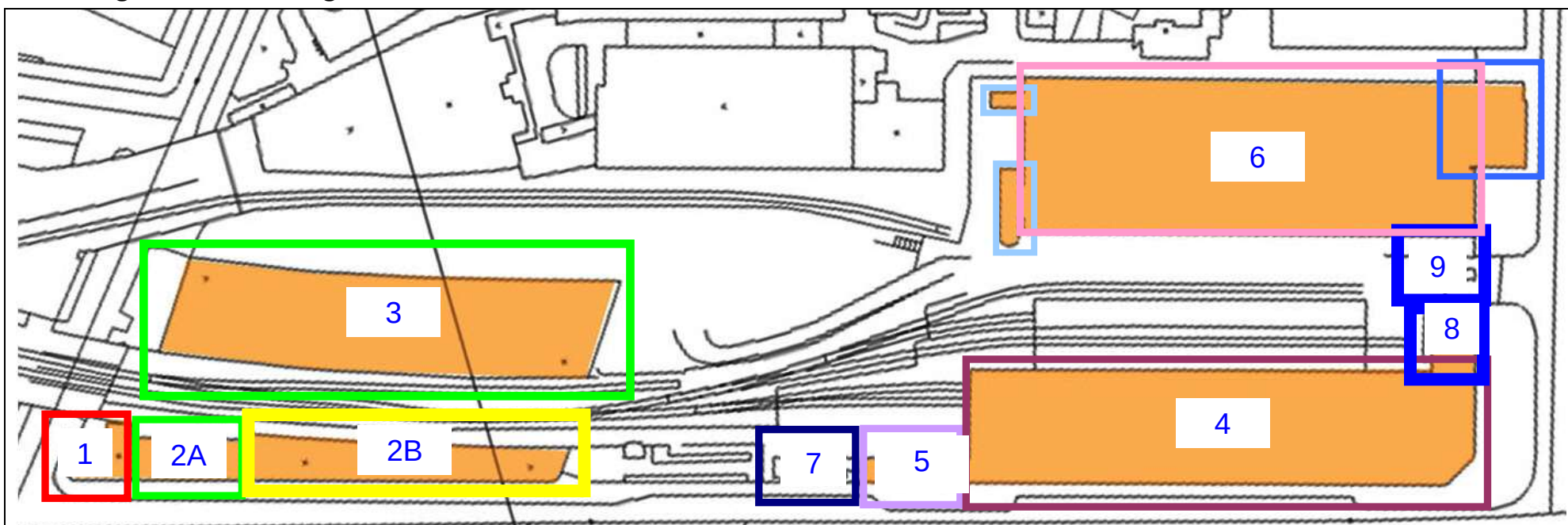
3.2.10 Building 9: Gatehouse and Barriers

The Gatehouse and metal gates were built in 1982 in order to manage vehicular entry to the Museum. Maps from 1913 show gates and offices whose function would have been to control access from Lower Byrom Street. The automatic barriers were added later. It is a pastiche of a traditional gatehouse and constitutes a visual barrier to the site. It is single-storey, of brick on a stone flag plinth, rectangular in plan, but presenting a rounded end to Lower Byrom Street. The slanting roof is slate within a concrete block parapet. It has a door in the west façade and large metal windows on the other sides.



Gatehouse, metal gates and automatic barriers

Phasing Plan: Buildings

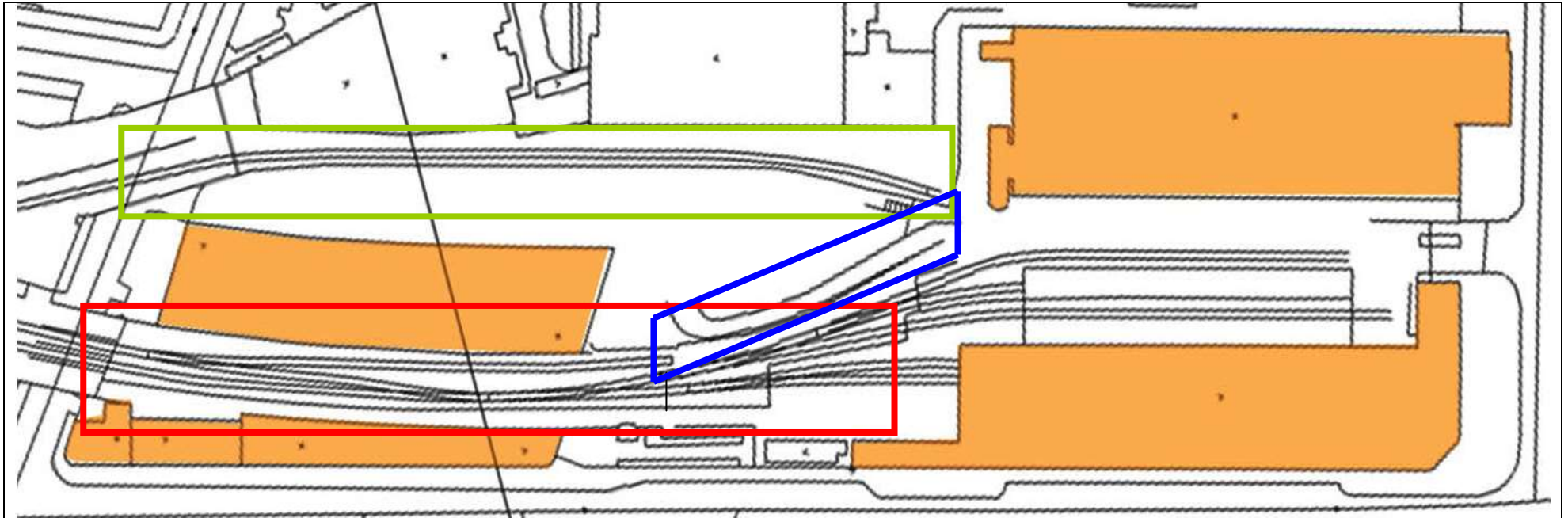


	1808			c. 1850-1880
	1830			1950
	1830-31			1985-86
	c. 1855			c. 1987
	1860-65			1992
	1867			1999-2000

Key to Buildings

1	Station Master's House	3	1830 Warehouse	7	Toilet Block
2A	Passenger Station Buildings	4	Power Hall	8	Visitor Services Block
2B	Carriage Shed, Carrier's Office & Shops	5	Curatorial Centre	9	Gatehouse
		6	Main Building		

Structures



1		1830 Viaduct
2		1867 Viaduct
3		Vehicle Ramp

3.2.11 Structure 1: 1830 Viaduct



Eastern end of Viaduct, looking across Lower Yard



View of Viaduct, looking along tracks from Water Street Bridge

The 1830 Viaduct was built by George Stephenson in his capacity as Chief Engineer of the Liverpool & Manchester Railway Company. The skewed River Irwell and Water Street bridges dictate the shallow curve of the viaduct on the Station site, which, together with the massive brick arches, characterises the structure. The floor level of most arches is at the level of the 1830 Warehouse and Station Building basements. A raised floor permitted access between the Lower Yard and Liverpool Road through two of the arches. Originally the upper level extended straight into the Shipping Shed. In about 1867 an extension with a curved brick outer wall was added to its northern face, supporting rail tracks leading to the north side of the Upper Yard. This blocked off some of the eastern arches. Since 1982 the western arches have been incorporated into the exhibition space and provide a connection between the 1830 Warehouse and the Station Building.



External view of lower Viaduct



Tunnel under Viaduct through to Lower Yard

3.2.12 Structure 2: 1867 Viaduct and Colonnade

The 1867 Viaduct was constructed following the 1866 fire which destroyed both Cotton Stores, creating an opportunity to redevelop the northern side of the site. This redevelopment comprised the construction of a second viaduct, the Grape Street Bonded Warehouse (now part of the Granada site) and, later, the construction of the Great Western Warehouse (or Lower Byrom Street Warehouse). The 1867 Viaduct enters the site from a second bridge over Water Street.



1867 Viaduct, Colonnade underneath Viaduct and mural on wall of a Granada building to right

Built of cast and wrought iron, it is supported by massive round cast-iron pillars and square sandstone pillars, infilled with brick jack-arching. On the south face there were hydraulic cranes to raise and lower goods between the Viaduct and the Lower Yard. The Viaduct

arches on the northern side were used for storage, workshops and stabling.



Underside of Viaduct (Colonnade) with Collection Stores

This area (known as the Colonnade) has been adapted to accommodate a photographic studio, Collections Reception and three collections stores (Nos. 2-4), as well as the Technical Services workshop. A much larger Collections Store (no. 1) is located in the basement of the Lower Byrom Street Warehouse.

3.2.13 Structure 3: Vehicle Ramp

The Vehicle Ramp was constructed in about 1987-8 and provides vehicular access between the Upper and Lower Yards, separate from the pedestrian access on the original ramp on the southern side of the site on the other side of the 1830 Viaduct. It follows the diagonal north-east face of the altered 1830 viaduct. The single-lane concrete surface is supported by iron pillars, with a metal rail on the northern side. An electricity substation and a Museum portacabin are accommodated under it at the eastern end.

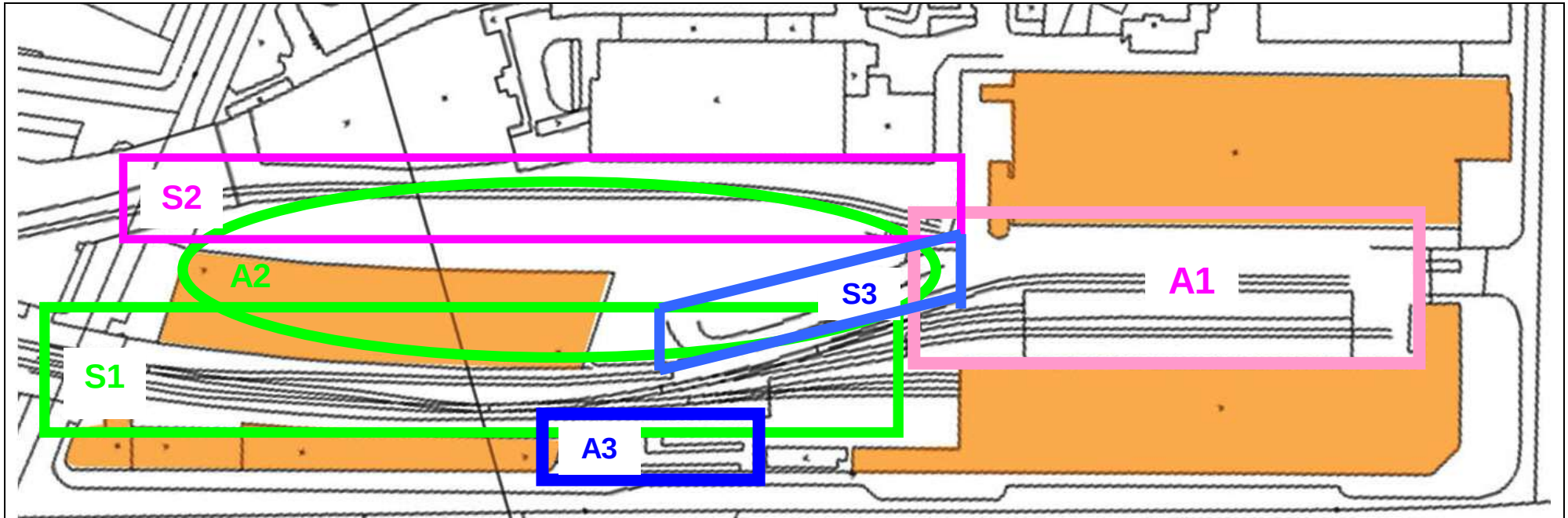


Car Ramp from Upper Yard end



Car Ramp from Lower Yard end

Phasing Plan: Structures & Areas

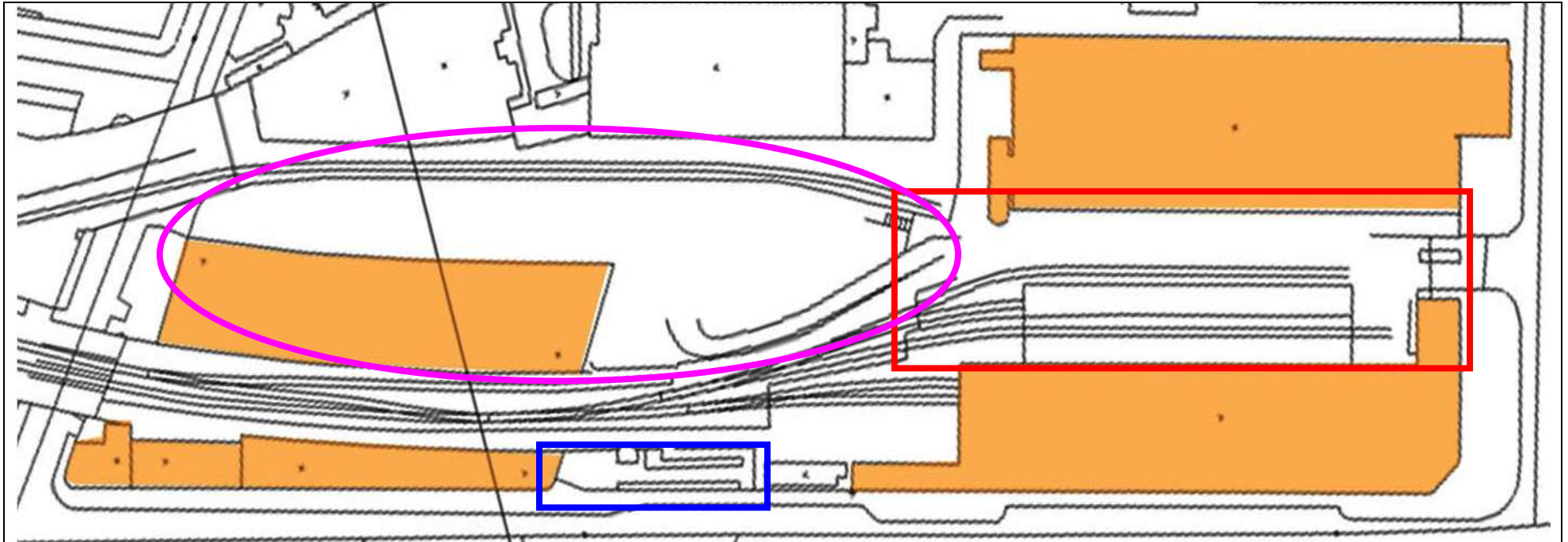


	1808				c. 1850-80
	1830				1950
	1830-31				1985-86
	c. 1855				c. 1987
	1860-65				1992
	1867				1999-2000

Key to Areas and Structures

A1	Upper Yard		S1	1830 Viaduct
A2	Lower Yard		S2	1867 Viaduct and Colonnades
A3	Ramp from Liverpool Road to Upper Yard		S3	Car Ramp

Areas



1		Upper Yard (excluding Power Hall)
3		Ramp from Liverpool Road to Upper Yard
4		Lower Yard (excluding 1830 Warehouse)

3.2.14 Area 1: Upper Yard

The Upper Yard was integral to the functioning of the Station complex. In the early nineteenth century the area had been used for housing. In anticipation of the construction of a rail link to Camp Field (which never materialised), the eastern half of the Power Hall site and the adjacent part of the Upper Yard had been compulsorily purchased by Manchester Corporation and then sold to the Railway Company. Following the construction of the 1867 Viaduct and the construction of the Lower Byrom Street Warehouse, this became a goods yard, characterised by the open space between tall railway buildings, the crane gantry and the rail tracks. A masonry wall is shown on the eastern boundary in 1881. By 1913 an entrance had been created here with gates and an office to control access. Some of the original stone setts remain but all of the turntables have been removed.



Upper Yard, looking towards Lower Byrom Street entrance



View of Upper Yard, with Curatorial Centre to left, and Toilet Block next to it, and top of Car Ramp on right

3.2.15 Area 2: Ramp from Liverpool Road to Upper Yard

The current structure dates from 1985 but is broadly in the place of the earlier access to the first Transit Shed, which provided cart access from Liverpool Road to the Upper Level.

The wide modern ramp runs between blue brick walls, which incorporate a garden and space for exhibits, from the Station Building at street level to the Toilet Block at track level. The southern boundary is the wall and railings to Liverpool Road.



Ramp From Liverpool Road level to track level, with Toilet Block and Curatorial Centre at top right

3.2.16 Area 4: Lower Yard

The Lower Yard came into use in 1830, its western end providing accommodation for carts delivering goods to and collecting them from the 1830 Warehouse and its eastern end serving as a timber and coal yard. These functions remained unchanged when the Lower Yard was reduced in area in 1831 following the construction of the two Cotton Stores. This character was altered in 1867 following the destruction by fire of these two stores and the construction of the 1867 viaduct.

Following the restoration of the 1830 Warehouse and its conversion to museum usage, a large metal ramp was added, taking up much of the lower end of the Yard, which is now used for parking. Further changes included the introduction of a metal spiral staircase connecting the yards and of the Colonnade structure, both completed in 1999-2000.



Lower Yard: with 1830 Viaduct and Car Ramp to left and 1867 Viaduct to right

3.3 History & Context

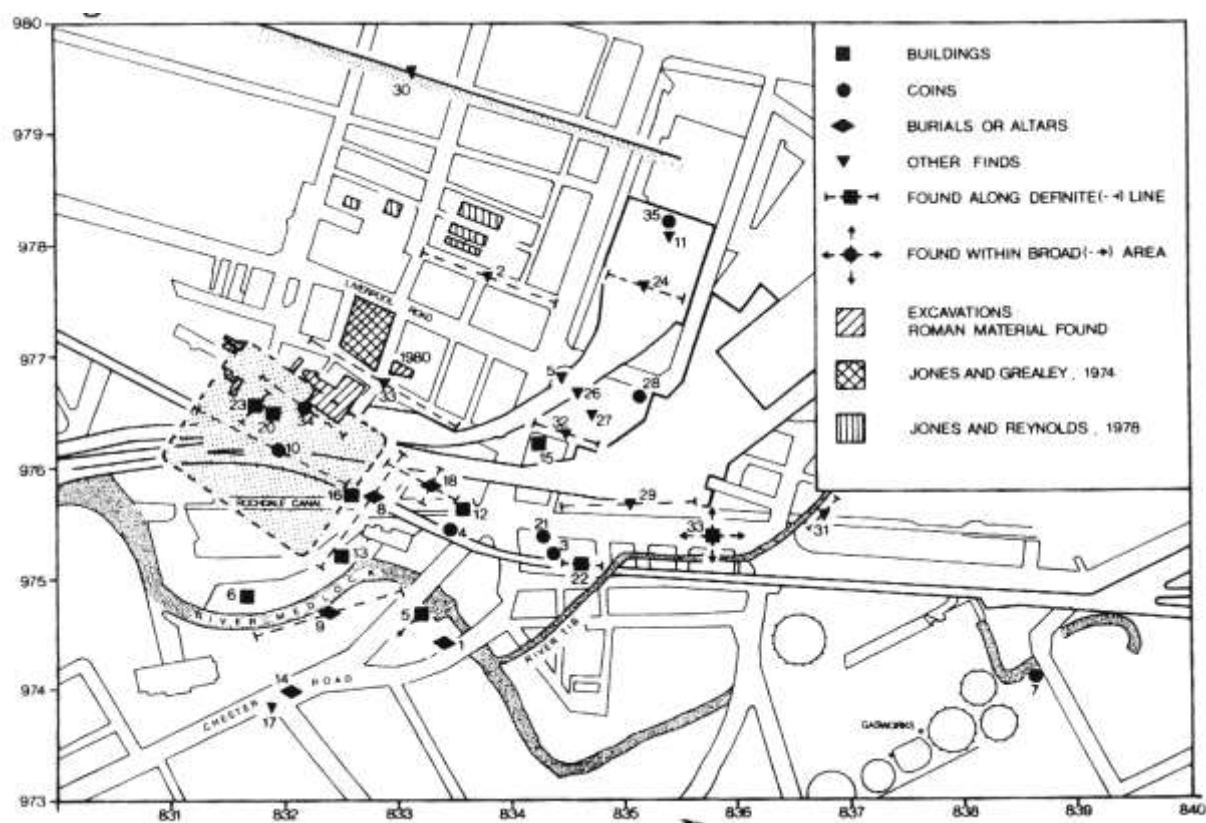
3.3.1 Evolution of the Site

Roman Period: AD 79-400

The first evidence of human occupation in Castlefield comes from the Roman period when Manchester, called Mamucium by the Romans, was chosen as the site for one of the small forts required to guard the road running between the major fortresses at Chester and York.¹ This was located to the south-east of the Liverpool Road Station site, south of Canal Street and Bridgewater Street.

Another Roman road running northwards from the Fosse Way crossed nearby. One of the major considerations for the Romans in the siting of their forts and fortresses was the potential for transport connectivity, the same consideration that brought the Liverpool and Manchester Railway to Castlefield 1,750 years later. In addition to the road connection, the site of the fort of Mamucium lay close to the confluence of the River Irwell and its tributary, the River Medlock. The Irwell was a tributary of the River Mersey, thus providing a (mainly) river route to Chester down the Mersey and then up the River Dee. The sandstone bluffs flanking the River Medlock provided an elevated position, a defensive advantage, and a source of suitable building material.

A succession of four forts was built between AD79 and AD400. A civilian settlement or vicus, whose inhabitants probably outnumbered those of the fort, grew up to the north and east of the fort. Evidence of the first known industrial activity in Manchester is provided by the remains of metal working, in the area of Byrom Street, and of pottery production. Recent excavations on the site west of the junction of Liverpool Road and Duke Street revealed Roman remains (including a short section of Roman sewer now in the Museum's collections), suggesting that there might also have been activity on the nearby Liverpool Road Station site in the Roman period. When the Roman Empire came under increasing threat in northern mainland Europe early in the fifth century AD, the Roman army withdrew from Britain.



Map showing Roman Sites in Castlefield

Anglo-Saxon and Medieval Evolution



Detail of 1793 Map showing Deansgate, which was then called Alport Street. Liverpool Road is shown as Priestner Street (upside down and near bottom of Map). Also shown is Byrom Street.

With the departure of the Roman army, the vicus lost its economic base and its inhabitants dispersed. When occupation returned to Castlefield in the Anglo-Saxon period, it was centred to the east of the Roman fort. This hamlet was known as Aldport, meaning 'old market', hence the original name of Alport Lane for the road now called Deansgate. Meanwhile a new settlement developed about a mile to the north near the confluence of the River Irwell and the River Irk. It was this settlement that became the town of Manchester in the medieval period. From 1541, towns were required to provide butts for archery practice, which was a legal requirement for males between the ages of 7 and 60. In Manchester, the archery butts were located at Aldport and two other sites.²

Aside from the small hamlet of Aldport, the area now known as Castlefield consisted of fields and open parkland, hence the modern name derived from references to the isolated 'castle in the field'. Enough of the Roman fort remained in the sixteenth century to be recognisable to the antiquaries John Leland and William Camden. Leland visited Manchester in 1540 and noted the "dikes and foundations [sic] of Old Man Castel".³ Camden, visiting in 1582, observed "the plot and ground worke of an ancient Fortresse built foure square, commonly called Mancastle".⁴ As Manchester grew, the fort became a convenient source of building stone. Its walls were gradually reduced by theft or collapse so that when the antiquary William Stukeley visited in 1725, he found that the "Castle Field (has) the foundation of the wall and the ditch remaining".⁵

Seventeenth and Eighteenth Century Evolution

Little changed until the eighteenth century. In 1601, Sir Nicholas Mosley, the wealthy woollen merchant who had purchased the Manor of Manchester in 1796, built Aldport Lodge. The main Mosley family residence was Hough End Hall in Withington (south of Manchester city centre). During the Civil War his son, Sir Edward Mosley, allowed Lord Strange to use Aldport Lodge as the Royalist headquarters for the Siege of Manchester in 1642. The Parliamentarians withstood the siege and burnt Aldport Lodge to the ground, leaving Aldport (or Alport) Park uninhabited for the next century.

Over the course of the eighteenth century Castlefield became polarised between primarily residential development in its north-east quadrant and primarily transport-led industrial development along its south and west boundaries. One of the major local landowners, Edward Byrom, who was also a partner in Manchester's first bank (Byrom Allen Sedgwick and Place), was involved in both initiatives. In 1720, Parliament approved a scheme to improve navigation along the Mersey and Irwell. Fourteen years later, Edward Byrom made an agreement with the Mersey & Irwell Navigation Company to finance the building of a quay (later known as the Old Quay) on the River Irwell and a new street, Quay Street, linking the quay to Alport Lane. This was the first step in the laying out of the Byrom Estate, comprising about 90 acres (36 hectares) of land, for development.⁶ Over the next 50 years, the quay attracted warehousing and industry to the immediate vicinity.

Initially, residential development of the Byrom Estate was slow. By 1750 there were only two houses on Quay Street, one of which was Byrom House, the family's town residence built in 1741. The seclusion of the area made it highly suitable for its brief use as a gun park when Charles Edward Stuart, the 'Young Pretender', reached Manchester in November 1745. As Jacobite sympathisers, well documented in Elizabeth ('Beppy') Byrom's diary, the Byrom family was keen to offer this form of support, which was commemorated in the naming of Artillery Street. As a vital step towards the residential development of the Byrom Estate, Edward Byrom founded the first church in Castlefield, St John's Church, in 1768. As was common practice at the time, the Byrom Estate was laid out in plots of suitable size for sale to speculative builders by the creation of a grid of new streets between the Church and Alport Lane, the part of the estate closest to the town. The family name was given to two of the streets, Byrom Street and Lower Byrom Street. The widest of these streets was St John Street, leading from Alport Lane to the Church. As the best-preserved (primarily) Georgian street in Manchester, St John Street, with its surrounding streets, was designated as a Conservation Area in 1970.

When Edward Byrom died in 1773, the estate passed to his two daughters, Eleanor, who was unmarried, and Ann, who was married to Henry Atherton. It was Henry Atherton who stepped into Edward Byrom's shoes in terms of the planning of the estate. The laying out of the Byrom Estate was completed by 1788. However, Castlefield was still too detached from the main life of the town to attract many speculative builders, so about half of the estate, the half furthest from

Alport Lane, was still undeveloped in 1820. Nevertheless, as will be discussed in section 3.3.2, Eleanor Byrom and Ann Atherton were particular about the type of development that they were willing to allow. The residential character of the area was typical of the characteristic Manchester pattern later noted by Friedrich Engels, with larger middle-class houses along the wider streets shielding cramped workers' housing along narrow backstreets.⁷ Today, the south side of Liverpool Road near Deansgate, with its surviving three-storey workers' housing, appears to contradict this pattern, but in the eighteenth century Priestner Street, as it was then called, was a narrower street running from Deansgate only as far as Collier Street. It was widened, extended through to Water Street and renamed as Liverpool Road early in the nineteenth century.

By far the most significant development in Castlefield in the eighteenth century was the building of the Bridgewater Canal.⁸ Francis Egerton, Third Duke of Bridgewater, was keen to boost sales of coal from his Worsley mines by increasing the speed and reducing the cost of transporting the coal to Manchester. With the aid of his land agent John Gilbert and his millwright James Brindley, the Duke of Bridgewater devised a canal scheme that was more ambitious in civil engineering terms than any predecessor. The Bridgewater Canal is acknowledged as the 'first modern canal' because it was the first canal that was independent of a river route. Earlier schemes had largely followed a natural waterway, either deepening and widening it and adding short diversions or, as with the 1757 Sankey Canal, cutting a separate channel along a river valley. Although fed by rivers, the Bridgewater Canal followed an entirely new route, hence its nickname 'the Duke's Cut'.

Canal excavation began in 1759 and the first stretch, from Worsley to Stretford, was completed in 1761. The second stretch, from Stretford to Cornbrook, was opened in 1763. Two years later, after the Duke had secured the necessary land by purchasing the Hulme Hall Estate, the Bridgewater Canal ran through to its Castlefield terminus. The large canal basin required intricate sluices to regulate water between the Canal and the River Medlock. The Bridgewater Canal halved the price of coal in Manchester, an achievement that became still more economically significant 30 years later when the adoption of steam power in cotton mills quickly promoted Manchester to world leadership of the cotton industry. By 1776 the Bridgewater Canal had been extended to Runcorn, where it joined the Mersey estuary, thus providing a water route through to Liverpool and enabling cotton imports to be transported directly to Manchester by water.

Castlefield became a major transshipment point. While open wharves sufficed for some types of freight carried by the Bridgewater Canal, such as coal and potatoes, other types of freight needed to be stored under cover until they could be dispatched by road. By 1785, there were just two warehouses: the dry goods warehouse designed by James Brindley for the carriers Henshall & Gilbert and the nearby Duke's Warehouse. The Henshall & Gilbert warehouse was taken over by the Grocers' Company in 1811 and thenceforth known as the Grocers' Warehouse.⁹ In 1805, the new Rochdale Canal was extended from its main basin at Piccadilly to join the Bridgewater Canal at the Castlefield Basin. Through the linkages at the other end of the Rochdale Canal, this created a continuous route between Hull

and Liverpool and brought a wider range of freight through Castlefield, boosting warehouse development. A variety of industrial premises developed along the canals and rivers, including several timber yards, a paper mill, a dyeworks and a vitriol works.

Nineteenth Century Evolution

When the Manchester and Salford Police Commissioners were established in 1792 to provide public services that lay outside the remit of the medieval court leet, the area was sufficiently populous to be constituted as a separate district. Designated as St John's District, it was District 14 of the fourteen districts administered by the Police Commissioners. Another indication of the area's growing population was the decision of the Church Commissioners in 1822 to provide a new church, St. Matthew's Church, which was designed by Charles Barry. St Matthew's Church was built on Camp Field, a plot of common land at the junction of Deansgate and Liverpool Road. Camp Field was at that time used for lesser markets and fairs, including the boisterous Easter fair, known as the Knott Mill Fair, but became a more important fairground from 1825, when the oldest Manchester fair, Acres Fair, was transferred there. A small permanent market, Alport Market, was set up on part of Camp Field at about the same time.¹⁰

By the early 1820s, the only substantial plot of land in Castlefield still lying vacant was the south-west portion of the Byrom Estate bounded by Charles Street, Water Street and Liverpool Road, but with no street demarcating the east boundary.¹¹ There were just two small developments at the edges of this plot: 41 Liverpool Road, the house built in 1808 for John Rothwell, a partner in the Rothwell & Harrison dyeworks nearby on Water Street,¹² and a house, counting house, stable and timber yard on Charles Street built for John Clegg, a timber merchant¹³. This large plot was therefore an obvious target for acquisition by the Liverpool & Manchester Railway Company when it began planning the railway route.

3.3.2 The Building of the Railway Station (1825-1831)

Planning of the scheme

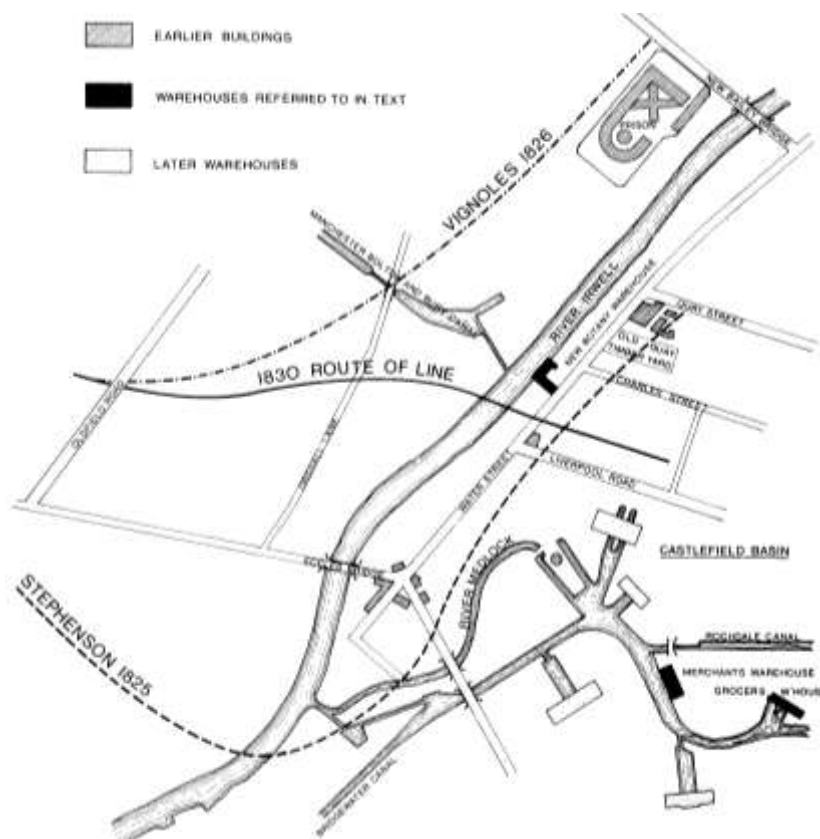
Two rival proposals for a railway between Liverpool and Manchester were touted in 1797 and 1798, but neither came to fruition. The idea was not revived until 1820, when Thomas Gray advocated the construction of such a railway as the first step towards a national network. In 1821, Joseph Sandars, a Liverpool corn merchant, and William James, a land agent and railway enthusiast, came together to launch a new proposal. By that time, merchants and manufacturers were dissatisfied with the inability of the canals and roads to cope with increasing goods traffic and with the costs of goods transport. In particular, they resented the high tariffs levied by the Bridgewater Canal Trust, at its inception a facilitator of trade and industry, which was perceived as abusing its virtual monopoly of long-distance goods carriage. While Sandars assembled backers for the scheme in

Liverpool and Manchester, James coordinated a survey of the route.¹⁴

Progress was slow and when George Stephenson was appointed as Engineer in May 1824, he supervised a new survey. As the natural Manchester gateway for traffic with Liverpool and an established transshipment point, Castlefield was always likely to be the chosen terminus for the route. The Stephenson route crossed the River Irwell obliquely just south of the confluence with the River Medlock, curving north-eastwards to run parallel with Water Street as far as Quay Street, where the Old Quay Company (as the Mersey and Irwell Navigation Company had become known) had a timber yard. It was in the commercial interests of the Old Quay Company, of which the new railway was a potential competitor and which had rights over any crossing of the Irwell, to resist the railway scheme. The Bridgewater Canal Trust had much the same interests, albeit not directly in terms of land, as did the operators of stagecoaches between Manchester and Liverpool. The other main parties with vested interests to protect were Eleanor Byrom and Ann Atherton.¹⁵ While their father had embraced the commercial potential of improved river navigation, the two sisters did not want the noise and smoke of a railway to mar the residential potential of their land. This was also a personal issue for Eleanor, who lived at Byrom House on Quay Street; Ann Atherton, however, lived several miles away at the original Byrom family home at Kersal Cell in Salford.

Unfortunately, Stephenson entrusted the survey to junior staff, whose inexperience was all too evident in the finished survey. With his son Robert away on business in South America, George Stephenson did not pay sufficient attention to his supervisory duties. When the first Liverpool and Manchester Railway Bill was brought before Parliament in February 1825, its opponents were quickly able to expose huge discrepancies in the survey levels. The Bill was withdrawn in June 1825.

The Liverpool & Manchester Railway Committee's response was to replace Stephenson with John and George Rennie, who in turn engaged a new Chief Surveyor, the highly experienced Charles Vignoles. The Committee also prepared for the introduction of a second Bill by enlisting new support and making calculated compromises in its plans in order to secure the smooth passage of the second Bill. Its great coup was capturing the support of the Marquis of Stafford, main beneficiary of the Bridgewater Canal Trust. Lord Stafford's support not only wiped out opposition from the Bridgewater Canal Trustees, but also brought an investment of £100,000, representing an approximately 20% shareholding. The revised proposal also thwarted the anti-steam locomotive lobby by proposing a horse-drawn service. Finally, the route terminated not in Manchester, but on the Salford side of the Irwell at Hampson Street, close to the New Bailey Prison, thus avoiding direct conflict with the Old Quay Company. Accordingly, the second Bill gained a more favourable reception, entering Parliament in February 1826 and progressing to royal assent on 5 May.¹⁶



The area around the Station, showing the proposed approach routes

The Property Transactions

Following negotiations with various candidates, the new Liverpool & Manchester Railway Company reinstated George Stephenson as Chief Engineer in July 1826. Shortly afterwards, construction of the line began at Chat Moss and Wapping. With attention initially focused on the Liverpool end and the difficult Chat Moss section, the Manchester terminus received little further consideration until late in 1827. However, it seems doubtful that the Railway Company ever truly abandoned their desire for a Manchester, rather than a Salford, terminus. It was more likely a case of biding time until opposition had waned. In late 1827 the Railway Company investigated a possible land purchase on the Salford side of the Irwell, but nothing came of this. However, concurrent negotiations for the purchase of 6,000 square yards (5,016 square metres) of land on Manchester side of the Irwell, including the site of the Rothwell & Harrison dyeworks, were satisfactorily concluded. This plot was well positioned because it lay immediately in front of the point at which Vignoles' route curved north-eastwards towards Hampson Street. The property cost £10,000, with an annual chief rent of £96.¹⁷

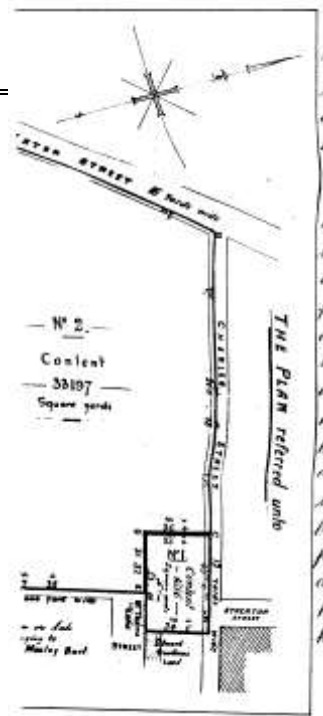
However, the Railway Company still needed to acquire land adjacent to the river on the Salford side and the crossing rights, both held by the Old Quay Company. Charles Lawrence, the Chairman of the Railway Company, notified the Old Quay Company by letter in February 1828 that the Railway Company would be seeking Parliamentary approval to extend the line to terminate in Manchester and wanted to buy the necessary land on the Salford side. With the railway a fait accompli, the Old Quay Company evidently realised that continued opposition would be futile and resorted instead to driving a

hard bargain that would maximise the benefits to itself. The final agreement, signed in February 1829, secured the land for the Railway Company at a chief rent of 1s. per square yard at the price of acceding to the Old Quay Company's demands for retention of the railway frontages on the Salford land and the release of sufficient land for a warehouse at the Liverpool end, as well as to its stipulations regarding the form of the bridge in terms of headroom, arch spans, and the provision of an 8-ft (2.4-m) towpath on the Salford side and an 18-ft (5.5-m) cartway across the bridge (and ramp access to Water Street).¹⁸

While these negotiations were proceeding, Gilbert Winter, a Manchester wine merchant and Railway Company shareholder and board member, was engaged on a separate transaction. It had become clear that the plot between Water Street and the Irwell was too narrow to accommodate the Manchester station. Subsequent events reveal that Winter must have approached the owners of the undeveloped part of the Byrom Estate with a view to acquiring the land. It seems unlikely that Winter was acting independently of the Railway Company, but there is no record that he was asked to act as its agent, so the arrangement must have been unofficial. Winter's involvement with the Railway Company was public knowledge, so it was unlikely to have been a covert assignment.

With the death of Ann Atherton in January 1826, her half share in the Byrom property passed to her co-heiresses, her unmarried daughter Eleanora and her married daughter Lucy Willis. However, with the agreement of her mother and sister, in 1822 Lucy had signed over her lifetime rights in her prospective quarter share to William Fox and John Sharpe, subject to the payment of chief rent. This meant that Gilbert Winter had to reach agreement with Eleanor Byrom (owner of a half share), who was 71 years of age in 1827, Eleanora Atherton (owner of a quarter share), William Fox and John Sharpe (jointly administrators of a quarter share), and Edward and Hannah Woollam, who had inherited the leasehold originally granted to Hannah's father, John Clegg. This complex set of relationships may have been critical to the outcome, because Gilbert Winter appears to have quickly reached an agreement to lease the whole property by December 1828, when he offered to rent it to the Railway Company for 1s. per square yard, based on a stated area of 35,051 square yards (although this is less than the area signed over to the Railway Company in 1833), yielding a total annual rent of £1,752. 11s. 0d.¹⁹

However, Winter did not formally gain leasehold title to the property until March 1829.²⁰ There were two transactions: by the first, Winter bought out the leasehold rights of Hannah and Edward Woollam for £881. 12s. 0d., but with £200 of that being paid to Eleanor Byrom in respect of rent arrears; by the second, Winter took on the lease of the whole property for a total annual rent of £1,075. 14s. 8d., to be paid in three parts according to the ownership shares previously described. Thereby Winter netted £678. 5s. 8d. per year as compensation for the lump sum that he had expended on the first transaction. It seems likely that this arrangement suited the Railway Company because it was only after the amending Act of May 1829, which authorised the "deviations" to the original route, that it was also empowered to raise additional capital towards the increased



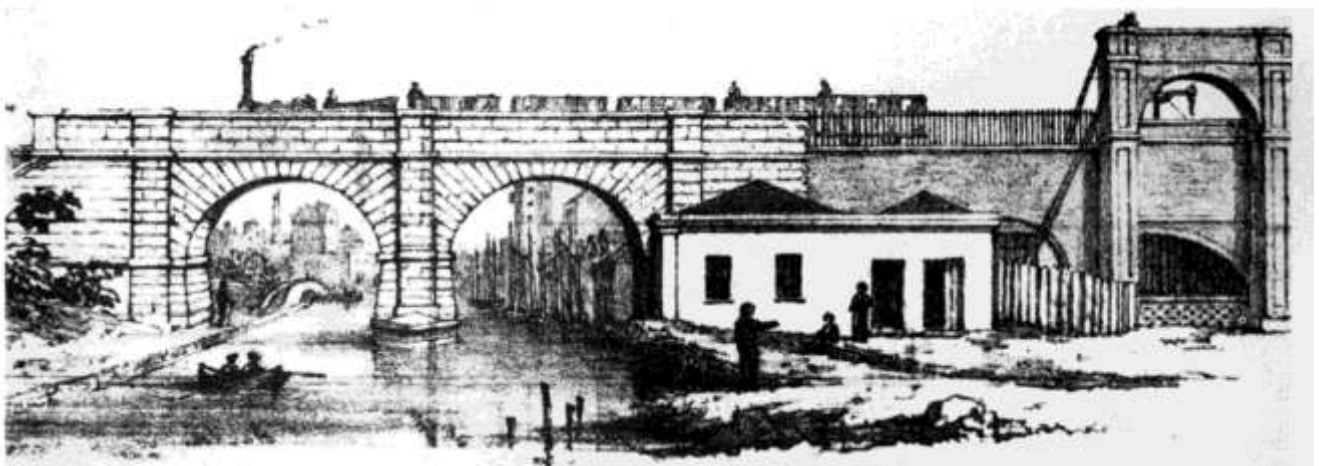
Plan from the 1833 Deed of Covenant between Gilbert Winter and the Liverpool & Manchester Railway Company

expenditure associated with the extension of the line and provision of carrying facilities.

The 1829 contracts satisfied the Railway Company's immediate needs, enabling the planning and construction of Liverpool Road Station to proceed, and remained in effect until 1832. In April 1832, Winter contracted with Eleanor Byrom and Eleanora Atherton for the "absolute purchase" of the yearly rents owing to them in order to possess the property "in fee simple in possession free from all incumbrances". The respective lump sum payments were £10,757. 6s. 8d. (in respect of the half share) and £5,375. 13s. 4d. (in respect of the quarter share). As the payments were made "for and on behalf and with the proper monies of the said Liverpool & Manchester Rly Coy", the yearly rent paid by the Railway Company to Gilbert Winter was reduced to £945.15s. 0d. Winter remained responsible for paying yearly rent in respect of the other quarter share. Finally, on 25 March 1833 Gilbert Winter signed over his rights in the property to the Liverpool & Manchester Railway Company subject to the continuing payment of yearly rent of "£945.15.0 by equal half yearly portions henceforth on the 25th day of March and the 29th day of September clear of all taxes and deductions". The description of the property distinguished two contiguous plots: the 1-acre (0.4-hectare) plot on Charles Street formerly leased by John Clegg and the remaining 6.9 acres (2.8 hectares).

Construction of the Irwell Bridge

Construction of the Irwell Bridge began in the summer of 1829. Although the keystones of the Irwell Bridge bear only the initials of George Stephenson, as Chief Engineer, and John Dixon, the resident engineer for the eastern end of the line, credit for the detailed design belongs to Thomas Longridge Gooch, who acted as Stephenson's personal secretary and sole draughtsman from October 1826 to November 1829, when he became resident engineer for the western end of the line. The construction contract was advertised in May 1829²¹, specifying a two-arch bridge of brick construction with ashlar facings.²² It was awarded to J. B. Brockbank, a Manchester slate and stone merchant, and Alexander Fyfe, a draughtsman and superintendent of works who had worked on other parts of the Railway.



The masonry bridge over the Irwell. This is one of the few contemporary views of this bridge, none of which is wholly accurate.



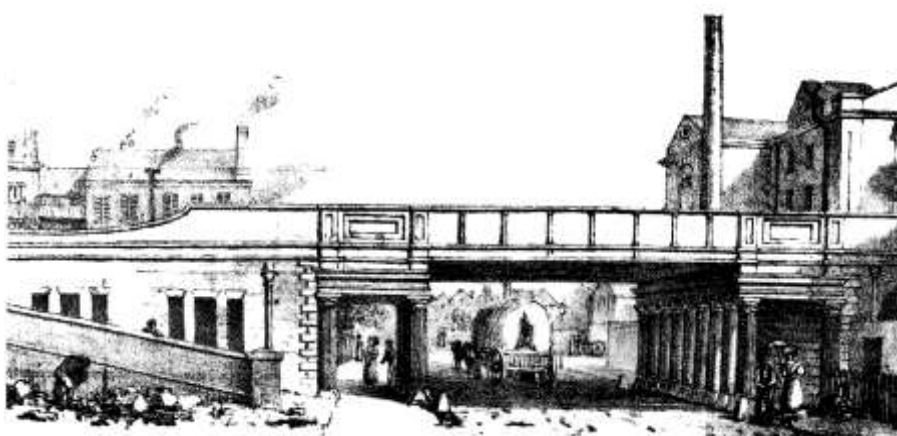
Central pier of the Irwell Bridge

A double-arch skew bridge, with each arch spanning 63 ft (19.2 m), the Irwell Bridge was the most complex bridge on the Liverpool to Manchester line. The complexity arose from a combination of the specific location (requiring embankments at both ends), the angle of approach to the station site and the demands of the Old Quay Company. The art of skew bridge construction was a recent development requiring great precision in the laying of angled bedding planes to offset the thrusts. The Irwell Bridge proved to be a difficult build, only completed just prior to the opening of the Railway. The first major problem was keeping the cofferdam watertight to allow erection of the piers. Then, with the outer piers completed and construction of the wet pier (the central pier) underway, progress was marred by an accident in April 1830 in which twelve stonemasons were drowned.²³ Finally, there was a switch to using stone voussoirs for the arches, rather than brick voussoirs faced with stone. The final cost of the Irwell Bridge, including compensation to the contractor for delays and late changes, was £20,000.

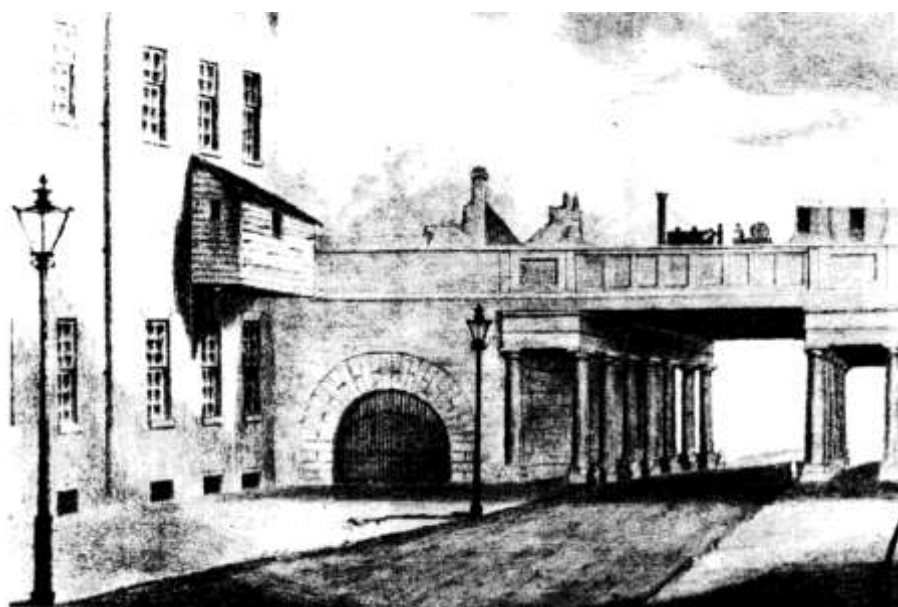
Construction of the Water Street Bridge

Meanwhile, work was proceeding on the road bridge and the station buildings. The specifications of the Water Street Bridge had been another bone of contention in the negotiations that preceded the extending Act of 1829. The original Act had made a general stipulation that bridges over public highways must be at least 15 ft (4.6 m) wide with 16 ft (4.9 m) headroom. However, the Manchester Surveyors of Highways felt that the headroom was insufficient.²⁴ One of the Surveyors was David Bellhouse, a leading building contractor, timber merchant and manufacturer of ironwork and cotton, whose son was later engaged as contractor for the Manchester warehouse. The Railway Company was also petitioned by private citizens who wanted the width of the bridge increased. The ensuing extending Act incorporated these concessions, specifying a 17-ft headroom across the entire width and a 24-ft span, with provision for foot traffic in the form of 6-ft pathways on either side of the roadway. Taking into account the planned height of the Irwell Bridge, the headroom

requirement for the Water Street Bridge virtually dictated that the beam or girder form of bridge be used.



Water Street Bridge, viewed from the south



Water Street Bridge, viewed from the north

George Stephenson had already used cast-iron girders in bridge construction on the Stockton & Darlington Railway, but he now had the opportunity to benefit from recent improvements to girder design arising from the research of Eaton Hodgkinson.²⁵ His long-standing friendship with the renowned engineer William Fairbairn gave him access to Hodgkinson's experiments, which were carried out at the Manchester foundry of Fairbairn and his partner James Lillie. By subjecting cast-iron girders of varying cross-sections to a range of loads, Hodgkinson was able to calculate the degree to which cast iron was more sensitive to tensile stress than to compressive stress. This allowed him to calculate the ideal ratios both between the top and bottom flanges of the girder (the bottom flange being subject to the greater tensile stress) and between the cross-sections at the centre and ends of the girder.

The Water Street Bridge was the first structure to incorporate the 'Hodgkinson beam'. It consisted of brick abutments, which formed the junctions with the railway viaduct and spanned the footpaths, two

rows of nine Doric columns supporting the cast-iron grid, a jack-arched brick rail bed and cast-iron parapets. The five longitudinal main beams and the cross beams, which were set at intervals of 2 ft 9 in (0.84 m), were cast by Fairbairn & Lillie.²⁶ Construction appears to have proceeded very smoothly, which, with the Irwell Bridge still unfinished, must have been a great relief to the Railway Company.

Construction of the Warehouse

Work on the Water Street Bridge was already underway when the Railway Company finally gave its attention to the construction of the station buildings, having deliberated at length on the best arrangements for the carrying trade. Offering a pioneering passenger and goods rail service, the Liverpool and Manchester Railway had no clear templates for its termini. Its closest counterpart, the Stockton & Darlington Railway, carried neither the volume of passengers nor the range of goods that the Liverpool & Manchester Railway was expecting to carry. The dilemma with the goods carrying trade was whether to risk long-term profits for short-term capital savings. The options available to the Railway Company were: to contract out the carrying trade in whole or in part, thus avoiding or reducing capital outlay on warehouse construction; to lease space in existing warehousing, which was plentiful at the Liverpool Docks and ample in the Castlefield canal basin and along the Irwell; or to assume principal responsibility for the carrying trade itself. In Liverpool the latter option was less demanding, because the Railway continued from Crown Street Station to the docks at Wapping, where goods could be transhipped directly, leaving a minimal requirement for goods handling and storage facilities at the station itself. Accordingly, the Railway Company decided to investigate the other options in Manchester first.²⁷

The most promising possibility was to forge a deal with the New Quay Company, which acted as an independent carrier on the Mersey & Irwell Navigation. However, satisfactory terms could not be agreed and in January 1830 the Railway Company decided to begin planning its own warehousing. The eventual form of the Manchester warehouse suggests that the Railway Company based its design, in functional terms, on that of canal warehouses in the Castlefield Basin, but there is no record of the architect responsible for the design.²⁸ The warehouse contract was put out to tender in April through an advertisement in the *Manchester Guardian* which referred to "five warehouses", although the resulting building was one warehouse divided into five bays.²⁹ The warehouse was to have the capacity to store 10,000 bales of cotton or the equivalent thereof. The contractor was to procure all materials other than bricks, which the Railway Company already had in stock. Five firms submitted tenders ranging in cost from £12,000 to £14,000. The second-lowest bidder, David Bellhouse Jr., gained the contract.³⁰ Aside from his good track record in warehouse construction, Bellhouse had a key strength: his father's timber business and iron foundry provided him with a reliable supply of materials.³¹

The stated completion date was 15 August 1830, giving less than four months for construction. As early as 6 June 1830, the *Manchester Mercury* was able to report that the warehouse was "within a few feet of the full height to which it is intended to be carried, the fourth storey

from the ground being nearly erected". However, the construction was not entirely without incident as the same article referred to a "turn-out of labourers for advance of wages followed by a turn-out of brick-setters". Unsurprisingly, Bellhouse was quick to accede to their demand. With three weeks to go to the completion date, the *Manchester Guardian* reported that the roofing was in place and internal works were nearing completion.³²

The demanding schedule may at least partly explain the choice of a timber-framed structure, rather than a fireproof structure with a frame of brick and iron: a timber frame was faster to fabricate and assemble. Notwithstanding the existing involvement of Fairbairn and Hodgkinson or the potential services of the Bellhouse iron foundry, a fireproof structure would have been extremely difficult to achieve on schedule because of the irregular footprint of the warehouse. While the skew bridge across the Irwell lessened the angle of approach to the station, the railway viaduct nevertheless entered the station site in a shallow curve. Abutting the viaduct longitudinally, the warehouse was required to take a roughly parallelogrammic footprint, so the internal frame could not have the normal 90° intersections. This would have reduced its tensile strength and created a highly complex casting job. It would also have required great accuracy of construction, because there would have been no room for minor adjustments. Timber, on the other hand, was easy to trim in situ.

The warehouse was 320 ft (97.7 m) long and 70 ft (21.4 m) wide. Its internal frame was not wholly timber because in the basement cast-iron columns were used in place of timber storey posts, an arrangement also found in canal warehouses. The proximity of the warehouse to the River Irwell meant that there was a risk of flooding, which could have led to timber rot. It is likely that the cast-iron columns, along with the wrought-iron straps used to strengthen the beam joints, were made at the Eagle Foundry of David Bellhouse, senior. Four types of wood were used in its construction: European oak for the majority of the storey posts; European pine for the roof timbers, beams, joists, floorboards and the storey posts supporting the roof; dense Latin American greenheart for the spreader pads between the posts and beams; durable African oak for the loophole door sills.³³ The Baltic origin of the pine was denoted by the incision of shipping marks, a form of identification used to denote the quality and origins of Baltic timber.³⁴ Careful prefabrication of the timbers would have been very important in this irregular building, particularly in the case of the vital roof trusses. Evidence of this exists in the form of carpenters' marks on the roof trusses, indicating the need to carefully match component members that had been measured and cut for a specific location.³⁵



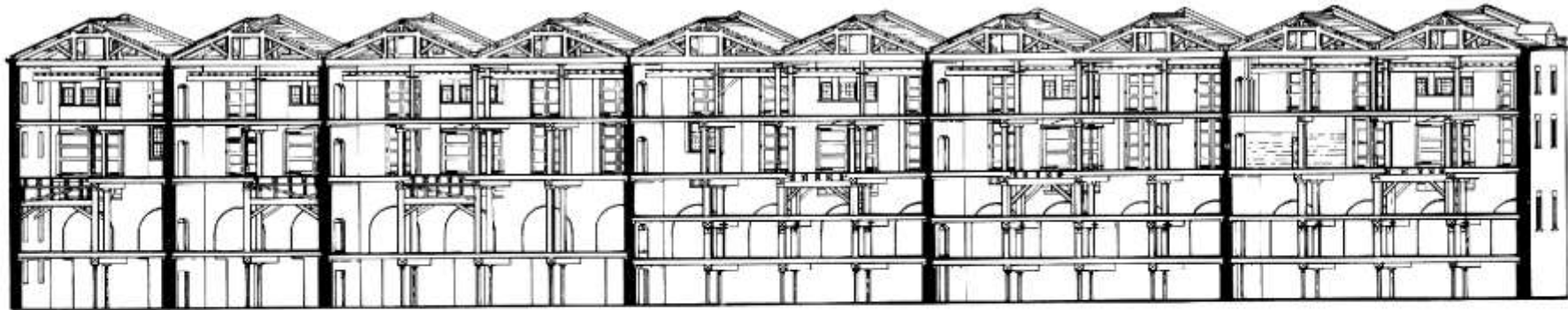
GMAU drawing of a shipping mark, 1991

Smaller shipping mark

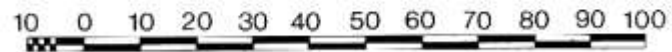
On completion in 1830, each of the five bays of the warehouse was designed and equipped to operate independently as regards the vertical movement of goods. The key requirement was for goods to be deliverable to and from rail and road levels, where they were transhipped. At rail level, turntables were installed on the tracks opposite the large arched pairs of doors that denoted the entry points for rail wagons. Imitating the arrangement of canal warehouses, whereby short canal spurs entered the warehouses to form loading docks, tracks were laid inside the warehouse transverse to the main track so that wagons could be turned and hauled in for loading and unloading under cover. To be able to bear the weight of a fully loaded wagon, the tracks were supported by trestles. One such track served each bay apart from the easternmost bay, which was subdivided to accommodate two tracks. Each set of loophole doors, fourteen each on the north and south elevations, was surmounted by a contra-wound hoist, which was manually operated with gravity assistance. These hoists were mounted on the internal crane platforms that flanked both elevations. At yard level, the floor of the warehouse was raised above ground level to the standard height of a cart bed, thus allowing goods to be dragged or wheeled in or out through the loophole doors.³⁶



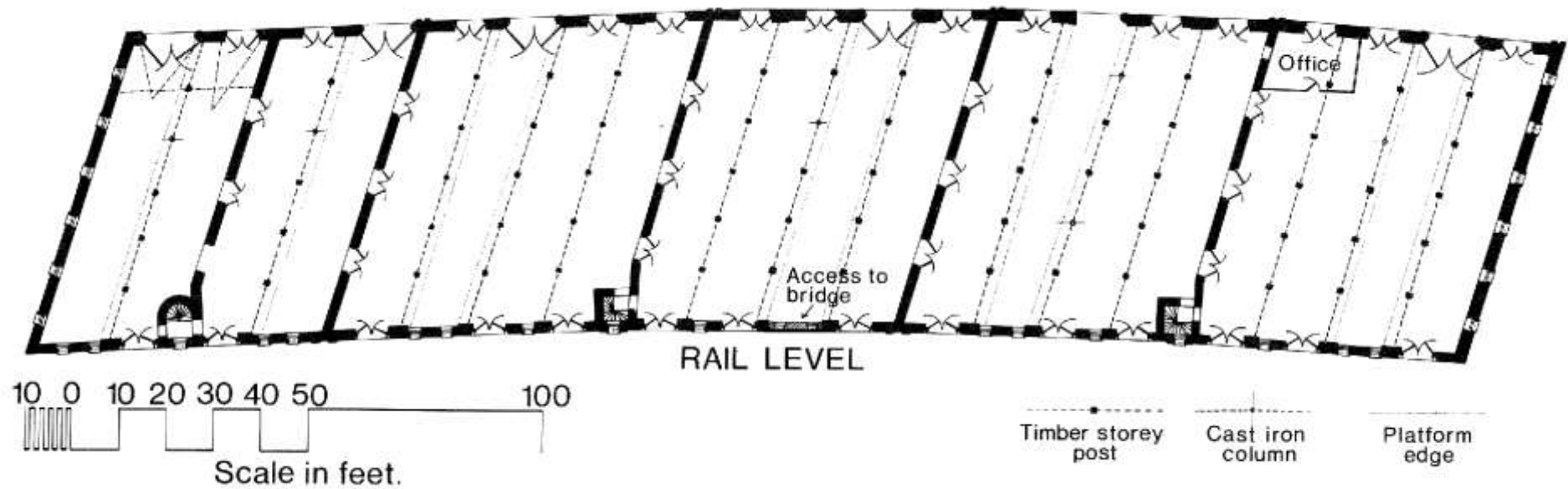
NORTH ELEVATION



SECTION



Scale in feet



Construction of the Coach Offices (Passenger Departure Station)

As with the goods carrying trade, the Liverpool & Manchester Railway Company had considered contracting out the passenger carrying trade and entered into discussions with Henry Charles Lacy, a Manchester stagecoach operator and owner of a coaching inn on Market Street, in September 1829.³⁷ Having abandoned that idea, the Railway Company seems to have thought that the construction of the Coach Offices, as the passenger station was termed, was the least of its immediate concerns. There is no evidence that a separate contract was advertised, hence the reasonable assumption that David Bellhouse Jr., who certainly went on to build the adjacent carrier's office, took on the job. The identity of the architect also escaped documentation in the Railway Company's own records or in the press and remains a mystery. The degree of similarity between the design of the Liverpool Road Coach Offices and that of Crown Street Station in Liverpool suggests that they were the work of the same architect, but as the Railway Company made regular use of several architects, no single candidate comes to the fore.

The Manchester newspapers kept a close watch on the progress of Liverpool Road Station, so it is known that the construction of the Coach Offices began in June 1830 and the first storey was completed within a month.³⁸ The Coach Offices consisted of two booking halls, one for first-class passengers and the other for second-class passengers, at street level, and two corresponding waiting rooms on the first floor at rail level.³⁹

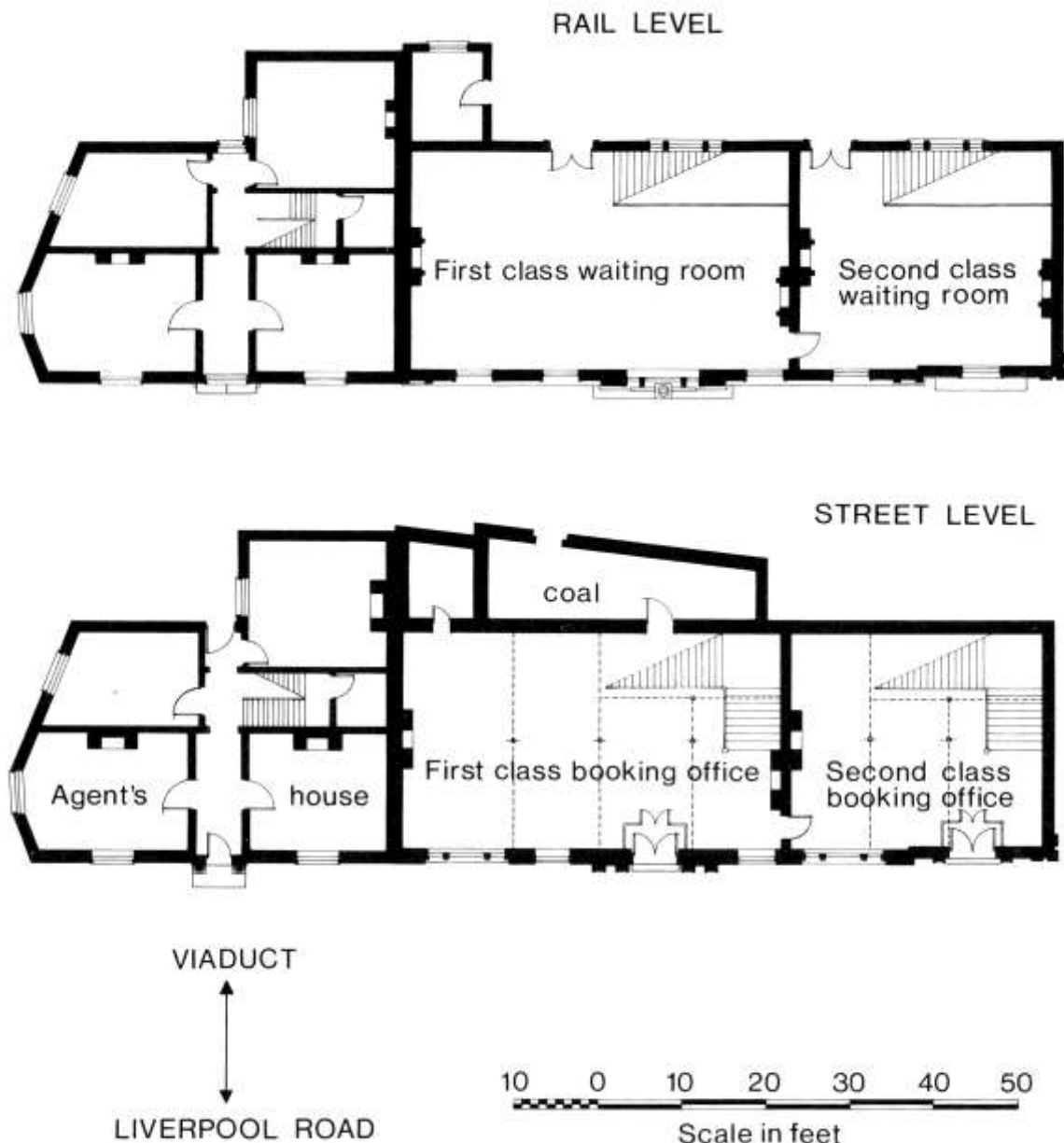


Water Street Bridge, Station Master's House and Station Building, c. 1830

The first-class booking hall and waiting room were 45 ft (13.8 m) long and the second-class facilities were 35 ft (10.7 m) long. The façade can be described as modestly Greco-Georgian or Neo-Classical, but lacks the symmetry characteristic of that style. It consisted of stuccoed brickwork in the form of banded rustication at ground level and plain stucco above. The entrance for first-class passengers projected slightly from the façade, which added to the prominence

that was conferred by the entablature supporting a baluster (which later held the station sundial) and the large window at first-floor level. No architectural statement was required of the rear elevation of the Coach Offices, which was therefore left as plain brickwork in Flemish bond. The departure platform was paved with York flagstones but was uncovered at that time.

The Railway Company retained the 1808 house formerly occupied by John Rothwell. It became the dwelling of the Station Agent, Joseph Green.



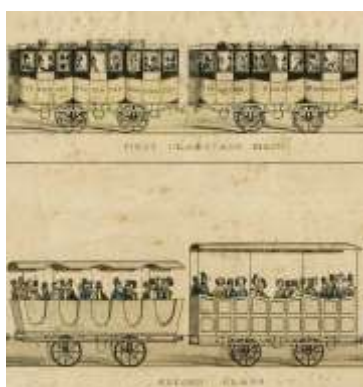
Reconstruction of 1830 plans of Stations Master's House and Station Building

The Opening in 1830



Medal commemorating the opening of the Liverpool & Manchester Railway

This then was the entirety of Liverpool Road Station at the opening of the Liverpool & Manchester Railway on 15 September 1830, a ceremony that attracted a more prestigious guest list than any previous railway opening.⁴⁰ The Duke of Wellington, then Prime Minister and still feted by many as the hero of Waterloo, had agreed to preside as chief guest. Large crowds thronged the route, particularly in Liverpool and Manchester, but the celebrations turned sour midway through the day when William Huskisson, MP for Liverpool and former President of the Board of Trade, met with a fatal accident. The accident happened at Parkside, where the trains had stopped to take on water. Huskisson had alighted and was standing on the track talking to the Duke of Wellington, who remained in his carriage, when he was struck by the *Rocket* locomotive, approaching along the adjacent track. He was taken at speed to Eccles for medical attention, but died that evening. When the delayed convoy eventually reached Manchester, a further blight was cast on the proceedings by the hostile reaction of some of the crowd gathered in Manchester to the Duke of Wellington, who was a vehement opponent of political reform. The Duke and the other principal guests remained in their carriage while the other guests alighted to partake of the "cold collation" of light refreshments, which was served on the top floor of the warehouse.



Detail from Sketch of Carriages (c. 1831)

The first fatal railway accident might have been expected to deter would-be travellers, but this was not the case. Within months of the opening of the Liverpool and Manchester Railway, passenger traffic was exceeding expectations to such an extent that it became necessary to defer the introduction of goods services until the delivery of more locomotives in December 1830. Based on the existing stagecoach traffic, the Railway Company had conservatively budgeted for a daily quota of 250 passengers a day. In fact, within weeks, the Railway was carrying more than four times that volume of passenger traffic, a level that was maintained fairly consistently. The rail journey had the dual advantage of being more than twice as fast and little more than half the price of the stagecoach journey. As expected and feared by the stagecoach operators, the impact on stagecoach demand was immediate: within five months the number of stagecoaches and mail coaches running daily between Liverpool and Manchester had dropped from twenty-nine to four, and within four years it had dropped to one.

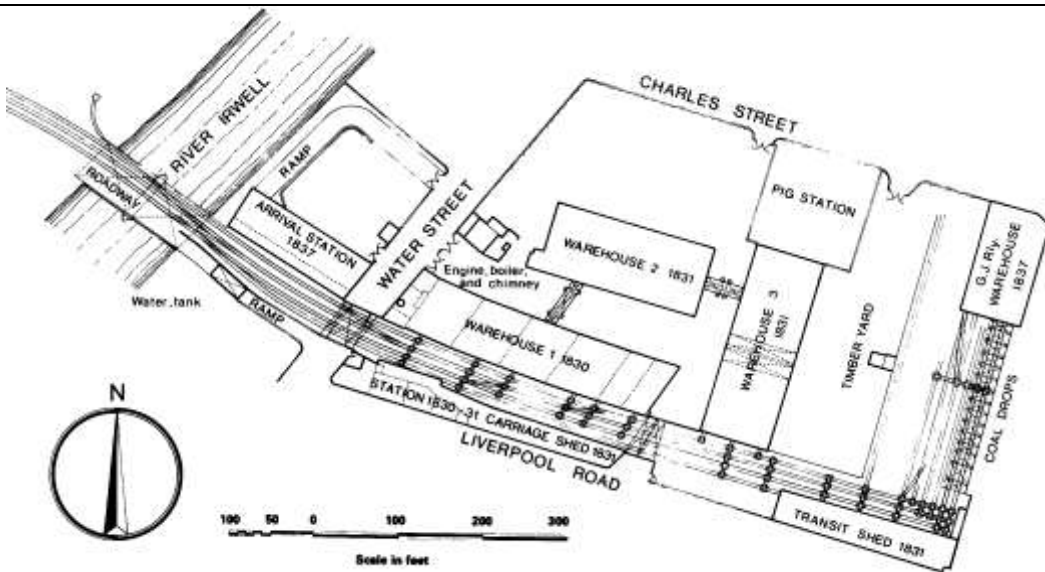
Even before the opening, the Liverpool & Manchester Railway Company had realised that additional facilities were required at Liverpool Road Station. In July 1830, David Bellhouse Jr. had won the contract to build carrier's offices next to the Coach Offices and had already laid the foundations. The first consignment of freight to arrive at Liverpool Road Station, hauled by *Planet*, consisted of 135 bags and bales of American cotton, 200 barrels of flour and a quantity of oranges.⁴¹ Thereafter the goods traffic diversified and grew steadily, reaching £120,000 in 1838, but never quite matched the income from passenger traffic. Sequence of maps showing Development of: Liverpool Road Station Site



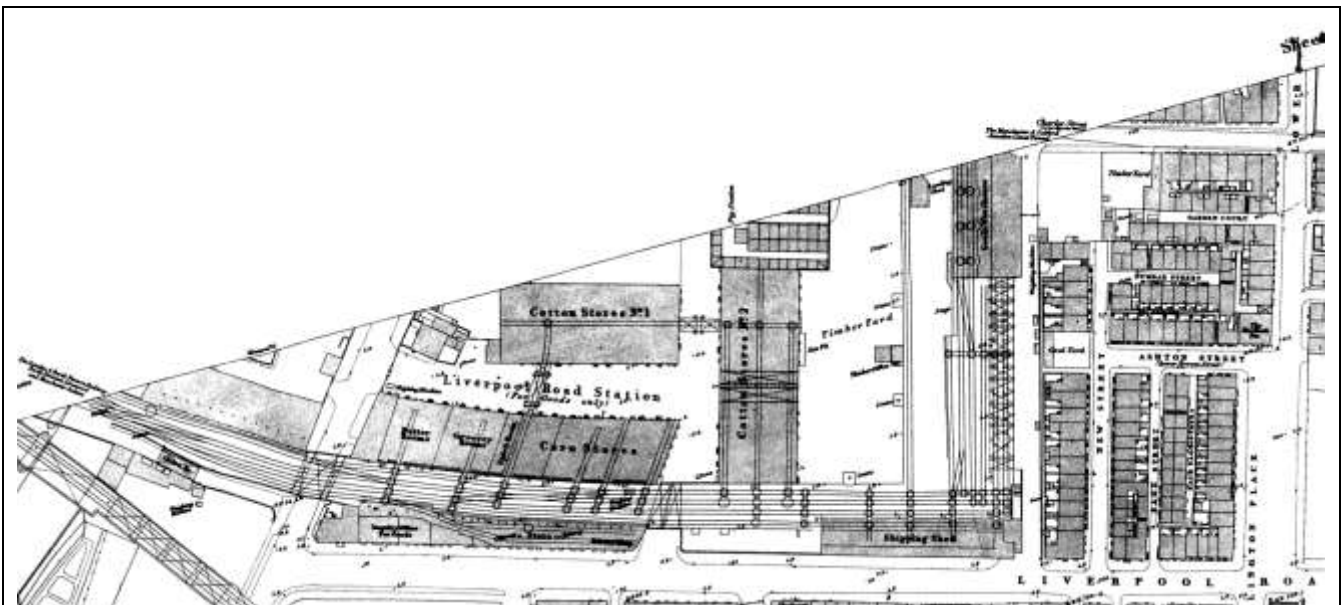
1824: Site of Liverpool Road Station prior to development



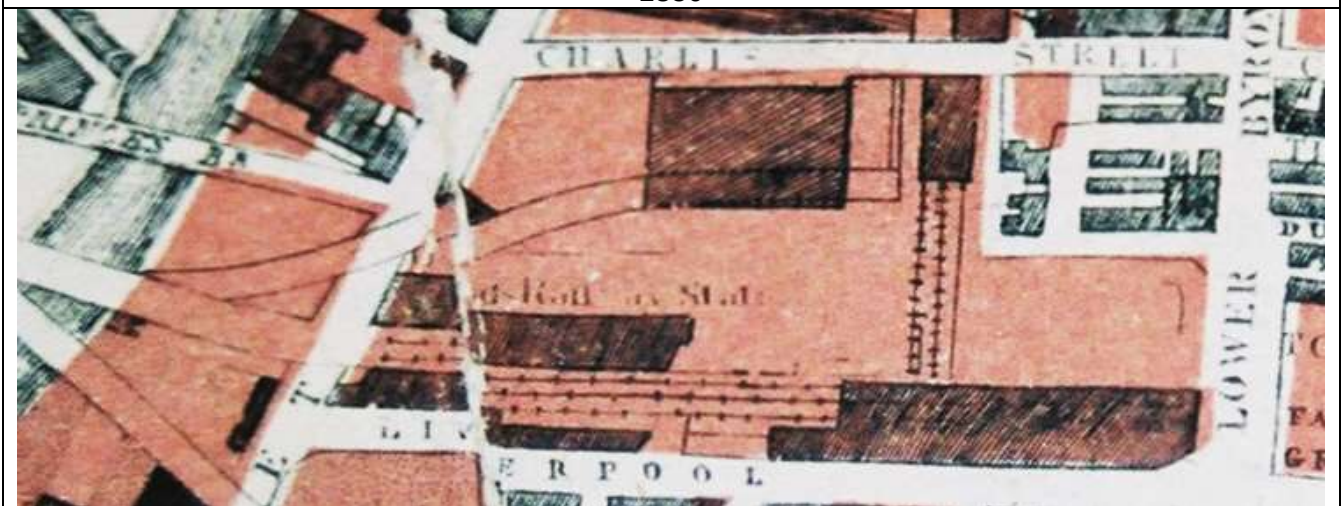
1832



Plan of site c. 1837



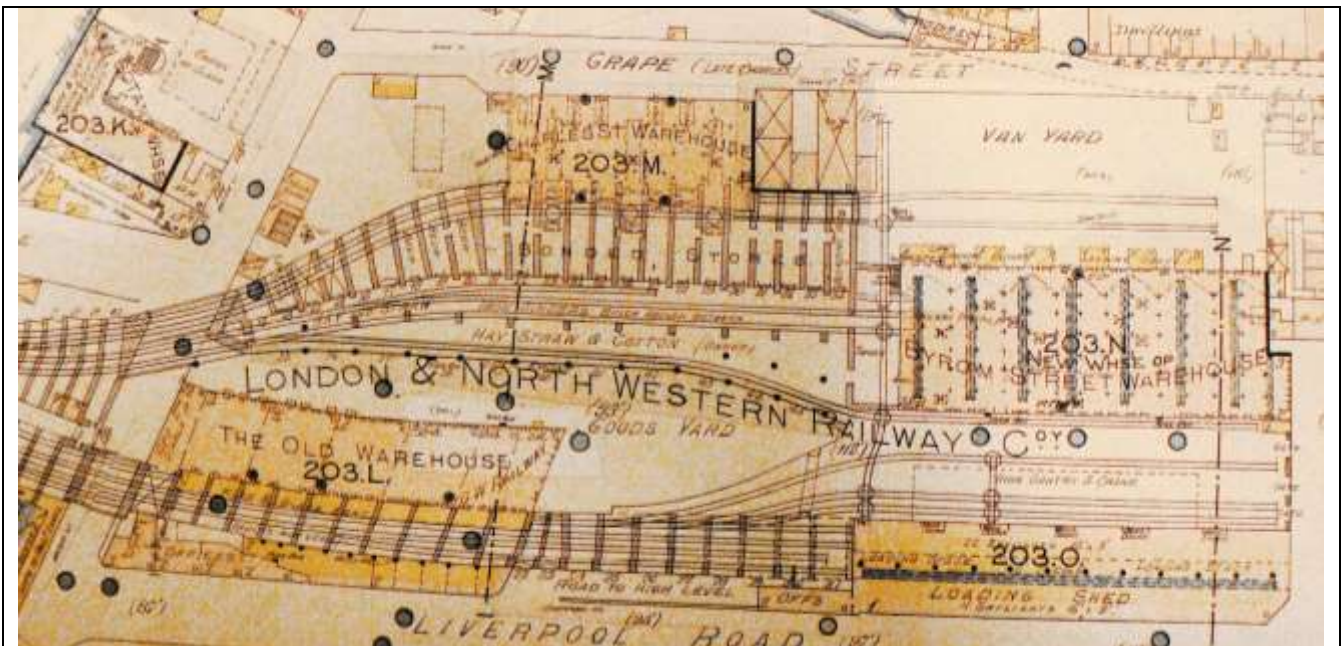
1850



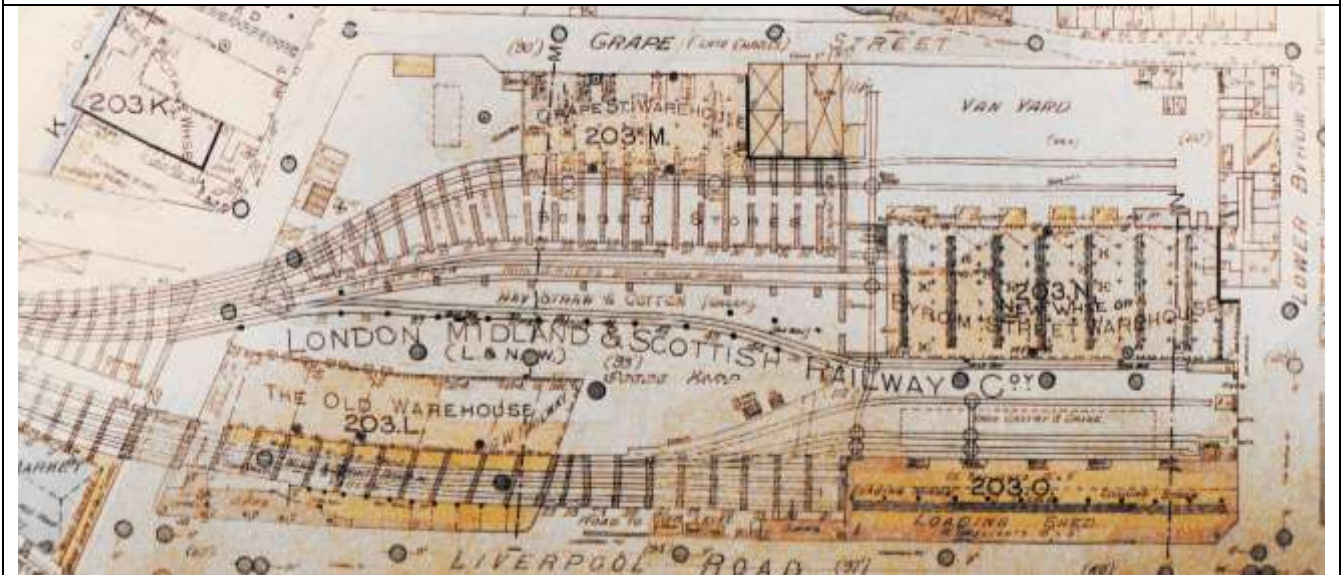
1876



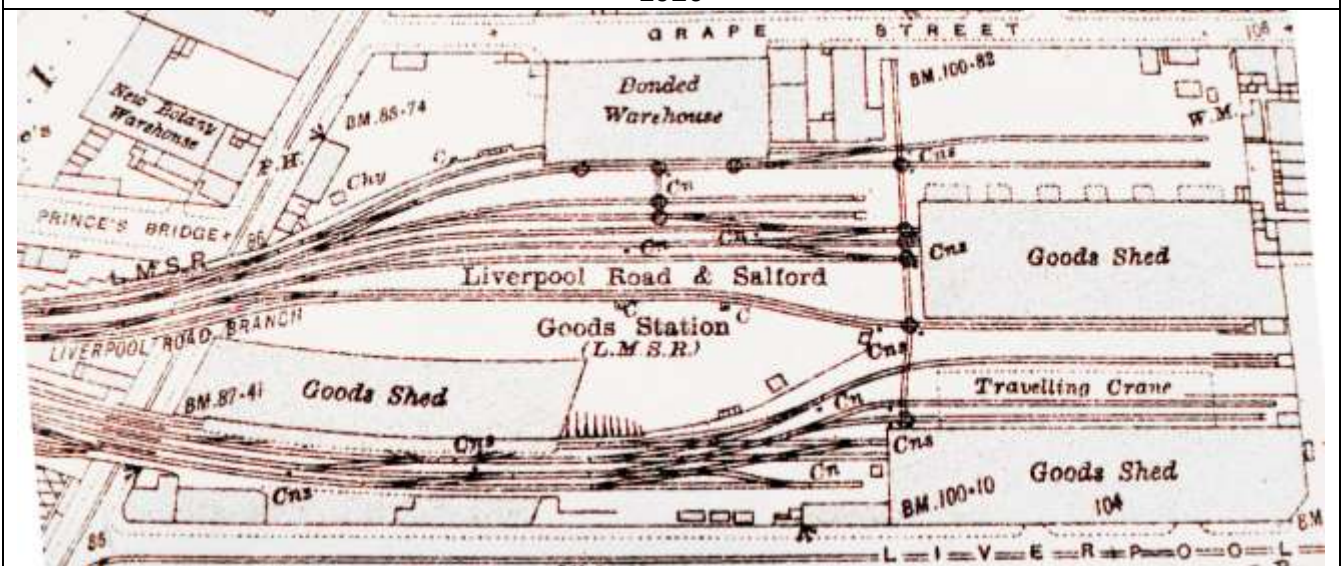
1881



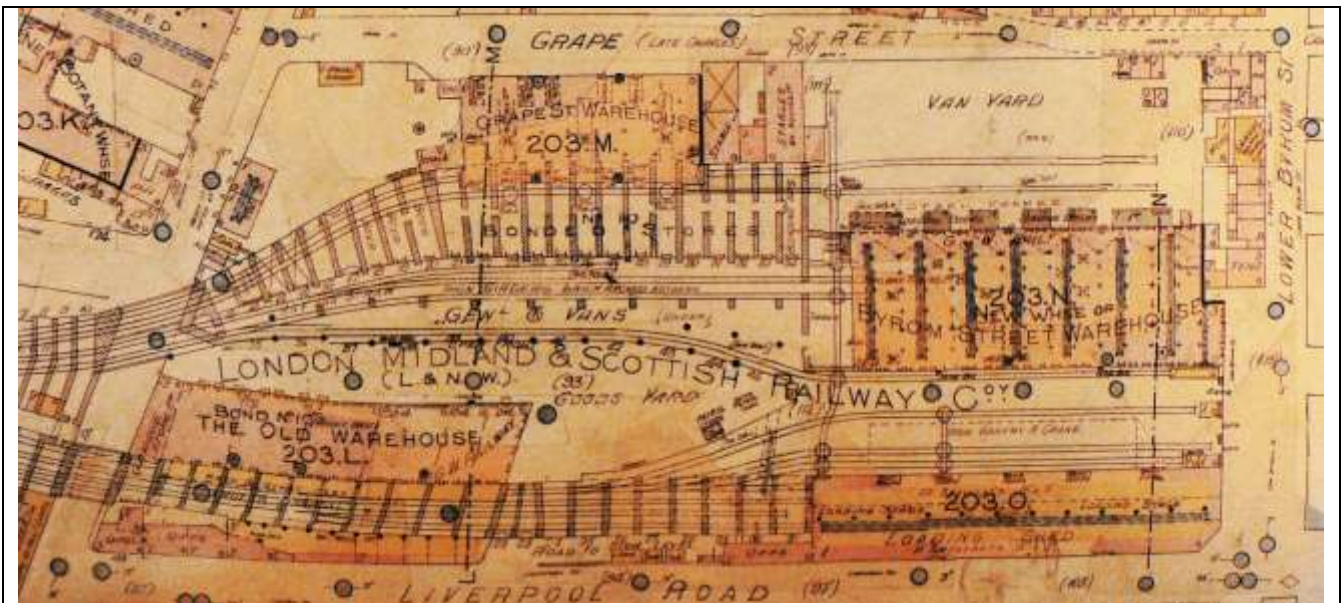
1913



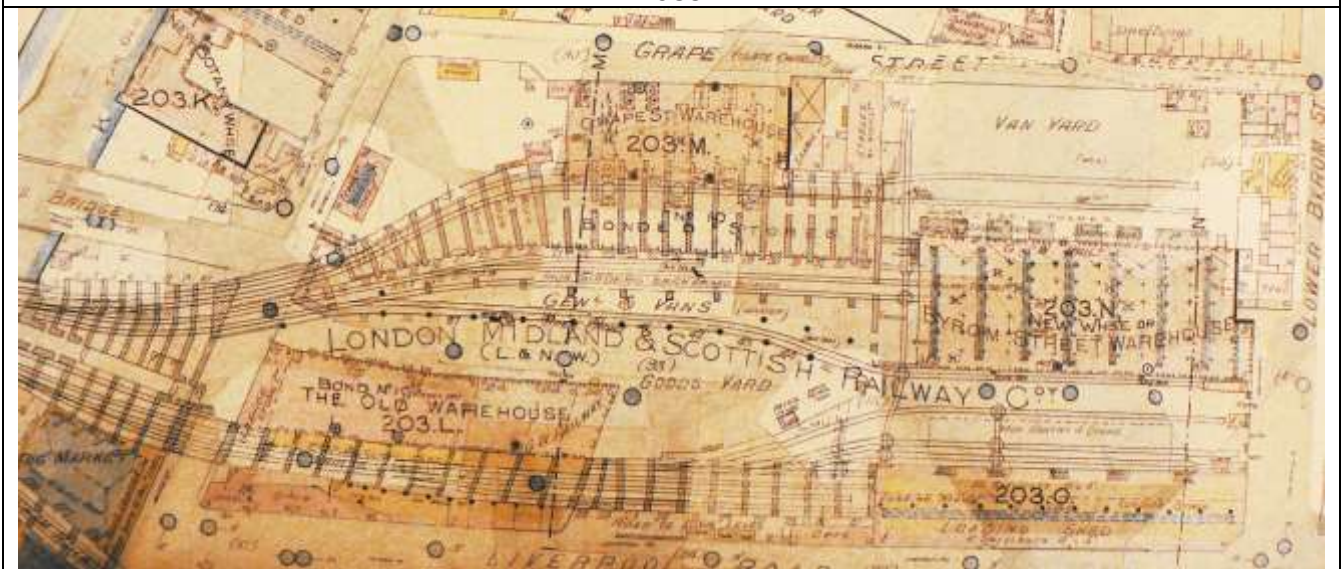
1926



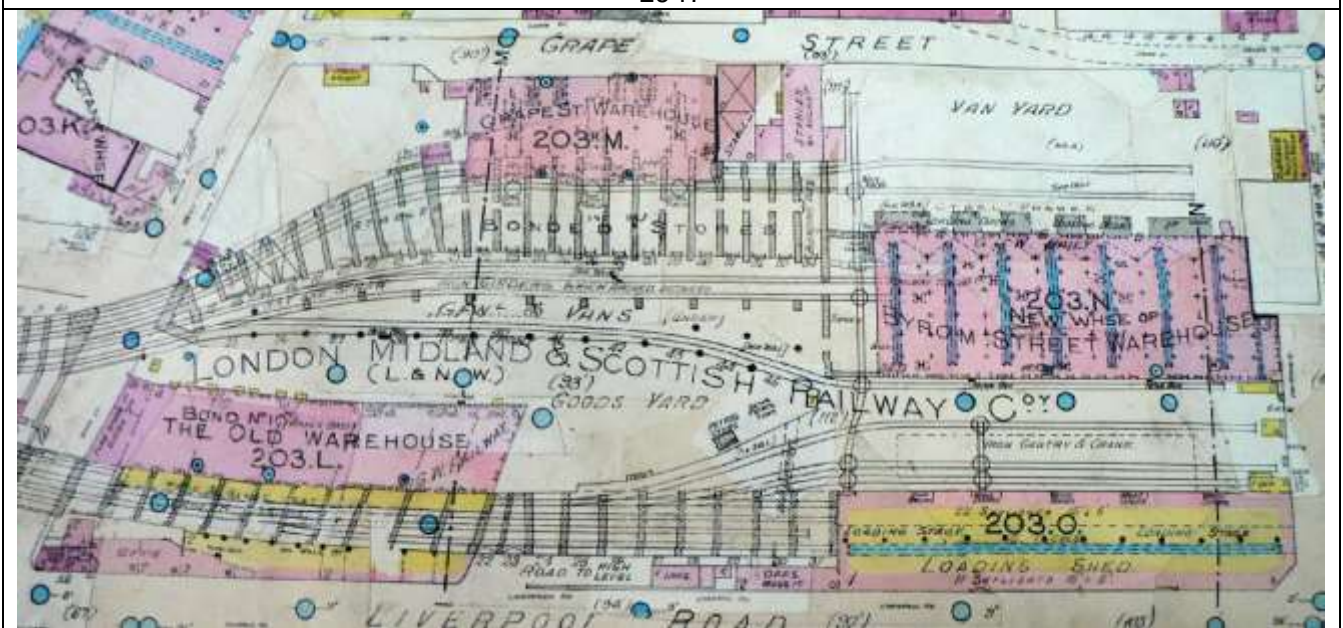
1932



1935



1947



1961



British Rail plan of Liverpool Road Station showing the previously separate plots of land and annotated to show the expansion of site. To the west of the red line is the original plot (BR 659); the magenta lines show the plots purchased in 1837 (BR 665); to the south of the dark blue line is the land acquired in c. 1854 (BR 663-4, 667-9, 672-5 and 678); the green line shows the plot added in 1869 (BR 666); to the north of the dark blue line is the plots acquired in 1876-80 (BR 660-2, 670 and 676-7.)

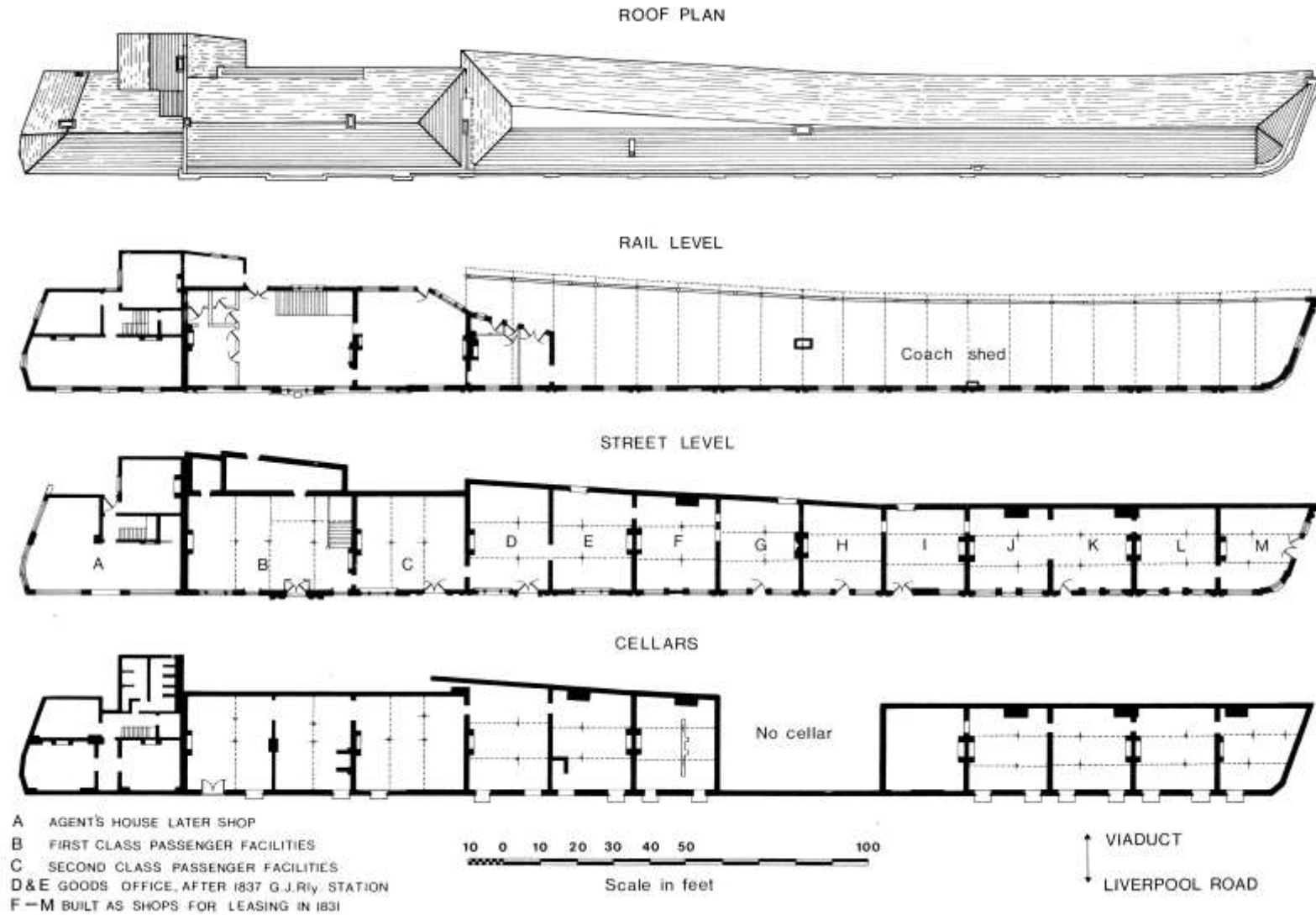
3.3.3 The Expansion of the Station Facilities 1830-45

Construction of the Carrier's Offices, Shops and Carriage Shed

As a result of this instant success, there was more building activity at the Station in 1831 than in the preceding year. The carrier's offices, which formed a continuation of the Coach Offices, consisted of a parcel reception and collection office and an office for the goods clerks. The Railway Company was careful to ensure that the carrier's offices did not visually detract from the Coach Offices. A plain stucco finish adorned the entire façade and the door and windows were similar to those of the second-class part of the Coach Offices. The door led only to the parcel office so it could not be placed centrally, but the four first-floor windows were placed symmetrically.

Perhaps appreciating the greater impact of an elongated street frontage, the Railway Company then decided to extend the range eastwards. The potential to generate rental income may have been another factor because the eight units that were built in 1831 were offered as shop premises. The shop fronts were a downgraded version of the carrier's office, having stucco applied only to the ground floor, and smaller windows and doors. This enterprise was never commercially successful, hence the reduction of the rent from the original £50 per annum to £35 per annum in only 1831.⁴² One tenant, William Vickers, did stay for 10 years, during which he increased his rental space. His original shop, a coffee house, presumably targeted at first-class passengers, had become a beer house by 1836.⁴³

While the basements were available to the shop tenants for storage, the first floor was completely separate. The first-floor façade to the shops and carrier's offices concealed a canopied open space that was used as a carriage shed, having a capacity of twenty railway carriages.⁴⁴ By 1840 the Railway Company had taken over most of the shops for use as offices and workshops, a process that was completed by 1848, as shown by the contemporary Ordnance Survey map.



Passenger Station ground plan, as at June 1979

Construction of the First Arrival Station (1831-3)



Bury-Ackermann Coloured Views on the Liverpool and Manchester Railway Plate 6, showing the Irwell and Water Street Bridges with the tower in between (1831)

The Coach Offices only dealt with departing passengers because the incoming passenger trains had to terminate on the other side of Water Street. The Arrival Station of 1830 could at best be described as perfunctory, consisting only of an unpaved platform linked to Water Street by a carriage ramp. Passengers had to make their own arrangements to be collected or rely on the services of private coach and omnibus operators. In November 1830, the Railway Company decided to invite tenders for the provision of omnibus services between the Station and its Booking Office on Market Street.⁴⁵ The contract was awarded to the aforementioned Henry Lacey and commenced in January 1831. Ten months later, a paved platform was provided on the north side of the track, west of Water Street.⁴⁶ In July 1833, a canopy was erected over the platform, similar in form to the carriage shed canopy.⁴⁷ Subsequent improvements owed much to the need to accommodate the Grand Junction Railway, as will be discussed below.

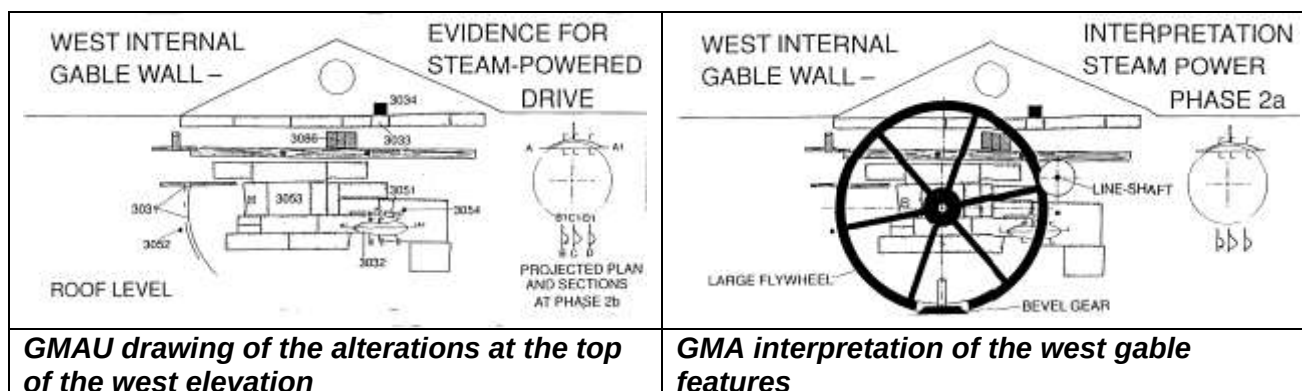
The Arrival Station faced the rather elegant water tower built in 1830 to supply water for the locomotives. As the tank was 15 ft above the ground, a pumping engine was needed to keep it replenished. The original engine seems to have been a failure because it was replaced early in 1832 by an engine supplied by Galloway & Bowman, whose works lay nearby in Knott Mill.⁴⁸

Expansion of Warehouse Capacity

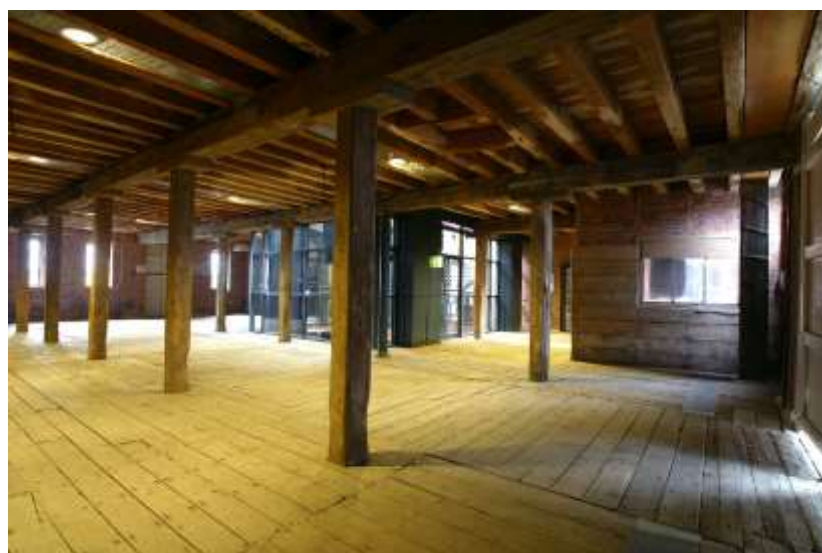
The most pressing need for the Railway Company in 1831 was to increase goods storage and handling capacity. Concerned about the primitive nature of the hoists, the Railway Company had instructed George Stephenson to investigate their mechanisation in November 1830, thus even before the first goods train had operated.⁴⁹ It was six months before any action was taken, which almost certainly reflects the need for careful planning. The absence of natural right angles was again problematic. The classic pattern of lineshafting was a rectangular grid formed by the main horizontal shafts and the cross shafts that fed power to individual machines. Therefore the first task would have been to calculate how many of the hoists could be connected to a main shaft transversely. The surviving evidence, in the form of belt and rope wear adjacent to the relevant hoists, reveals that about half of the 28 hoists could be served by lineshafting. This must have been sufficient to seem economically viable because the Bolton firm of Thompson Swift and Cole was awarded the contract for a steam engine for the price of £340 in May 1831.⁵⁰

This beam engine was installed in an engine house that was built on Water Street against the west elevation of the warehouse. Inside the warehouse, the additional stress of an adjacent steam engine and heavy vertical shaft was alleviated by the construction of a massive buttress in the basement against the gable wall. At roof level, the Water Street elevation had to be modified to accommodate a large flywheel that regulated the motion of the main horizontal shaft where it entered the warehouse. This required the addition of a small gable above the cornice to increase the headroom.⁵¹ The other change to

the warehouse in 1831 was to increase the floor area of the warehouse by the insertion of a mezzanine floor between the yard and rail floors in the westernmost three bays.⁵² This was achieved by fixing cast-iron brackets to the yard-level storey posts at the appropriate height to hold the new floor beams.



In the early years there seems to have been an organic approach to office provision. Having no direct access to track level, the carrier's office on Liverpool Road was only suitable for dealing with the parcel trade. The warehouse originally provided no office space, but by the end of its life at least six offices had been created, although it is unclear at what dates or for what length of service.⁵³ However, it seems likely that the three offices at the locations most critical to goods movements were early additions. These were the office at track level in the westernmost bay, which would have dealt with incoming and outgoing rail freight, and two adjoining offices at yard level in the same bay. The office nearest to the yard was used by the superintendent of the warehouse and would have administered the weighbridge that was located just outside near the Water Street gates.



Bay 1, Floor 2, looking north-east, with office wall at centre right

Meanwhile, the Railway Company had concluded that alterations to the existing warehouse alone would not suffice. In January 1831, it commissioned the architects Haigh Franklin of Liverpool to draw up

designs for a shipping shed and additional warehousing.⁵⁴ Haigh Franklin's configuration of the warehousing took the form of two "Cotton Stores", the name reflecting their primary purpose. The five tenders received in June ranged from £13,885 to £15,299. On this occasion, David Bellhouse Jr. was unsuccessful, having submitted the second highest tender. The contract was awarded to Samuel Buxton, another Manchester contractor.⁵⁵

The smallest and simplest of these buildings was the Shipping Shed, which was built on Liverpool Road at the south-eastern corner of the original Station site (just west of the current Power Hall).⁵⁶ Its purpose was to facilitate the rapid transshipment of goods, particularly perishable goods, between rail wagons and horse-drawn carts. A single railway track with four turntables ran into the Shipping Shed along the northern side, flanked on its inner side by a wooden platform that acted as a loading dock. This single-storey shed was about 225 ft (68.7 m) long and 42 ft (12.8 m) wide, the elongated shape being suited to its transshipment function. As originally built, the Shipping Shed seems to have been timber-walled, because in 1836 the Railway Company found it necessary to rebuild the Liverpool Road elevation as a brick wall in order to provide enough support for the roof.⁵⁷ As there was no formal street at the eastern end, access for carts was provided by a ramp leading to the Shipping Shed from a gated entrance on Liverpool Road, next to the last shop unit. Having no storage function, shipping sheds could also be used as overnight engine sheds. In 1833, at a cost of £65, the loading stage was enlarged "in order to effect a better Classification of the Down Goods"⁵⁸ and in 1834, at the urging of the Station Agent, new carrier's offices were built near to the eastern end of the Shipping Shed.⁵⁹

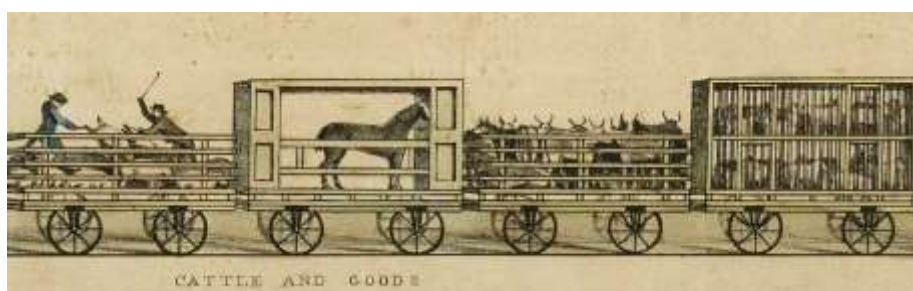
Cotton Store 1 (later known as just Warehouse 1) was 200 ft (61.1 m) long by 70 ft (21.4 m) wide and lay roughly parallel to the original warehouse about 55 ft (16.8 m) to the north. Cotton Store 2 (later known as just Warehouse 2) was 200 ft (61.1 m) long by 90 ft (27.5 m) wide and abutted the railway viaduct transversely about 60 ft (18.3 m) to the east of the original warehouse, providing direct access for rail wagons. Three railway tracks ran into Cotton Store 1: two ran along the walls and terminated about 55 ft (18.3 m) from the northern end; the third ran down the centre for the entire length. Another track ran transversely across the terminal points of the outer tracks, leading to a bridge that spanned the gap between the west elevation of Cotton Store 2 and the east elevation of Cotton Store 1, which would otherwise have been inaccessible to rail wagons. The track then continued down the centre of Cotton Store 2.⁶⁰ Haigh Franklin's original design for the Cotton Stores provided two storeys, giving a combined usable floor area sufficient to store 10,000 bags of cotton, as the Railway Company had stipulated. With construction under way, the Railway Company decided to add a third storey to each, increasing the cost by £4,675.⁶¹

As with the original warehouse, they were not constructed in the fireproof manner, even though their locations meant that there was no need to deviate from a rectangular footprint. Indeed, the Railway Company also seems to have neglected to apply the precautionary measure that it introduced in the original warehouse in 1834. This was the installation of a wrought-iron water tank, holding 12,000

gallons (54,552 litres), on the top floor of the easternmost bay.⁶² Costing a mere £152, this later proved to be a worthwhile investment, as will become apparent in section 3.3.3. The existence of the Cotton Stores prompted a further modification to the original warehouse. By 1838, wagon access to and from Cotton Store 1 was proving problematic because the route was not always clear. The solution was to bridge between Cotton Store 1 and the central bay of the original warehouse, thereby providing a continuous circuit for wagon movements.⁶³

Other goods facilities

Concurrent with the construction of the Cotton Stores and the Shipping Shed came the development of open-air wharfing for the transhipment of timber and coal at the north-eastern end of the Station. Five tracks ran transverse to the main lines from the eastern end of the Shipping Shed for a distance of 200 ft (61 m). The easternmost of these sidings accommodated coal drops, which allowed the coal to be discharged directly to carts or bins in the yard below by opening the hinged bottoms of the coal wagons. Timber was stored in the yard to the east of Cotton Store 2, where there was ample space to stack timber consignments pending collection. A small timber office was built there.⁶⁴



Detail of animal wagons from Sketch of Carriages (c. 1831)

The carriage of livestock brought with it unanticipated problems, as reported in the *Manchester Chronicle* in the summer of 1831, because unloading livestock proved to be disruptive to other services.⁶⁵ The solution was to unload livestock away from Liverpool Road Station. The Railway Company achieved this by getting the agreement of George Jones, whose land adjoined the Railway at Cross Lane in Salford, to set up a livestock market to which all livestock would be delivered. In 1833, 1,500 pigs a week were being transported on the Railway. Livestock owners were allowed to load animals into the wagons as they pleased, which led the Society for the Prevention of Cruelty to Animals to accuse the Railway Company of allowing pig drovers to inflict “wanton cruelty” on their animals. While Cross Lane remained a cattle market, the transhipment of pigs had returned to Liverpool Road Station at some point between Francis Whishaw's visit in 1839 and the Ordnance Survey map drawn up in 1848. The ‘Pig Station’ appears on the Ordnance Survey map as a square plot (divided into rectangular stalls) fronting Charles Street to the west of the Grand Junction Warehouse, a plot of land that Whishaw described as being “at present unappropriated”.

Grand Junction Railway facilities

In 1833, the first 'long-distance' railway was approved. This was the 78-mile (125-kilometre) Grand Junction Railway between Birmingham and Warrington, where it was to join up with the Liverpool & Manchester Railway, thereby providing a continuous rail route between Birmingham and Manchester. The Grand Junction Railway Company recognised that the easiest way to deal with passengers and goods being carried between Birmingham and Manchester would be to use the established Liverpool Road Station. This was facilitated by the fact that several directors of the Liverpool & Manchester Railway had become directors of the Grand Junction Railway. Accordingly, when the Grand Junction Railway opened in 1837, the carrier's offices, now no longer needed by the Liverpool & Manchester Company, became its booking and parcel offices.⁶⁶ The Grand Junction Railway also needed its own warehouse space. This was provided by the construction in 1837 of a new warehouse at the northern end of coal platform, which was the only vacant part of the main site directly served by rail tracks.⁶⁷ This expansion of facilities required the purchase of two adjacent plots of land to the east, totalling 401 square yards (335 square metres) gained through a conveyance from Sarah Shaw to the Railway Company for £1,260 in August 1837. By 1838-39, the Grand Junction Railway was paying a total of £500 per annum for the rental of a merchandise shed and engine shops at Liverpool Road Station.⁶⁸

A new Arrival Station (1837)

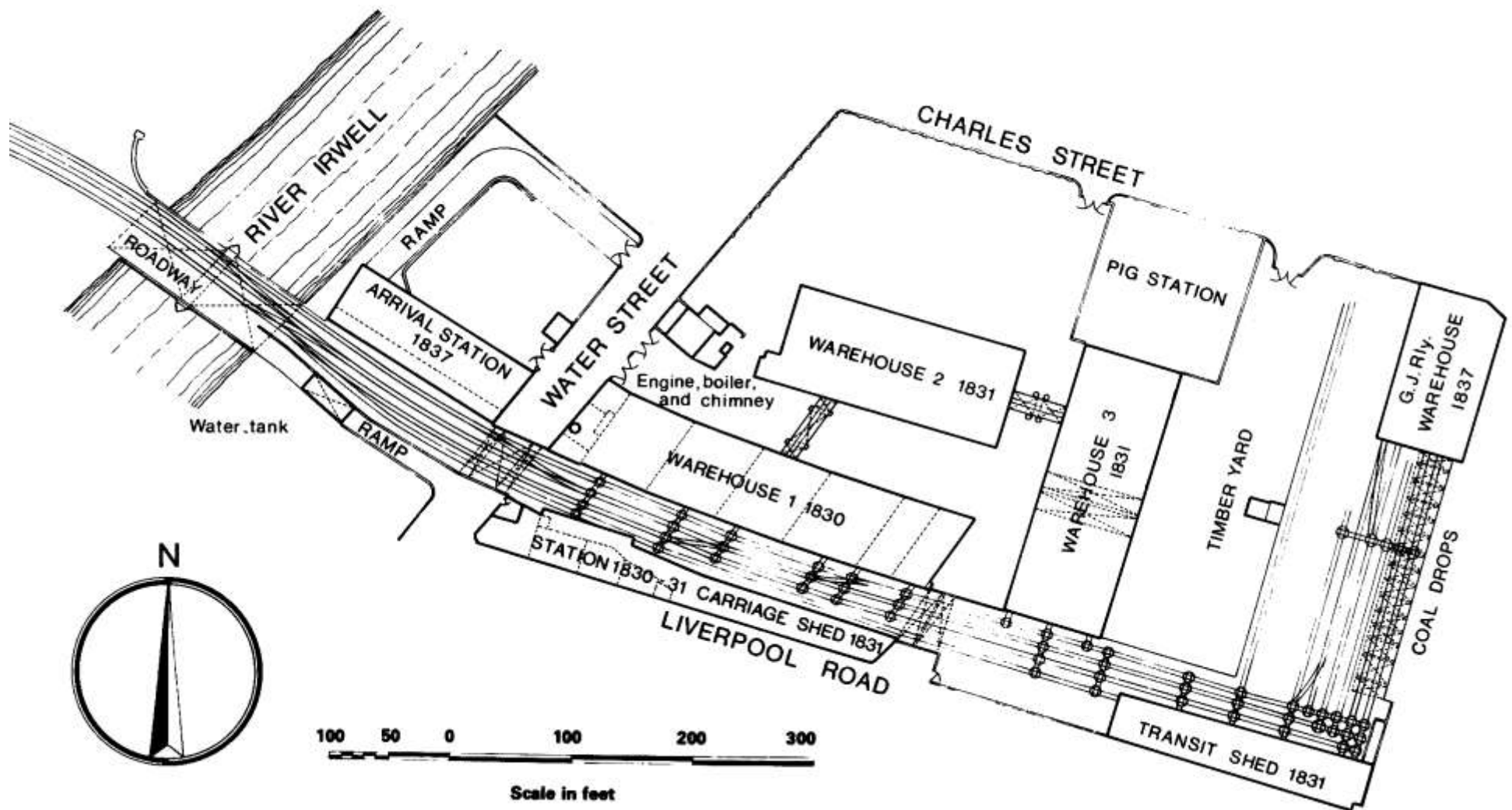
The other part of the site that could be further developed in 1837 was the area between the Irwell and Water Street. Up to this point, the Railway Company had not needed the land occupied by the Rothwell & Harrison dyeworks, so it was left to continue in operation. In 1836, the Railway Company terminated this lease so that it could build a new "Coach Station". However, the capital outlay was clearly an issue at that time because it considered making savings by reusing the bricks and slates from the dyeworks, but these were found to be "of such various and irregular sizes" that this idea was discarded in April.⁶⁹ However, although a tender invitation was issued in August, no contract was awarded until it had been re-advertised in the following May. The description listed "a range of warehouses, sheds, offices and appurtenances with approach road ... for the purpose of an arrival station".⁷⁰

The new Arrival Station was designed by Haigh Franklin and built by William & Henry Southern for £7,999.⁷¹ As described by Francis Whishaw, the Arrival Station itself was 156 ft (47.6 m) long and 51 ft (15.6 m) wide, with a ramp at the rear providing access to and from Water Street. At rail level, it rose two storeys high and had a canopy projecting over the arrival platform. At street level, the ramp was supported by a colonnade of cast-iron pillars. This colonnade and the ground floor of the Arrival Station were used for stabling, providing 61 horse stalls, arranged along two sides of a yard. Horses were vital to the Station, not just for cartage to and fro, but also for shunting. The new Arrival Station was completed in December 1837.⁷²

The end of passenger services

The instant success of the Liverpool & Manchester Railway made railways an appealing prospect to investors. The value of the £100 shares quickly doubled, and shareholders were soon assured of a regular annual dividend of 9.5%. This level of return encouraged the revival of a number of railway schemes that had lain dormant. Between 1833 and 1843, 2,300 miles (3,680 kilometres) of railway were authorised.⁷³ As the capital of the Lancashire cotton industry, Manchester was an obvious target for railway expansion. The high land values and paucity of vacant land in central Manchester encouraged railway companies to follow the example of the Liverpool & Manchester Railway by siting their stations on edge of the town centre. In the case of the Manchester & Leeds Railway, approved in 1836, the original Manchester terminus was located on Oldham Road and opened in 1841. However, like Liverpool Road, this location was too far from the town centre to be truly convenient for passengers.

The Manchester & Leeds Railway Company therefore decided to extend its line to terminate at Hunt's Bank, which lay about a mile away from Liverpool Road Station, and encouraged the Liverpool & Manchester Railway Company to do the same.⁷⁴ Re-routing passenger services to Hunt's Bank required the construction of a new stretch of track running from Ordsall Lane roughly parallel with the Irwell to Hunt's Bank. This extension received Parliamentary approval in July 1842. Hunt's Bank Station (now Victoria Station) opened on 4 May 1844 and thereafter Liverpool Road Station operated solely as a goods station.



General plan of the Station after 1837, showing new Arrival Station and Grand Junction Railway Warehouse

3.3.4 Construction and operation, 1845-1880

Amalgamations

The change in function of Liverpool Road Station was soon followed by a change of ownership. The 'railway mania' of the mid-1840s caused a proliferation of railways, but, concurrently, existing railways began to amalgamate in order to strengthen their competitive position.⁷⁵ Entrepreneur George Hudson, nicknamed the 'Railway King', set this process rolling in 1844 when his North Midland Railway merged with two other railways to form the Midland Railway. In August 1845 the Grand Junction Railway took over the smaller Liverpool & Manchester Railway. One immediate effect was a mostly favourable change in the salaries paid to staff at Liverpool Road Station, presumably reflecting the standard wages offered by the Grand Junction Railway. While the Station Agent's salary dropped from £500 per annum in 1844 to £432 per annum in 1845, the ledger collectors received a substantial raise from £100 to £170 and other clerical staff received similar raises.⁷⁶ In July 1846, the Grand Junction Railway engineered an amalgamation with the London & Birmingham Railway and the Manchester and Birmingham Railway to create the London & North Western Railway in 1846. At its formation, the London & North Western Railway covered 350 miles (560 kilometres) of route.

As just one station in the large railway network operated by the London and North Western Railway, Liverpool Road Station received much less attention in the official company records than was formerly the case. With some notable exceptions, less detail on the development of the Station is available thereafter. The large-scale Ordnance Survey Map surveyed in 1848 and published in 1851 shows, with the addition of the Pig Station, the arrangement of buildings that was completed by the end of 1837. The two 1831 warehouses were still referred to as "Cotton Stores", although they are known to have been used for a much wider range of goods by 1866, as will be described later. It also shows the following allocation of goods in the original warehouse: corn in Bays 3 to 5, spirits in the western end of Bay 3, groceries in Bay 2 and butter in Bay 1. At some point after 1848, but presumably before the completion of the Grape Street Bonded Warehouse in 1869, the basement was adapted for storing bonded goods, such as wine and spirits. Security was increased by infilling the loading bay wells (except for one) and light wells, and nailing metal strips across the underside of the floorboards that formed the ceiling.⁷⁷

When the Liverpool & Manchester Railway Company decided to take on the carrying trade, it did not rule out licensing other carriers. From May 1831, the Railway Company did allow other carriers to operate on the line for payment of a toll and subject to provision of their own rolling stock.⁷⁸ One of the first of these was the Bolton & Leigh Railway. Another early carrier was Pickfords, already well established as a road and canal carrier. Painted signs in the warehouse showed that goods were stored in demarcated areas assigned to particular carriers, including the Manchester & Leeds

Railway, the Manchester, South Junction & Altrincham Railway and the Great Western Railway.⁷⁹

A new Shipping Shed

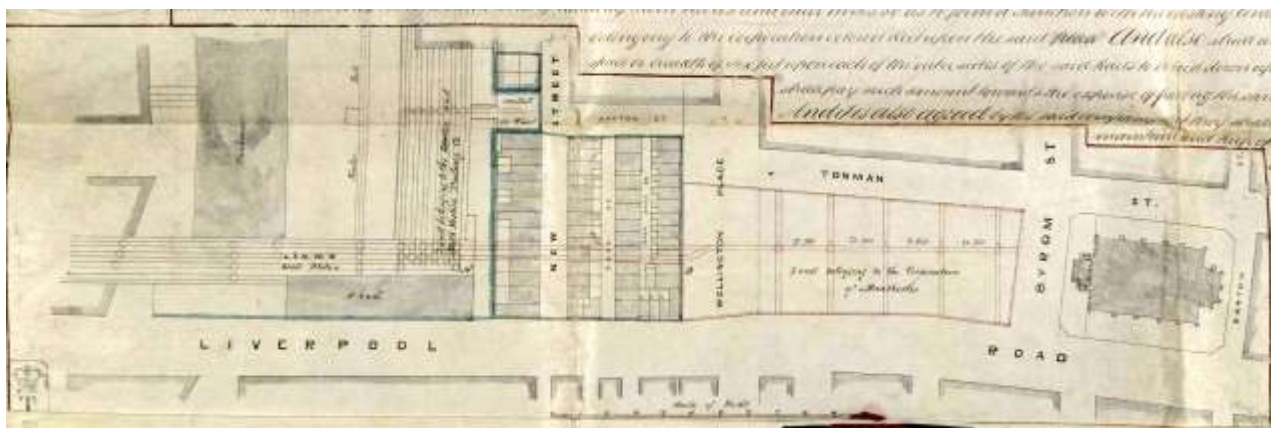
The next development of the Station occurred in around 1855. On 20 April 1854 Manchester Corporation and the London & North Western Railway Company entered into a Memorandum of Agreement, which seems to have been instigated by the Corporation.⁸⁰ The stated objective was to facilitate the establishment of a “Market for the sale of Agricultural produce and for other purposes” on the lower part of Camp Field between Byrom Street and Wellington Place (now occupied by the former Lower Campfield Market Hall) by making a rail link from Liverpool Road Station onto the proposed market site. This would require the purchase of the land adjacent to the Station and bounded on the other sides by Liverpool Road, Wellington Place and Ashton Street. This land was formerly owned by the Mosley family (being a residual part of Alport Park), but had been conveyed in small plots on a leasehold basis by Sir Oswald Mosley between 1819 and 1828. By 1831 the entire plot had been developed, primarily for housing. While some of these plots had changed hands by 1854, there had been no consolidation of ownership, so twelve separate transfers of land had to be negotiated.



A recent photo of (part of) the new Shipping Shed from the north, showing Gantry. This building is now the Power Hall of MoSI.

The Memorandum stated that the Corporation, having obtained compulsory purchase powers, would purchase the land and sell it to the Railway Company at cost with the stipulation that the Railway Company would then lay, at its own expense (in compensation for the loss of public streets), “several Lines of Rails together within the several Turn-tables and other works connected therewith” from its existing lines through to Byrom Street. This work was to be completed within six months of the land of the Railway Company gaining possession. Manchester Corporation duly purchased the land between August and October 1854, but the Railway Company did not make its reciprocal payment (of £2,000) to the Corporation until August 1857.⁸¹ While no contract amending the Memorandum has survived, the agreement evidently did change, because the

railway lines specified on the accompanying plan were only completed through to Wellington Place (now Lower Byrom Street). It seems safe to assume that the Corporation, as the lead party to the agreement, had reasons for deciding against the extension of the line onto Camp Field.



Plan in 1854 Memorandum of Agreement between Manchester Corporation and the London & North Western Railway Company

This transaction created the opportunity to replace the 1831 Shipping Shed with a larger shed, 400 ft (122 m) long by 90 ft (27.5 m) wide, covering the two extended tracks and more suited to the expanded goods traffic. The new shed was of more substantial construction and offered improved access for carts in the form of large doors along Liverpool Road. Its width meant that the roof required internal support, which was provided by a central line of cast-iron columns carrying a timber beam, which in turn supported the inner ends of the pairs of roof trusses. Wrought-iron straps were used to strengthen the main truss joints.

The Fire of 1866

The most dramatic event in the Station's history, other than the opening of the Railway, occurred on 23 May 1866 when a major fire destroyed the two Cotton Stores, by then known as Warehouse 1 and 2 (the original warehouse being Warehouse 3). Described in the next day's issue of the *Manchester Guardian* as "a fire which for magnitude and destruction of property is one of the largest that has ever occurred in this city", it began in Warehouse 2, which at the time held highly "flammable turpentine, oil, soap soda-ash and other stuff in casks". The fire began at about 2.00 a.m. and Warehouse 2 was already "enclosed in flames" when the Manchester brigade's fire engines arrived. The fire spread to Warehouse 1, which contained cotton, jute, madder, grain and flour. Brigades from Salford, Pendleton, Broughton, Ashton-under-Lyne (where the brigade was alerted by the distant glare of the fire) and Blackburn arrived to support Manchester brigade, which attended in its entirety.

The fire demonstrated the benefit of the large water tank that had been installed in Warehouse 3 in 1834. To prevent the fire taking hold of this warehouse, which held "butter, lard, tallow, flour, grain and general stores", the firemen took ten hand pumps to the top floor and used them to damp down the heat. The severity of the risk can

be inferred from the fact that “the coats of several firemen were literally destroyed by the intense heat”. This prompt action allowed Warehouse 3 to escape damage. The fire was under control by about 7.30 a.m., but the firemen maintained a precautionary “constant discharge of water” throughout the day. Warehouses 1 and 2 were both gutted, but only one wall fell during the fire. However, the risk of further collapse led to the immediate demolition of both warehouses once the fire was spent. The cost of the damage was estimated by the *Manchester Guardian* as between £200,000 and £300,000, although the cost was later adjusted to £150,000. Therefore the report to the London & North Western Railway’s Special Committee in December 1867 that “a special fire insurance of £500 had been effected on goods at Liverpool Road Station” is surprising only in so far as that it took 18 months to arrange.⁸²

The Second Viaduct and the Grape Street Bonded Warehouse

This disaster precipitated the final phase of development of the Station. The first step was to build a second viaduct to the north of the 1830 viaduct in 1867. This viaduct joined the original viaduct just to the west of the Water Street Bridge, crossed Water Street just to the south of Prince’s Bridge and entered the Station roughly along the line of the former Warehouse 1. The rail deck was supported by massive stone piers and, along the south elevation, cast-iron columns. While the south side of the viaduct formed an open undercroft, the north side formed a series of arches. Over time, these arches were used for workshops, stables and storing the Railway Company’s own equipment and supplies.



Recent photo showing 1867 Viaduct, including Colonnade and mural on side of a Granada Television shed.

The Grape Street Bonded Warehouse was built abutting the new viaduct in 1869. The decision to replace two warehouses built for cotton storage with one large bonded goods warehouse is indicative of a shift in priorities. The short-term explanation is not hard to find: the American Civil War, in which the Union navy of the North maintained a successful blockade of the cotton-exporting ports of the South, was barely over in 1866. The Cotton Famine had virtually paralysed the Lancashire cotton industry. Lancashire manufacturers turned to India and Egypt for their cotton supplies, but found these short-staple varieties less satisfactory than the medium-staple American cotton. Nevertheless, they were determined not to be so dependent on one source of cotton in future. Similarly, the London & North Western Railway Company looked to protect its own interests by ensuring that it could handle the maximum variety of goods in variable proportions.



Bonded Warehouse from Granada side

Standing about 200 ft (61.1 m) long by 100 ft (30.5 m) wide and five storeys high, the Bonded Warehouse was an early example of the 'improved' fireproof design. The impetus for the new design came from the growing catalogue of collapses of fireproof buildings and cast-iron bridges. The bridges fell as a result of impact tension adding to the force of load tension, whereas the building collapses resulted from faulty casting or construction. Ultimately the tensile weakness of cast iron was at the root of both types of collapse. The improved fireproof design solved this problem by retaining cast iron for the columns, but using wrought iron, which has high tensile strength and low compressive strength, for the beams. Up until this time, wrought iron had been used sparingly in building construction, because the manufacturing process was much slower than casting was. The introduction of the continuous rolling mill in about 1862 made true mass production possible.⁸³

Original architectural drawings of the Bonded Warehouse show that it was planned to accommodate the use of hydraulic power, a logical development in the efficiency of goods handling on site. Pioneered by William Armstrong, who designed and installed the first hydraulic crane at the Newcastle docks in 1846, hydraulic power had become widely adopted at docks over the following 20 years because it enabled the movement of heavier loads than alternative forms of power were capable of. Armstrong was also responsible for the

invention in 1850 of the hydraulic accumulator, which allowed pressure to be increased or decreased according to need.⁸⁴ The new viaduct was equipped with hydraulic cranes and capstans, and the Bonded Warehouse was equipped with hydraulic jiggers. As the Bonded Warehouse had a short railside frontage in relation to its volume, internal tracks allowed wagons to be hauled inside for unloading. The hydraulic accumulator was originally sited on Water Street, where there was already ample water provision, but was later relocated to the junction of Lower Byrom Street and Grape Street, where it was nearer to most of the machinery that it served.

While it is not clear exactly when hydraulic power was introduced to the Old Warehouse, as the original became known, it seems likely that the conversion to hydraulic power occurred at or soon after this point in time. There had already been one upgrade of the power system, which involved installing a horizontal steam engine in place of the original beam engine, possibly in the 1850s when such engines began to become the standard type.⁸⁵ The hydraulic lifting equipment consisted of four jiggers on the top floor, two each in the central bay and the adjacent bay to the west, and a jib crane in the latter bay at rail level. The jiggers replaced four of the original hoists, one on the south elevation and three on the north. It seems likely that the remaining original hoists along the north elevation continued to be used for at least a time after the installation of hydraulic power, given that they remained in situ thereafter. The provision of a crane radically changed the way that goods movements were managed at rail level. The capacity of the crane was such that internal unloading was unnecessary, resulting in the removal of the internal tracks and the boarding over of the voids, increasing storage space and enabling easy movement of goods between bays. The northernmost doorways between the bays were widened to allow movement of larger containers.⁸⁶ A canopy was erected over the adjacent main track to protect wagons awaiting unloading.

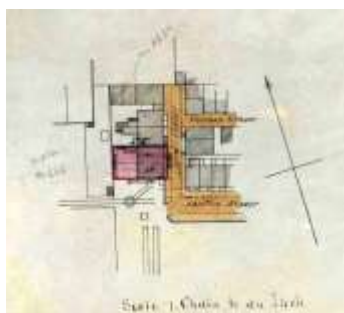


Hydraulic jigger in 1830 Warehouse

This phase of development also involved the relocation of two earlier facilities, the Pig Station and the Coal Stage. The Pig Station had to

be demolished to make way for the Bonded Warehouse. It was relocated to the Water Street site, where it would be convenient for the abattoirs that Manchester Corporation was planning to build on land bounded by Water Street, Elm Street, the Bridgewater Canal and Dawson Street. Work began on the "Abattoirs and Dead Meat Market" in 1871. Coal traffic was banished from Liverpool Road to the subsidiary station on Ordsall Lane. The timber yard, which was now adjacent to the Bonded Warehouse, was not immediately affected, as it is still shown on the Ordnance Survey map of 1896, but was gone by 1905. It had been replaced by a large block of stables, demonstrating that the expansion of the site would have demanded a commensurate increase in the number of horses.

The Great Western Warehouse



Plot BR 666, acquired in June 1869

With the completion of the redevelopment of its existing land, the London and North Western Railway decided to acquire more land to enable expansion of its facilities, but this was a piecemeal and long drawn-out process. In 1869, it purchased a small adjacent plot on New Street,⁸⁷ but it was seven years before the next purchase. In 1876, the Railway Company purchased a plot of about a quarter of an acre (a tenth of a hectare) between Dunbar Street and Ashton Street.⁸⁸ This was followed by three transactions in 1878 and two in 1880, which gave the Railway Company ownership of the remaining land bounded by Grape Street and Lower Byrom Street.⁸⁹ By 1878, the Railway Company had a consolidated plot of land sufficient to accommodate a new warehouse for the Great Western Railway, which had obtained running powers onto the site. This warehouse, completed in 1880, became known both as the Great Western Warehouse or the New Warehouse. Standing 320 ft (97.7 m) long by 90 ft (27.5 m) wide, it had four storeys, the bottom of which was at basement level in relation to track level, but at ground-floor level in relation to the lower yard and Water Street. Its construction was broadly similar to that of the Grape Street Bonded Warehouse.

Two railway tracks ran into the west end of the Great Western Warehouse from the 1867 viaduct across an apron, which was created by the westward projection of the building at basement level. Their loading platforms were integral to the structure. To join up the two viaducts and create access to the 1830 viaduct, a roughly triangular extension was made to the latter so that the two viaducts converged. Four new tracks were laid between the Shipping Shed and Great Western Warehouse, three from the 1830 viaduct and the other from the 1867 viaduct, all running through to the east end of the Station. These were linked by a cross track running from the inner end of the Shipping Shed to and in front of the west end of the Great Western Warehouse. The crane gantry, equipped with two 10-ton travelling cranes and abutting the Shipping Shed, was erected during this period.



Lower Byrom Street and south elevations of the Main Building, c. 1980



Recent photo of the Main Building of MoSI, from Lower Byrom Street. Formerly known as the Lower Byrom Street Warehouse or Great Western Railway Warehouse

3.3.5 Liverpool Road Station in the Twentieth Century

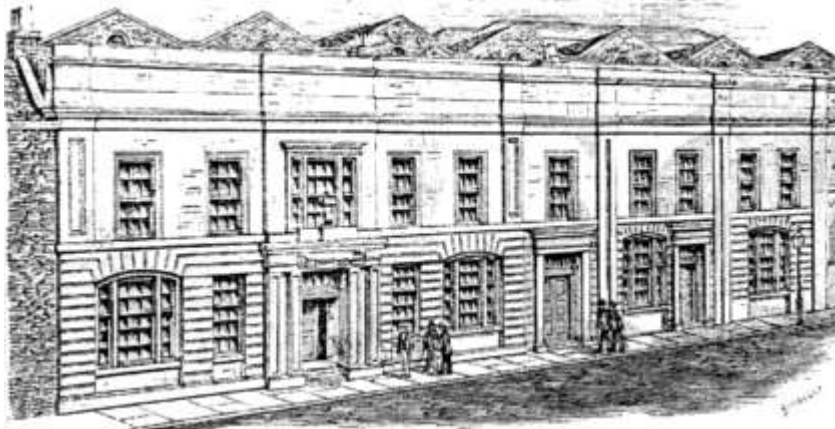
The Station 1880–1901



1885 stock book

Liverpool Road Station was at its peak during the next 40 years. While the opening of the Manchester Ship Canal in 1894 undoubtedly reduced the traffic in goods imported or exported via Liverpool, by this time the Liverpool Road Station handled all traffic with the London & North Western Railway network to the north and west, while London Road Station (now Piccadilly Station) handled goods traffic with the south and east. Two stock books found in the 1830 Warehouse in 1991 reveal the type of goods stored there in 1885 and 1905.⁹⁰ The earlier one, labelled “M”, is a record of meat received during a four-month period. More than 50 tons of meat was handled

each month. Of the 100 customers whose names appear, most were local butchers based within a square mile of the Station. One of the customers was the Royal Infirmary. In contrast, the 1905 stock book records a wide range of goods and, by logging the exact storage locations, reveals that items as diverse as caustic soda, clog blocks, bananas, bacon, onions and glue were stored in close proximity. Other goods included oxide, stone, bleach, bottles, tomatoes, sugar, treacle, oranges, chemicals and rags. One of the customers was the Co-operative Wholesale Society.



An 1880 drawing of the Station Building



Photograph of Station Building, c. 1890.



Photo of Liverpool Road elevation of Station Masters House and Station Building, c. 1902.

There was already an appreciation of the historic importance of Liverpool Road Station by 1902, when a retired employee of the London & North Western Railway submitted an article on “The Oldest Railway Station in the World” to *The Railway Magazine*. The writer, Mr G. Stoker, comments on the original warehouse as “an imposing pile of buildings, not bearing such a strong resemblance to a packing case with square holes cut in it as most of our more recently erected railway warehouses do”. The article largely confirms the composition of the Station as it was known to have been by 1880. One additional detail is the reference to the use of the former Carriage Shed by the Sheeting Department as a repairing shop. Mr Stoker would doubtless have been pleased and relieved to know that his final comment, a wish that it would long before any alterations needed to be made, did indeed come to pass, except in the one respect that he had foreseen.

A new Water Street Bridge

By 1902 there were evidently complaints that the columns of the Water Street Bridge were “an obstruction to street traffic” and Mr Stoker noted the “wicked designs for their removal”. Water Street was by then a tramway route so the nature of the traffic was very different to that of 1830. The upshot was that in 1904 the original bridge was demolished and replaced by the present bridge. Mindful of the historic importance of the original bridge, the London & North Western Railway Company offered it to Manchester Corporation for re-erection in a suitable location, such as a park. The Corporation decided that the cost was too great, although it did carry out a similar scheme when the first Manchester Town Hall (by then a library) was demolished seven years later.

It may have been the replacement of the Water Street Bridge that prompted the London & North Western Railway Company to make one final minor alteration to the Station. The nearby engine house built against the western elevation of the Old Warehouse, as the original warehouse was now known, had been rendered virtually redundant by the introduction of hydraulic power. It is not known whether steam power ceased to be used at that point, but it seems

reasonable that the London & North Western Railway Company would not have continued to maintain a steam engine if it was unnecessary to its operations. Certainly this must have been the case by about 1905, because the engine house was demolished and a new structure was built onto the warehouse in its place. The new building had walls of blue engineering brick, a somewhat strange choice given that this type of brick was usually reserved for high-load structures, such as viaducts, or for providing decorative strengthening to walls at their higher stress points, as seen in the Great Western Warehouse. The lightweight floor construction and access arrangements, as surviving in the 1980s, suggest that the building was used as offices or workshops.



Original (1830) Water Street Bridge



New (1905) Water Street Bridge

The Station in 1912

For at least the first quarter of the twentieth century, Liverpool Road Station continued to thrive. An article by D. H. F. Meacock⁹¹ published in the *Railway Magazine* in 1912 paid eloquent tribute to the Station's continuing importance for goods traffic:

"Even today Liverpool Road Station handles as great a daily tonnage as any other provincial station – roughly 2,000 tons daily, or 12,000 tons per week – and its central position, with such a choice of routes of access from all parts of the city – especially the business quarters – bears testimony to the foresight of the pioneers of railway construction in their choice of such a suitable site."

Like the aforementioned stock books, the article provides a vivid snapshot of the working life of the Station. Meacock refers to the Station as Liverpool Road and Salford Station, explaining that the operation of the railway premises at Cross Lane (solely for handling live cattle), Duncan Street (handling "mineral and full load traffic") and Ordsall Lane (coal) were controlled by the "parent station".

Aside from the "special traffic" in cotton cloth which amounted to 5,800 tons of cotton cloth per month in the form of "flats" (large pallets each holding up to 250 bundles), packs and Scotch bales, the Station also handled pigs (100,000 per year), grain, ale, timber, hay, market produce, meat, tin-plates, glass and "general goods". Amongst the market produce, special mention was made of Jersey potatoes, which amounted to about 500,000 tons per year. The most unusual cargo noted was Mr Bostock's menagerie (including lions and tigers), which arrived from the London docks for exhibition in Manchester.

At this time, the number of staff employed at Liverpool Road and the three branch stations was 800. The Station also accommodated 311 horses, most of which were required for the cartage of local deliveries ("received" traffic) and collections ("forwarded" traffic). According to Meacock, the Station had 95 cranes and he describes how the two travelling cranes could be connected to handle 20-ton loads. A discrepancy in his description of the Station is his reference to "four commodious warehouses" and "also a large and excellent bonded warehouse". The 1905 Ordnance Survey Map shows just the four warehouses previously described so Meacock's "also" is false.

Meacock also repeated a misconception, which seems to have become accepted by then, with respect to the former Coach Offices. Referring to photograph of the rear elevation of the building, he comments on "the old booking office as it appears today". The cause of this misconception seems to be the form of the window that replaced the original door to the second-class waiting room, being similar to that commonly found in booking offices. However, the same type of window was equally suited to the issuing of goods dockets or wages. Indeed this window is known to have been used for the issuing of wages thanks to an oral history recording (held by the North West Sound Archive) in which a former messenger boy recounts that he collected his wages from "that little office ... it was the original booking office that I learnt afterwards because the windows ...".⁹²

Decline and Fall

After the First World War, the government gave its attention to modernising railways and other public services in order to increase their efficiency. In the case of railways, this resulted in the 1921 Railways Act, which enforced the amalgamations of 250 companies to create the 'Big Four'. The London & North Western Railway became part of the London, Midland & Scottish Railway from 1 January 1923. At its first meeting in December 1922, the Traffic Committee of the London, Midland & Scottish Railway allocated £1,100 for alterations "to meet the requirements of the Ministry of Agriculture and Fisheries to cattle-loading pen and ramp, Water Street, Manchester".⁹³ However, the physical evidence suggests that there was little investment in the Station thereafter. For example, while the survival of a short piece of telephone wire and a telephone dial in the 1830 Warehouse bears out the adoption of telephony⁹⁴ (corroborating directory evidence), there was no electrification of the buildings.



View from tracks looking towards Power Hall, with 1830 Warehouse on left and Station Building on right, c. 1955.

Decline set in after the Second World War. While the final amalgamation and nationalisation of the 'Big Four' enforced by the 1947 Transport Act paved the way for efficiency savings, the new British Railways was already facing a battle for goods haulage. Prior to the War, the advent of motorised road transport had little impact on the railways' long-distance goods traffic, but the expansion and improvement of the road network, particularly with the commencement of motorway construction in the late 1950s, marked an irreversible change in the balance of power. The door-to-door service that road hauliers could provide reduced transshipment costs and made rail haulage less competitive. Moreover, the introduction of container ships in the late 1950s ushered in a new era of goods handling: containerised freight needs no warehousing. Liverpool

Road Station survived the station closures that arose from the 1963 Beeching Report (which focused on underused rural passenger lines) and that reduced the size of the rail network by more than a fifth between 1965 and 1970.



View of Station and 1830 Warehouse from tracks near Power Hall, c. 1978.



Photo of south elevation of 1830 Warehouse, with east end of Carriage Shed on left, c. 1979.

In July 1974, the *Manchester Guardian*⁹⁵ reported that:
“The oldest passenger railway station in the world, Liverpool Road, Manchester, is to be restored as part of a proposed scheme to develop the adjoining railway land for housing. ... The British Rail Property Board told the local authorities concerned – Greater Manchester Council and the City – that it is prepared to sell the eight acres of land at Liverpool Road. ... the passenger station and warehouse, dated 1830, are likely to become a transport museum.”

Fourteen months later, although there were no firm agreements about its future use, British Rail closed Liverpool Road Station.

3.3.6 Reuse of the Station as a Museum (1976-)⁹⁷

Negotiations with British Rail

When Liverpool Road Station closed, the buildings were generally in a neglected state, reflecting the disincentive for British Rail to invest in maintaining buildings that became steadily less economic as goods traffic declined. This was one of two factors that underpinned the discussions that British Rail initiated with the two local authorities prior to the closure of the Station, the other being the listing status of individual buildings and structures. In 1975, the protection afforded by the need for listed building consent applied only to the two original 1830 buildings and, somewhat strangely, the later viaduct (which was awarded Grade II status in 1973). The Passenger Station and Station Masters House had been granted Grade I listed status in 1963 and the Old Warehouse had been granted Grade II listed status in 1973. These were also the buildings in worst condition. The rest of the site had no formal heritage status because Castlefield had not yet been designated as a Conservation Area. Moreover, Castlefield as a whole had become a run-down district – with the exception of its north-east fringe, where Granada Television had built Granada House in 1962 and where land vacated as a result of the City Council's programme of slum clearance in the 1960s was being redeveloped as the St John's Gardens private residential scheme.

British Rail was therefore mindful of the unlikelihood of commercial interest in the 1830 buildings, hence its discussions with Greater Manchester Council about that part of the site. Instituted in 1974, Greater Manchester Council had taken a share in the funding of the North Western Museum of Science and Industry, then based in the former Oddfellows Hall on Grosvenor Street in Chorlton-on-Medlock. Greater Manchester Council provided 24% of the funding, as did UMIST (the University of Manchester Institute of Science and Technology), the University of Manchester and Manchester City Council; the University of Salford provided the remaining 4%. When the Museum opened in 1969 as the Manchester Museum of Science and Technology, the former Oddfellows Hall was only ever meant to have been temporary accommodation, so the Liverpool Road Station site presented an interesting opportunity. Of the funders, Greater Manchester Council was the obvious lead partner, having the most to gain in terms of building its services and reputation. In 1975, Greater Manchester Council increased its funding share to 42%, thus becoming the largest single contributor.

Greater Manchester Council carried out a detailed survey of Liverpool Road Station to assess not just the extent of repairs required, but also the likely costs of renovation for museum use. The survey revealed the need for urgent repairs to the Passenger Station and the Council agreed to contribute towards the cost of such repairs. In September 1976, after the repairs had been made, British Rail offered the Passenger Station to Greater Manchester Council for the

token sum of £1. However, the Passenger Station alone would have provided little potential for the development of the Museum and as it was clear that further, expensive renovation was required, the offer was declined.

Meanwhile, local historical and preservation societies became increasingly concerned about the lack of progress in both resolving the station's future and staging a suitable celebration of the Liverpool & Manchester Railway's 150th anniversary in 1980. The Manchester branch of the Victorian Society organised a meeting of interested parties in December 1977. The result was the formation of the Liverpool Road Station Society in early 1978. The Society's twin aims were to secure the restoration of the building for museum use and to ensure that Liverpool Road Station played a prominent role in the 1980 celebrations. Soon after formation, the Society was invited to join the committee already set up by British Rail and the county councils of Greater Manchester and Merseyside to plan the 150th anniversary celebrations.

The Liverpool Road Station Society played a vital role in keeping up the pressure on British Rail by mounting a campaign to arouse wider public interest. On the 148th anniversary of the Railway, Society members handed out 5,000 "Happy Birthday Liverpool Road" leaflets at the five central Manchester and Salford railway stations. In late 1978, British Rail made an improved offer to Greater Manchester Council: in addition to handing over both the Passenger Station and the Old Warehouse for the sum of £1, it would contribute £100,000 towards the restoration costs. This time the offer was accepted, although the actual formal transfer of property was not signed until June 1982.

The Great Railway Exposition

With the future of the 1830 buildings secured, Greater Manchester Council became more sympathetic to the Liverpool Road Station Society's desire to ensure that the Station was a major focal point in the 150th anniversary celebrations. The Council invited the Society to form a joint advisory committee for this purpose. In the course of planning the celebration at Liverpool Road Station, attention became focused on another of the Station buildings. It was clear that the Shipping Shed was the only major building capable for renovation by 1980, because of its simplicity of form, so the intention was to repair the Shed and its adjacent Freight Offices, which were suitable for use as a visitor centre with small displays and a shop. Having agreed to spend £30,000 on repairs to the Shed, Greater Manchester Council decided that the Shed would form a valuable addition for the future museum. In 1979 British Rail agreed to sell the "Continental Shed" to Greater Manchester Council for £30,000 (formally concluded in January 1986). The origin of the name "Continental Shed" is unclear and the name was disputed during the planning of the celebrations. It is unlikely that the Shipping Shed was ever used for any continental traffic, but the British Rail representatives insisted that it had become the accepted name within British Rail, so it seems to be another example of later generations misunderstanding the earlier function of particular buildings.

Greater Manchester Council also invested another £30,000 in relaying the track between the Station and the operational main line, thus allowing the 1980 Great Railway Exposition to bring locomotives back to the Station. For safety reasons, work on the track had to await the completion of urgent repairs to the Old Warehouse. Thomas Worthington & Sons was appointed as the architect for this phase of works. The track works revealed the survival of rail turntables, which had to be removed in order to allow tracks to be connected by points, as did the surviving capstans. Two of the capstans were retained for preservation as artefacts. Members of the Liverpool Road Station Society were active in clearing the track of weeds and debris, and in converting and fitting out the Freight Offices. Work was sufficiently advanced by 15 September 1979 for the Society to be allowed to stage a small preview event on site. Around 5,000 people took this opportunity to see the Freight Offices and a small area of the open site.



The Power Hall from the south-east, 1980

The 1980 Great Railway Exposition was a six-week celebration, running from early August through to the anniversary day. The centrepiece of the event was a cavalcade of locomotives, including working replicas of *Rocket* and *Novelty*. The event was successful in attracting both visitors and publicity. The sudden surge of public interest in Castlefield had already resulted in its designation as a conservation area in 1979, a reversal of Manchester City Council's formerly dismissive attitude to the heritage value of the district. In addition to the advance publicity for the 150th anniversary, public interest had also been aroused by archaeological excavations on two sites, which had significantly increased understanding of the Roman fort and vicus, and the Manchester City Council's proposal to demolish the vacant former City Hall in 1978, despite its Grade II listing of 1974. In 1980, it was recognised as an outstanding Conservation Area by the Department of the Environment. Three years later, it became Britain's first Urban Heritage Park. During this period, the Old Warehouse was upgraded to Grade II* listed status. Today, with its boundaries extended to encompass the Hulme Junction Lock, Castlefield is the largest Conservation Area in the city centre of Manchester.

Following the Great Railway Exposition, the first phase of restoration works resumed. Initially, this focused on the Shipping Shed, the Station Agent's House and the original Coach Offices, but not the remainder of the Passenger Station. The obvious place for the Museum entrance was at the Lower Byrom Street end of the site because it was closest to the city centre. This meant that the conversion of the Shipping Shed needed to accommodate entrance facilities, which was effected by building a small extension at the north-east corner. In order to create an inviting façade along Liverpool Road, the large doorways were glazed. The interior transformation of the Shipping Shed into the Power Hall involved the careful co-ordination of building work and exhibit installation, as the larger steam engines had to be securely set into the floor.

<i>The Power Hall during the installation of the engines, 1982</i>

The Station Agent's House was renovated as offices for Museum staff and the booking halls and waiting rooms of the Passenger Station were to be exhibition space. Both of these buildings had been altered over the years to accommodate new uses and the scheme involved restoring them largely to their original configurations. The Station Agent's House had become a shop during the Inter-war period and ground-floor frontages had been altered to provide the standard shop windows of a corner shop. The alterations to the Coach Offices included the removal of the staircase linking the second-class booking hall and waiting room, the replacement of the second-class waiting room door by a window and partitioning for office use. With the exception of the staircase, which would have reduced in floor area of small rooms, these alterations were reversed. The Freight Offices adjacent to the Power Hall became the education centre, with staff offices on the first floor and teaching space on the ground floor.



<i>The Station Master's House and Passenger Station scaffolded during restoration, 1981</i>
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Meanwhile, Manchester City Council, which had been engaged in separate negotiations with British Rail since 1974, concluded the purchase of the freehold and leasehold of the remaining 4.25 acres (1.7 hectares) of the site for £105,000 in April 1981. However, the

expansion of the Museum site and the City Council's decision to restore the former City Hall and convert it into an air and space museum meant that substantial redevelopment was no longer a likely prospect. Instead, within 18 months, the City Council sold on the part of the site occupied by the Lower Byrom Street Warehouse (former Great Western Warehouse) to Greater Manchester Council and the remainder to Granada Television, whose site it adjoined. The acquisition of the Lower Byrom Street Warehouse had several advantages in terms of the Museum's immediate development: it was adjacent to the planned entrance and therefore easily accessible; it was in better condition than the 1830 buildings; its sturdy structure meant that it was suitable for displaying heavy industrial machinery such as textile machines and printing presses.

The Greater Manchester Museum of Science and Industry

The first phase of restoration culminated in the opening of the Museum on 15 September 1983. The only buildings initially open to the public were the Power Hall and the Passenger Station, which contained a recreated First Class Booking Hall and an exhibition about the Liverpool & Manchester Railway in the adjacent second class booking hall. As this meant that the Museum was displaying a narrower range of its collections than it had at its former premises, it was keen to expand its display space quickly and the Lower Byrom Street Warehouse offered the best opportunity. While major work would be needed to create access to and fit out the first and second floors, only minor work was needed to bring the ground floor and basement into use. The building contract carried out by Thomas Worthington & Sons as architects and J. Jarvis & Sons Ltd as the building contractor involved repairs to the roof, intumescent treatment of the structural ironwork and the fitting out of the eastern half of the ground floor to provide gallery space for displays on textiles, papermaking, printing and computing, together with a rudimentary auditorium. The basement was brought into use as an object store. Following the completion of these works, a restoration workshop was created in the western half of the Warehouse. Unfortunately, the intumescent treatment of the ironwork in the basement was faulty and, following the successful outcome of legal action, had to be redone in 1988.

The last building contract completed during the lifetime of Greater Manchester Council was the renovation of the easternmost bay of the 1830 Warehouse to house the National Electricity Gallery in 1985-86. The dire internal condition of the 1830 Warehouse prompted drastic action. Structural engineers advised that the timber frame was beyond repair, thus necessitating its replacement. As the gallery proposals included the installation of a 1920s steam turbo-generator, complete with its condenser, it was decided that steel frame supporting concrete floors would be the best solution. The internal wall dividing the bay into eastern and western halves was retained, albeit with some alteration, as were the timber roof trusses. The roof slates were re-laid, which allowed the massive turbo-generator to be craned into place while the roof was open. Other large exhibits were also installed during the renovation works. The Electricity Gallery opened only days before 31 March 1986 when Greater Manchester Council was abolished.



***Turbo-generator condenser
being craned into the
Electricity Gallery during
renovation works***

Prior to abolition, Greater Manchester Council had transferred to the Museum Trust the capital funds that had already been agreed and this endowment provided the core funding for the next two building contracts. (However, it was not until 1988 that the legal transfer of the Museum site from the Greater Manchester Residuary Body was completed.) The first of these was the rebuilding in 1986-87 of the former parcel offices, shops and carriage shed built as an extension to the Passenger Station in 1830-31. Rebuilding, rather than restoration, was needed because the foundations were unsound, which had already caused the building to lean towards Liverpool Road. In order to prevent further movement and possible collapse, the Liverpool Road façade had been propped. As later alterations, including the enclosure of much of the former carriage shed in the 1940s to provide a mess room, were regarded as detrimental to the original building, the rebuilding approach was to restore the exterior to its 1831 form. The building was carefully dismantled, but there were inevitably some breakages of bricks and slates. Reclaimed like bricks and slates were used to replace original fabric lost in this way. As the basement and ground floor were to be used for two new galleries, the building was modified internally by inserting doorways in the internal walls to allow an east-west visitor flow and reopening some of the viaduct arches to provide staircases between the basement and ground floor. At the western end of the former carriage shed, a glass-walled design studio was created. In 1988 the Museum was awarded the Heritage in Britain Award, given for the best project which secures the long-term preservation of a site or monument, for its restoration and conversion of the world's oldest railway station.



***Propped Liverpool Road elevation of the Carrier's Offices,
Shops and Carriage Shed prior to restoration***

The last building contract financed by the Great Manchester Council endowment was the further refurbishment of the Lower Byrom Street Warehouse in 1987-88. This coincided with Granada Television's decision to create a Universal Studios-type tour on its site. Granada needed additional space in order to be able to deliver this scheme and approached the Museum regarding land at the western end of the shared boundary. The outcome was that the Museum leased land at both upper and lower levels to Granada for 125 years for a lump sum plus an annual rent, in return for which Granada also leased the Museum land between Water Street and the River Irwell to the south of the Irwell Bridge for use as a staff car park and agreed to the Museum's use of the railway lines on its land. The latter part of

the contract meant that the Museum could extend its passenger steam train service. One of the viaduct arches that the Museum leased to Granada contained a stable, which the Museum recorded and dismantled prior to the handover.

Bringing the upper floors of the Lower Byrom Street Warehouse into use required the creation of vertical access adequate for the number of visitors that could be accommodated. The Building Design Partnership (BDP) was appointed as architects and devised a scheme whereby access became the central feature. The scheme involved cutting a slit through the western half of the building to accommodate a ramp and a lift, which provided the primary access routes, while three fire escape staircases were located on the external walls. The slit was conceived as the building equivalent of the sectioning of an exhibit to reveal its internal structure, allowing visitors to appreciate the vertical structure and mass of the building as soon as they entered it. The creation of skylights in the roof increased the natural light at ground, first floor and second floor levels. The facilities created by this scheme were a new entrance and shop at the Lower Byrom Street end of the ground floor, a new education centre, restaurant and conference facilities on the first floor and an interactive science centre on the second floor. The scheme was short listed in the 1989 RIBA national awards.

In the following year, the scheme was enhanced by the creation of a library and record centre, built to BS5454, at the western end of the basement and environmental works on Lower Byrom Street, which involved the removal of the walls of the former van yard to create a forecourt with decorative paving that created reflected images on two anamorphic sculptures. Also in 1989-90, the Museum carried out two small follow-up schemes. The first of these concerned the Freight Offices adjacent to the Power Hall, which had been vacated by the education department as a result of the new education centre provided in the Lower Byrom Street Warehouse. There had been concerns about the foundations of this building, which was visibly tilted away from Liverpool Road (i.e. in the opposite direction to the tilting of the Passenger Station extension). Structural engineers determined that the building was measurably moving and in urgent need of stabilisation. In this case, it was possible to prevent further movement by underpinning the building in situ. Concrete was poured under the building to bolster the foundations and then the building was renovated internally to create offices for curatorial staff.

The second scheme involved the demolition of the early twentieth century addition to the 1830 Warehouse, known as the 'blue-brick building'. This building had originally been intended for conversion to form the library and record centre. However, when it was resurveyed in 1988, it became clear that it could not provide a stable enough environment for archives. Moreover, it was in poor structural condition and would be expensive to renovate relative to the space that it would provide. As it was felt that the building detracted from the Water Street presence of the 1830 Warehouse, the Museum successfully applied for listed building consent to demolish it.

During 1990-91, the suite of galleries in the Station Building was completed by the renovation of the two westernmost arches between the 1830 Warehouse and the Station Building and the adjacent

external arch to form a gas gallery. The main components of the building work were the laying of a concrete floor in the two internal arches and the insertion of a staircase and lift. The original viaduct had not been listed when the Museum took over the site, but was given a Grade II listing jointly with the Irwell Bridge and animal ramp in June 1988.

The Museum of Science and Industry in Manchester

During a rebranding exercise in 1992, the ball and cone shapes of the anamorphic sculptures on Lower Byrom Street were adopted as the symbol of the Museum, which was renamed the Museum of Science and Industry in Manchester.

When the Museum undertook the 1987-88 Lower Byrom Street Warehouse building scheme, it had been envisaged as the first phase of the two-phase restoration of the entire building, with the second phase to follow as the next major building scheme. However, ongoing monitoring of the 1830 Warehouse had revealed continuing deterioration and when the building was resurveyed in 1990, the conclusion was that the building was at immediate risk of further internal collapse, but that the internal frame in the unrestored four bays could be saved if no further deterioration occurred. Therefore the restoration of the 1830 Warehouse became the top priority.



The interior of the 1830 Warehouse basement showing collapsed ceiling timbers and general dereliction

Restoration of the 1830 Warehouse

As a first step, in 1991 the Museum commissioned the Greater Manchester Archaeological Unit to carry out a full archaeological survey, which took place over 12 weeks from April to June. The survey report informed the restoration strategy and formed the basis both for briefing BDP as architects and for the fundraising initiative. The upgrading of the 1830 Warehouse to Grade II* status in 1981 meant that its restoration was eligible for funding under English

Heritage's Outstanding Building Grant programme. A grant of £400,000 was awarded, subject to certain conditions that included the preservation of one bay in its original form. With this seal of approval in place, the Museum was able to raise the remaining funds to complete the £2.1 million needed for the first phase of restoration, which entailed making the building weather tight and structurally sound.



Artist's impression produced prior to commencement of restoration in 1992

The two key principles of the restoration strategy were the retention of the maximum possible amount of original fabric and the adoption of overtly modern materials and design for any elements of renovation and new build. The Museum was committed to ensuring that the restoration was a model of best practice so Museum staff worked closely with the BDP architects in the development of the detailed programme of works. For example, they checked the itemised door and window survey and amended it where the functional significance of features had not been recognised. The final step before the building contract went to tender was the testing of specific restoration and refurbishment techniques with the objective of selecting the techniques that proved effective and least intrusive. The techniques tested included timber repair joints, removal of limewash and fireproofing of timbers. Samples of the roof torching and mortar were analysed so that the same compositions could be used in the restoration process. Moss Construction was appointed as the building contractor for the first phase of restoration and work began in May 1992. Museum staff kept a watching brief and carried out further archaeological recording during the restoration work.

Bay 4, the bay next to the Electricity Gallery, was chosen as the bay that would be conserved, rather than restored, because it was the bay least altered since 1830. Therefore the shuttered windows were left unglazed, the roof was left uninsulated and all timber replacements were achieved using viable original timber that had been kept after its removal from the Electricity Gallery bay. A minor modification was the glazing of window openings in doors in order to

prevent rain entering the building. Bay 4 also featured the only deliberate reinstatement of an original feature: the lowering of half of the raised floor above the rail trestle in order to allow the interpretation of the original goods handling arrangements. Interior doors in the cross-walls had to be replaced throughout with doors that magnetically closed in the vent of fire and that would provide a more effective barrier to the spread of fire. In the other three bays, all windows and some doors were glazed, the roof was insulated and, as there was not sufficient original timber for all repairs, new timber of appropriate type and quality was used and was date-stamped to indicate its non-originality. An additional alteration in Bay 3, which was intended as the entrance bay, was the removal of the mezzanine floor, as it was felt that, because of the low ceiling, its retention would make the entrance area off-puttingly claustrophobic. Finally, a ramp was constructed leading to automatic external doors on the ground floor of Bay 3. The restoration work was completed in July 1993.



New stairwell in Bay 3, ground floor with mezzanine-level landing

The second phase of work, which began in April 1994, involved the damp-proofing of the basement, the creation of an access and service core in Bay 3 and the installation of mechanical and electrical heating and power services throughout Bays 3 and 4. Damp-proofing of the basement was critical because not only had the basement ceiling/ground-level floor suffered the most widespread wet rot, but also the natural relative humidity was such that the moisture content of the timbers exceeded the level specified in the guarantee for the intumescent treatment. The original idea was to tank the floor as well as the underground walls, but the tanking of the floor was abandoned largely because of the visible friability of the brick setts, which meant that their removal would inevitably inflict heavy damage and loss.

As the tanking of the walls would require the excavation of a trench along the outer face of the north and west elevations, the Museum decided to engage the Greater Manchester Archaeological Unit to undertake a twofold exercise. The major element was the excavation of the site of the former blue-brick building and earlier engine house in order to ensure that any underground remains were carefully recorded before the building contractor began digging trenches. This excavation took place in March 1994 and revealed that the footings of both the first and second steam engines were still in place.⁹⁸

The other part of the archaeological contract was to maintain a watching brief during the trench works, recording any features that became visible, and to record the hydraulic jigger that had to be removed in order to make way for the lift and stair core. This core was made of steel and glass, providing a one-hour fire compartment with direct access to an exit to the lower yard, and accommodated two lifts and a staircase. In Bay 4, mechanical and electrical services were kept to a minimum, the only form of heating being a hot-water pipe in each bay that would prevent the temperature dropping below 10°C in winter.

During the second phase of restoration, the 1830 Warehouse was upgraded to Grade I status in the course of a complete review of the Manchester list. This was a direct consequence of the enhanced understanding of the building arising from the archaeological survey and related documentary research. The review also resulted in the Lower Byrom Street Warehouse and Power Hall being added to the

list with Grade II listings and the Irwell Bridge being separately listed from the remainder of the 1830 viaduct.

The third phase of restoration of the 1830 Warehouse was begun and completed in 1996. Essentially, this was the Bays 1 and 2 counterpart of the second phase, the only differences being that both bays were fully mechanically and electrically serviced and the access core contained one larger lift plus a staircase.

Lower Byrom Street Warehouse and the Colonnade

As the second and third phases of the 1830 Warehouse restoration were fully funded by grants from the European Regional Development Fund and Department of National Heritage (now the Department for Culture, Media and Sport), they made no demands on the Museum's capital reserves, which were therefore available for funding other works. This enabled several small schemes to be carried out in the Lower Byrom Street Warehouse. In 1992, the Museum shop was extended by building a new frontage on Lower Byrom Street flush with the entrance frontage and a self-contained large object store was created in the basement. In 1995, the textiles and printing galleries on the ground floor were dismantled to make way for the creation of a Changing Exhibition Gallery, which created a new floor over part of the former rail well. This scheme and the next scheme, the creation of a new textiles gallery, were designed by Ian Simpson Associates.

The opportunity to create a new, larger textiles gallery arose from the decision to downsize workshop facilities, in acknowledgement of the reduction in exhibit restoration work, and the availability of a new grant source, the Heritage Lottery Fund (HLF). The Museum made a successful application in the first round of HLF grants, which netted 50% (£400,000) of the costs of conversion and fit-out. The building element of the scheme was quite modest as it only entailed the installation of a ramp, one static bridge and one mobile bridge (across the former rail well), steel and glass railings around the well and a humidification system around the well (where the working machinery would be installed). On completion of this work, the Museum decided to retain the services of the contractor, Balfour Beatty, to undertake the waterproofing of the 'apron' between the west elevation of the Lower Byrom Street and the colonnaded viaduct. When the setts were lifted in preparation for the tanking of the rail bed, two turntables were revealed, which were recorded before being cut into quarters for removal.

This HLF success prompted the Museum to submit an application for a maximum grant towards the costs of a much bigger project, titled the *Final Phase* scheme, in 1996. An £8.8 million grant was approved by HLF in February 1997, but building work did not begin until March 1999, because a grant application to the European Regional Development Fund for £2.5 million was initially relegated to a reserve list and a reduced grant of £1.5 million was offered in December 1998. About 45% of the £14.2 million building cost was allocated for building works, with the remainder allocated for fit-out. The building works were focused on the completion of the restoration of the Lower Byrom Street Warehouse and the construction of self-contained units within the Colonnade. The construction programme

consisted of: the conversion of the vacant western halves of the first and second floors of the Lower Byrom Street Warehouse; the construction of a largely glass lift and stair tower and a fire escape tower abutting the west elevation; the expansion of shop extension; the conversion of much of the basement and rear half of the Colonnade to create a collections centre, plus a photographic studio and technical services workshop; the relaying of setts in the lower yard to produce a more even surface; and the completion of the network of smooth paths between buildings. The building works were scheduled as two consecutive phases.

The Lower Byrom extension was increased in area by bringing the frontage closer to the road, in order to accommodate new entrance facilities as well as a shop, and in height to accommodate a first floor level, which was to house an office and boardroom suite for the Museum's Directorate. Like its predecessor, the new extension frontage was a primarily glass-clad steel frame, with timber cladding where disguise or privacy was required. The western half of the first floor was partitioned to extend the Learning Centre to accommodate an additional classroom and other facilities, but the bulk of the space was set aside for a new Manchester Science gallery. The top floor of the warehouse was partitioned to create a large restaurant (with kitchen), with a raised floor at the western end, a new version of the Xperiment interactive science centre and two new meeting rooms. In the basement, the existing Library and Record Centre and large object store were retained but reconfigured within a larger collections storage and study facility, which required the laying of a level concrete floor with a resin coating.

As Granada was responsible for the rail deck of the viaduct, the Museum could not guarantee its water tightness, thus making it necessary that the units created within the Colonnade be fully self-contained. The six units were integrated to form a continuous block from the outer wall of the Warehouse basement through to the Water Street gates. They comprised, east to west, a collections reception workspace, a photography studio, three large object stores and the engineering workshop. With the exception of the workshop, which extended forwards to just short of the cast-iron columns, the frontage was aligned with, but free of, the sandstone pillars. This configuration brought two benefits: it emphasised the distinction between the original structure and the new build and it created more manageable environments, as the pillars form conduits for rising damp. The object storage space had to be subdivided in order to provide sufficient entry points at which the threshold between the flat floor inside the units would be level with the tarmac paths following the slope of the yard. All units have steel outer frames, which are clad with glass and timber, breeze-block dividing walls and gently sloping roofs. While the stores and collections reception have primarily double-glazed frontages punctuated by timber-clad double sliding doors, the studio and workshop have timber-clad doors and primarily timber-clad walls. The building programme was completed by September 2000.

3.3.7 Social, technological and architectural context

David Bellhouse Jr. (1792-1866), Contractor⁹⁹

The lack of firm documentary evidence for the architect(s) of the 1830 Warehouse and Passenger Station only serves to draw more attention to the contractor who was certainly responsible for the former and possibly the latter. This was David Bellhouse Jr., the second-generation head of a family building firm that was one of the largest in the country. He was the second son of David and Mary Bellhouse, and began to assume control of his father's building and contracting business between 1816 and 1824.

His father David Bellhouse, senior, was a remarkable, although not atypical, example of the kind of self-made 'Manchester Man' fictionalised by Isabella Banks. At his death in 1840, he left a fortune of £60,000 (equivalent to about £1.5 million and £1.75 million at today's prices). Born in Leeds in 1764, he was trained as a joiner by his father. He moved to Manchester in 1786 and continued working as his joiner, but also became active in speculative building and contracting. In partnership with builder John Port, architect Thomas Taylor and timber merchant Thomas Bailey, David Bellhouse built at least 45 houses near the Castlefield area in 1790.

In 1792, he purchased 863.3 square yards of land in Faulkner, Nicholas and St. James Streets from Charles Stanley, a Manchester merchant. He built a house for himself on this site and a joiner's shop, which employed about 40 to 50 joiners and carpenters. In 1801 David Bellhouse bought land in Hunt (now Whitworth) Street, bordering the Rochdale Canal between Oxford Road and David Street. While this began as just the timber yard for his building business, he was able to buy more land nearby three years later and moved his entire operation to the Oxford Road Wharf. This expansion allowed him to take on bigger contracts for buildings such as cotton mills and public buildings (including the Portico Library and Theatre Royal). He became the operator of one of these cotton mills, later transferred to his sons James and Wainwright as a separate business.

By 1811 he begun to sell timber and by 1813 he was described as a timber merchant, joiner and builder. Having taken the first step towards vertically integrating his building business by engaging in the timber trade, David Bellhouse then branched into the supply of other building materials by buying a brickfield in Oxford Road in 1810 and an iron foundry in about 1815. He improved his timber operations by building a steam-powered sawmill in 1816. Finally, in 1824, he acquired a steam tug and several barges for transporting timber by canal from Liverpool, where he rented wharf space at Queen's Quay, the main timber wharf.

David Bellhouse Jr. entered his father's business in about 1816. The ensuing David Bellhouse & Son partnership covered the full span of the Bellhouse businesses, but David Bellhouse Jr. soon demonstrated a particular talent for the building and contracting operations. This led to the dissolution of the partnership in December 1824, at which point David Bellhouse Jr. took full control of the building and contracting business. (A new David Bellhouse &

Son partnership between the father and his son John was formed to accommodate the timber businesses.) By 1825, David Bellhouse Jr. had gained substantial experience of warehouse construction as a speculator, rather than as a contractor, although speculative housing development seems to have been the mainstay of the business at that time. This assessment is based on the senior David Bellhouse's own analysis in 1821 of his timber consumption. He estimated that about 85 to 90% of the timber he used was North American pine, which was used in the construction of houses and "middling" buildings, and the manufacture of trunks and packing cases. The other 10 to 15% of timber was Baltic timber, which was used for large buildings such as warehouses.

Like his father before him, David Bellhouse Jr. also took on contracts for public buildings. In 1825-26, he carried out the foundation work for the Manchester Royal Institution (now the Manchester Art Gallery), which was designed by Sir Charles Barry. In 1830, in addition to the Liverpool Road Station warehouse (and possibly the Passenger Station), Bellhouse was the contractor for the Chorlton-on-Medlock Town Hall and Dispensary.

David Bellhouse added to his business interests in 1836 when he became one of the original five directors of the Union Plate Glass Company in St Helens. This was a useful diversification of his portfolio of building supplies. At his father's death in 1840, he inherited the iron foundry, which he handed over to his son Edward Taylor Bellhouse two years later. His brothers John and William inherited the timber businesses. While this still gave him a family link to the timber trade, he seems to have eventually decided that it would be better to have direct vertical integration within his own business. By the 1850s Bellhouse appears in the Manchester directories as a builder, contractor and timber merchant, alongside the firm of David Bellhouse & Sons, timber merchants. This suggests that he assigned the running of the timber business to his youngest son Richard, who was also listed separately as a timber merchant.

With the onset of 'Railway Mania', Bellhouse's early experience on the Liverpool & Manchester Railway gave him a foothold in a rapidly expanding area of the construction industry. During the 1840s, Bellhouse built a station at Ashton-under-Lyne, a suite of offices at Hunt's Bank Station (now Victoria Station), Manchester, and a complex of locomotive workshops, all for the Manchester & Leeds Railway. These contracts fell well within his established area of construction expertise, but his next railway venture took him into a new area.

In 1845 he was engaged by the Manchester South Junction Railway to build a 1.75-mile (2.8-kilometre) railway between London Road Station (now Piccadilly Station) and the Grand Junction Railway line near Ordsall Lane, including two stations. This entailed clearing the route by purchasing and demolishing existing buildings and diverting streets in order to enable the erection of a viaduct to carry the railway 30 ft (9.2 m) above street level. This project was highly suited to David Bellhouse's business interests, not least because of the vast quantities of building materials involved. It also provided good business for his son Edward's Eagle Foundry, which cast the ironwork for the nine bridges along the route. The viaduct crossed

the Castlefield Basin en route south-westwards from Knott Mill Station, originally on Hewitt Street, but replaced by a new station on Whitworth Street in 1896 (still in use as Deansgate Station). The Manchester South Junction Railway underwent a major change after construction had begun, being extended southwards to Altrincham. The Manchester, South Junction & Altrincham Railway, as it then became, opened in 1849 and is regarded as the first 'commuter railway'.

Business continued to flourish throughout the 1840s and 1850s, when Bellhouse's major contracts included the Manchester Poor Law Union Moral and Industrial Training School (1843), and the Denton and Gorton Reservoirs for Manchester Corporation (1850), the exhibition house of the Manchester Botanical and Horticultural Society (1854) and the Manchester Workhouse in Bridge Street (1855). By the 1851 census, David Bellhouse Jr. was one of the biggest builders in the country, with a workforce of 500 men at a time when only five builders in England and Wales employed 350 men or more.

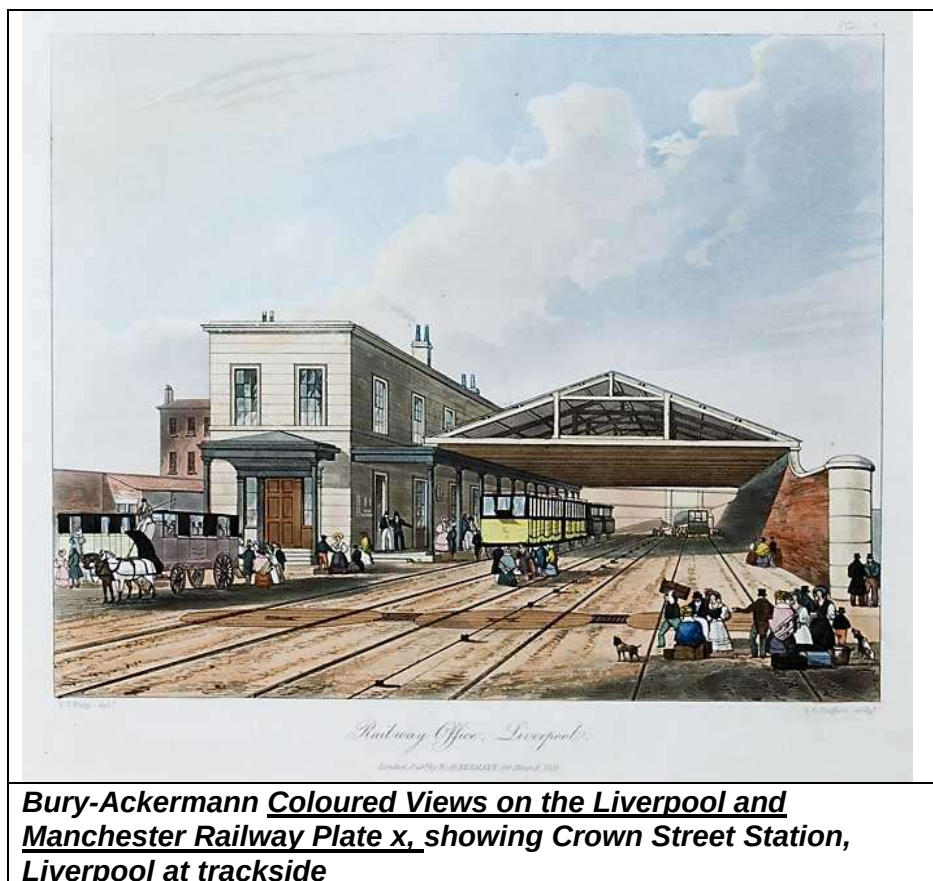
In the mid-1840s, Bellhouse took on a new role as a consulting engineer and valuer, a role that he remained active after his retirement from building and contracting in 1860. He had previously undertaken at least one consultancy: in 1829 he was engaged by the Surveyors of Highways, one of whom was his father, to examine a group of three houses, but this seems to have been an isolated case. From 1845, when he undertook two such jobs, this became a regular part of his work. The more prominent 1845 consulting job, in which he was partnered by William Fairbairn, involved examining the collapse of an Oldham mill and reporting to the Parliamentary Committee investigating it. He worked with Fairbairn again in 1857 when they assessed the hall built to house the Manchester Art Treasures Exhibition in terms of its public safety and suitability for the works of art. Bellhouse's consultancy and valuation work spanned a wide range of structures, from a coal mine to the tower of Manchester Cathedral, the latter being one of his last consultancies prior to his death in 1866.

There is a small family postscript to David Bellhouse Jr.'s involvement with Liverpool Road Station: his grandson Thomas Percy Bellhouse, who was a solicitor (like his father Thomas Taylor Bellhouse), acted as witness to a conveyance of 1880 whereby the London & North Western Railway Company purchased one of the plots of land required for the construction of the Great Western Warehouse.¹⁰⁰

Railway Stations

Although described by Gordon Biddle and O. S. Nock as the "most important large-scale early railway site in the world to retain so many of its original features"¹⁰¹, Liverpool Road Station has received fairly scant attention in histories of the British railway station. For example, Jack Simmons, while acknowledging the opening of the Liverpool & Manchester Railway as a "landmark in the technological and economic development of the world ... that has stood ever since", regrets that no railway warehouse in Manchester "which was par excellence the city of warehouses, was especially distinguished"¹⁰². This points to one of the factors that explain the relative obscurity of

Liverpool Road Station in these histories: none of the Station buildings was the work of a leading architect, nor designed as an exemplar of a particular architectural style. Other factors include the short life of the single-platform station model, of which the Liverpool & Manchester Railway termini were the prototypes, and the early loss of the passenger service function. Nevertheless, Liverpool Road Station has two undeniable claims to a place at the forefront of historic railway stations worldwide: its primacy and its completeness.



Bury-Ackermann Coloured Views on the Liverpool and Manchester Railway Plate x, showing Crown Street Station, Liverpool at trackside

The Liverpool & Manchester Railway was the key source of inspiration and practical information for the planning of railways approved in the 1830s. In terms of station design, this was particularly true because few railway companies during this period engaged architects to design their stations, being content to assign this responsibility to their chief engineers. Thus, the Great Western Railway, for example, entrusted Isambard Kingdom Brunel with station design, although it was an exception to the norm in other respects, particularly as regards the adoption of Brunel's broad-gauge track. Most other railway companies adopted the tried and tested Stephenson track and station templates, partly because many of them employed engineers who were former Stephenson protégés or otherwise associated with Stephenson.

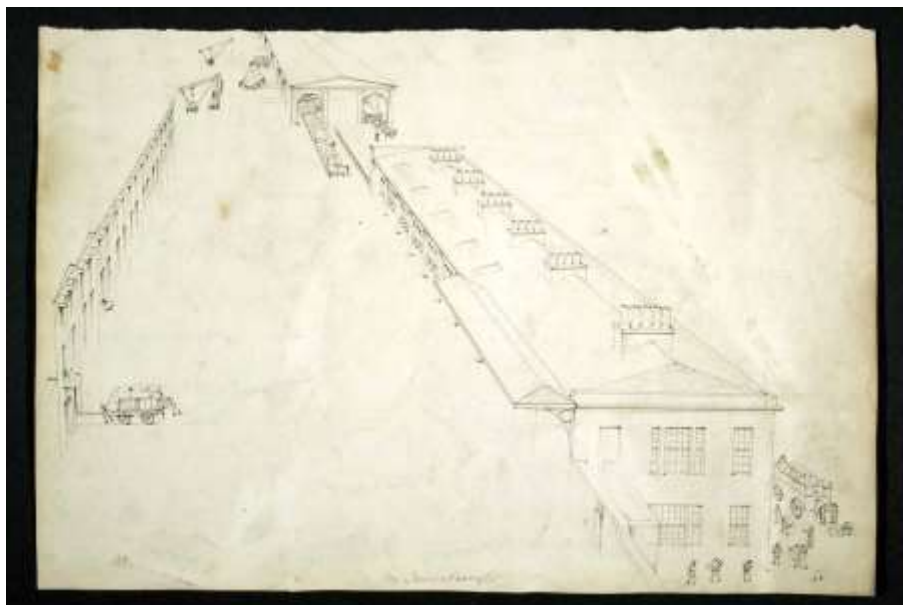
The single-platform model of the Liverpool & Manchester Railway termini acted as the blueprint for stations in the first wave of railway development. The basic premise of the model was that it restricted passengers to one side of the station, leaving the other side of the station available for goods traffic. As discussed in section 3.3, this required separate arrangements to be made for the arriving passengers. George and Robert Stephenson, who were in much

demand after the opening of Liverpool & Manchester Railway, continued to use the single-platform model for subsequent railway ventures, such as the London & Birmingham Railway (Robert Stephenson) and the Manchester & Leeds Railway (George Stephenson). The London & Birmingham Railway Company, however, did take a different approach to station architecture, probably because it was conscious of delivering London's first railway station. The architect Philip Hardwick was engaged to design both the original Euston Station, with its famous Doric arch (demolished in the 1960s), and the Curzon Street terminus in Birmingham. These were among the rare exceptions to Jack Simmons' judgement that early railway stations tended to be "no more than makeshifts"¹⁰³.

However, the rapid growth of the railway network soon introduced issues that the Liverpool & Manchester Railway had not had to face. As soon as railways began to intersect and stations began to serve more than one route, the single-platform model ceased to be viable. By then, Liverpool Road Station had become solely a goods station and did not need a change of layout. Passenger stations had to keep abreast of changing public tastes and expectations, so while the relegation of Liverpool Road Station to a goods station served to remove it from the public arena and thus the public consciousness, ultimately this contributed to the retention and preservation of the original buildings in substantially unaltered form. The Station's development became focused around functional efficiency and cost-effectiveness, hence the construction of plain, honest buildings to serve the needs of the growth in goods traffic. The later buildings were structurally up-to-date examples of their type, but with no pretensions with respect to prevailing architectural tastes.

3.3.8 Social History

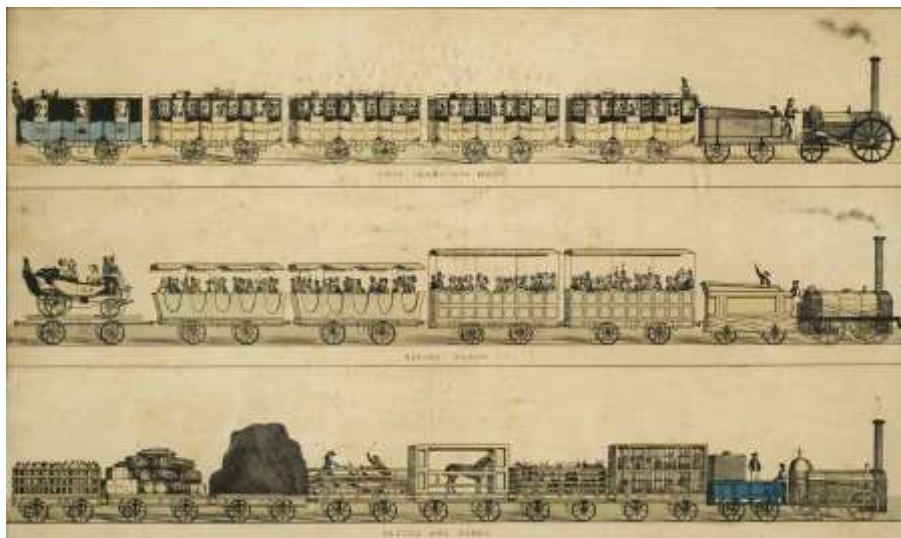
Although Liverpool Road Station was only a public site for 14 years, it had a vibrant social history. The Liverpool & Manchester Railway consolidated the engineering reputations of George and Robert Stephenson and provided inspiration to up-and-coming engineers such as James Nasmyth, who made a sketch of Liverpool Road Station. Yet its greater social significance, now best embodied in Liverpool Road Station, was its impact on the lives of ordinary, mostly anonymous, people in their capacities as travellers, consumers and workers.



Sketch of Liverpool Road Station by James Nasmyth, c. 1835, showing Station Building, 1830 Warehouse and the original Shipping Shed

Passengers

As the first steam-powered railway to prioritise passenger services, the Liverpool & Manchester Railway awoke widespread public interest in railways and the steam locomotive. Whether enraptured or aghast, travellers were gripped by their early impressions of the new world of rail travel. One of the earliest accounts of the experience of travelling on the Liverpool & Manchester Railway comes from the actress Fanny Kemble, who was invited to join one of the trial trips in August 1830 and was also a guest at the opening. Her colourful account of her first journey states: "When I closed my eyes this sensation of flying was quite delightful, and strange beyond description; yet strange as it was, I had a perfect sense of security, and not the slightest fear."¹⁰⁴ Other passengers were distinctly less rhapsodic. After travelling from Liverpool in 1836, a member of a family named Cotton wrote in his journal that: "In my opinion this is not at all a pleasant mode of travelling and doubly disagreeable when we were helped up the inclined plain (*sic*) by a ramping, roaring engine. The engine when in motion gives a very unpleasant jerk to the carriages."¹⁰⁵



Print titled *Sketch of the Carriages on the Liverpool and Manchester Railway (c. 1831)*

One of the best, albeit ungrammatical, descriptions of the passenger arrangements at Liverpool Road Station comes from the 1835 diary of Mrs Sarah Ellis, who:

“arrived safe in Manchester time enough to go to a shop or two, got back to the Inn before the Omnibus arrived, which calls at the Pallace (*sic*) Hotel for passengers to go by the rail way to Liverpool, where we got safe, having paid the fare we went up stairs (I could not think where we was (*sic*) going), but when we got to the top saw all the coaches ready for starting our ticketts (*sic*) which coach to go in and where to sit as each seat had a number at the top. ... I observed a chariot on one side with a lady in it, that was lash'd to some wheels, it turn'd around as we advanced and was fix'd behind the train. Twenty seven coaches Elizabeth told me she counted.”¹⁰⁶

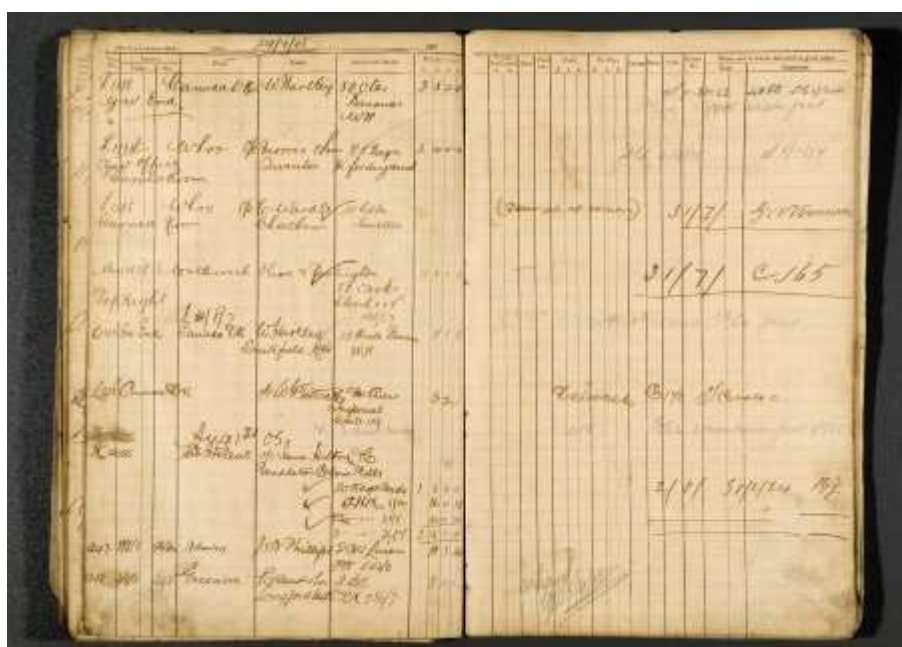
Even those who were merely spectators were impressed. The Manchester chemist J. T. Slugg recalled watching the opening ceremony of the Liverpool & Manchester Railway in his memoirs *Reminiscences of Manchester Fifty Years Ago*¹⁰⁷. As he was unable to get a clear view of the locomotives, he recounted that: “It was some time after the opening of the line before I could get to see a train in motion. At length, one summer's evening in Oldfield Road, I got on the railway embankment, and to my inexpressible delight a train from Liverpool passed.” Novelists too drew on their experiences of rail travel. In *Mary Barton* (1848), Elizabeth Gaskell wrote: “Common as railroads are now in all places as a means of transport, and especially in Manchester, Mary had never been on one before; and she felt bewildered by the hurry, the noise of people, and bells, and horns: the whiz and the scream of arriving trains... The journey itself seemed to her a matter of wonder.”¹⁰⁸

The Liverpool & Manchester Railway brought new leisure opportunities. It ran scheduled excursion trains for events such as Liverpool Festival Week, but also, from 1831, hired trains or carriages to societies, associations and other special parties. As the century drew on and legislation reducing working hours increased the opportunities for leisure travel, rail transport transformed the fortunes of seaside resorts such as Blackpool. Rail travel was also a great

social leveller. Again in *Mary Barton*, Elizabeth Gaskell notes that: "The early trains for Liverpool on Monday morning were crowded by attorneys, attorneys' clerks, plaintiffs, defendants and witnesses, all going to the Assizes. They were a motley assembly...."¹⁰⁹

Consumers

Farmers found that the railways extended their markets, as it was possible to send perishable food further afield. In particular, railways encouraged the development of specialist market gardens close to the urban areas that they served. They thereby helped to improve urban diets by supplying fresher foods and increasing the supply of 'exotic' foods from overseas, such as oranges and bananas. Documents that have survived by chance corroborate that food of all kinds formed a large part of the goods traffic received by Liverpool Road Station. These documents include the two stock books (dated 1885 and 1905) found in the 1830 Warehouse and, found elsewhere on site, delivery notes and requests from the 1880s and wagon dockets from 1940s to 1960s¹¹⁰.



1905 stock book



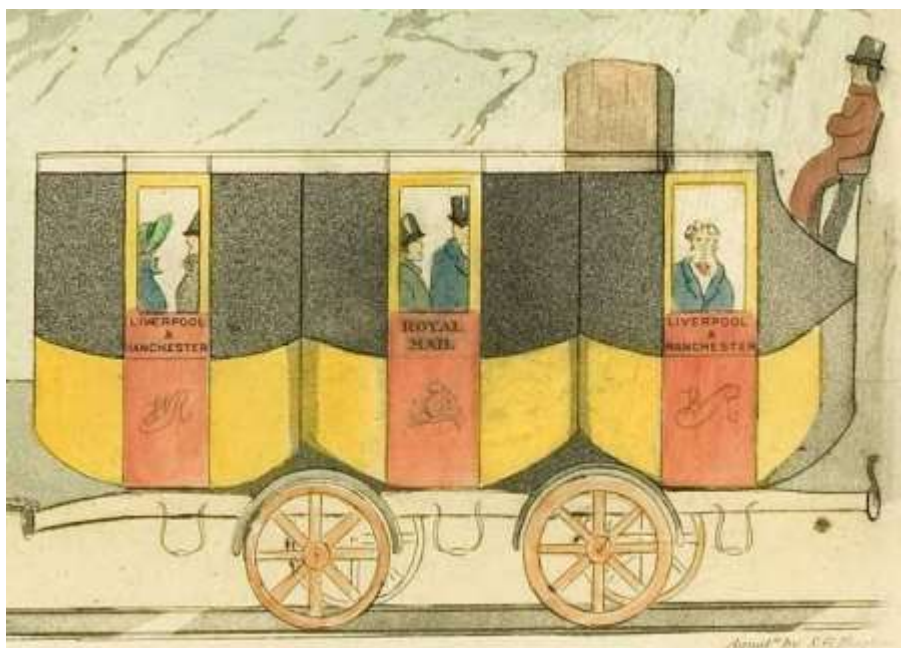
1866 delivery note



1967 freight docket

Railways improved communication, not only by connecting people directly, but also by acting as a vehicle for other forms of communication, particularly mail and newspapers. The Liverpool & Manchester Railway Company received an enquiry from the Post

Office about the costs of transporting mail in November 1830¹¹¹. A week later a regular mail service began. The Railway made it feasible for mail to be transported overnight for delivery the next day, a timescale that also suited newspaper distribution.



Detail of print of Liverpool & Manchester Railway carriages by S. G. Hughes, showing a mail coach (c. 1831)

Railways also contributed to another change that had a beneficial effect on communications – the standardisation of time. When the Liverpool & Manchester Railway opened, its timetables were calculated to allow for variations in local time. Each station set its clocks by referring to a sundial. Even in a small country such as Britain, variations in local time could be up to 30 minutes, making accurate timetabling almost impossible. In November 1840, the Great Western Railway Company, because of its London terminus, became the first railway company to adopt London time throughout its route. In June 1844, the Liverpool & Manchester Railway Company directors presented a petition to Parliament urging the adoption of a system of “universal time”.¹¹² This was rejected. Two years later, the North Western Railway went ahead with the adoption of London time on the Liverpool to Manchester line. London time soon became widely adopted in business and public life. From 1848, the Manchester Town Hall clock was regulated to Greenwich Mean Time by astronomical observation, but from 1852 it was regulated by means of an hourly telegraphic signal direct from the Royal Observatory. However, the formal introduction of Greenwich Mean Time only came about in 1880 under the Statutes (Definition of Time) Act.

Workers

Railway development and operation created new employment opportunities for workers spanning the spectrum from navvies to managers. In the case of Liverpool Road Station, the sources that provide an insight into working lives are the surviving records of the

Liverpool & Manchester Railway and its successor companies, the archaeological evidence and oral accounts. Staff registers and salary ledgers for specific periods give names, positions, salaries and appointment dates, thus revealing the composition of the Station workforce, but it is the minute books of various committees and sub-committees that provide a better picture of the staffing context. For example, in the early years the Railway Company took a hard-headed approach to employment, resolving in 1833 that “in future stout boys at the rate of Fifteen Shillings per week be employed to do the work of the Firemen at the Locomotive Engines – but that the present Firemen may retain their situations at the reduced rate of wages till they can meet other situations”¹¹³. Some of the documentary evidence allows us to see Liverpool Road Station as a microcosm of national life. For example, the *Roll of Honour, London & North Western Railwaymen*¹¹⁴ reveals that sixty employees of Liverpool Road Station, who were mainly carters and porters, lost their lives during the First World War and eight employees received military honours

The material evidence of the buildings and loose items found within them also adds to our understanding of working life at Liverpool Road Station.¹¹⁵ Relating to clerical work are the secondary offices in the 1830 Warehouse, with their fitted desks, and the office furniture recovered from the former booking halls. Portering and carting work are reflected in the machinery and safety notices, the surviving hoists and cranes, the painted signs and numbers on the 1830 Warehouse walls, duckboards and trolleys. Stable work is represented by the manger recovered from the stable within the Colonnade. Relating to all classes of work are the wage tins, which are referred to in one of the oral history interviews held by the North West Sound Archive.

The North West Sound Archive holds a small number of oral history interviews with former staff of Liverpool Road Station. The earliest account refers to life at the Station in the 1920s when the interviewee, who was then a messenger boy, carried messages on behalf of the Station's Strike Committee during the National Strike of 1926. Another interviewee, F. Donlan, began work at Liverpool Road Station as a cartboy in the 1930s, graduated to become a carter and went on to become President of the National Union of Railwaymen.¹¹⁶



***Reconstructed Roman Fort,
Castlefield***



***Merchants' Warehouse,
Castlefield Basin***



***Curvilinear bridge in front
of railway viaduct***



Wharves, bridges and canals

3.4 Castlefield Conservation Area

3.4.1 The Castlefield Conservation Area

Designated in 1979, Castlefield is one of the largest conservation areas in Manchester, situated on the south-west side of the city centre. While its focus is on the Roman fort which gives the area its name, it also includes the nucleus of the eighteenth century transport revolution, including the junctions of the River Irwell and Medlock and the Bridgewater and Rochdale Canals, and of the nineteenth century railway revolution, including Liverpool Road Station as the first passenger railway in the world. The Department of the Environment elevated Castlefield to the status of an outstanding conservation area in 1980, although this level of designation has now been abolished nationally. Castlefield is also a key area in the proposed World Heritage Site for Manchester and Salford, which is currently included on the Tentative List.

Castlefield contains the earliest definite record of human settlement in Manchester, a Roman fort named Mamucium founded circa 79AD. As well as the fort, a village was formed to service the fort, but both the fort and village were abandoned after the Romans left in c. 410 AD. A later important house on the site of the Roman era village was destroyed by fire by the Parliamentarians during the Siege of Manchester.

In 1734 the first quay was built on the River Irwell for loading and unloading goods. The river had been made navigable in 1720s, allowing boats to pass from the Irwell to the River Mersey and on to Liverpool. From 1759 to 1761 the first canal in Britain to be independent of a natural waterway, the Bridgewater Canal, was built to transport coal directly from the mines in Worsley to Manchester, with the terminus in Castlefield. By 1776 the river and canal transport systems were linked and by 1805, when the Rochdale canal was extended through to Castlefield, the connection from west to the east coast was completed. The Castlefield canal basin was both the centre and the interchange of the emerging canal network. Warehouses were built surrounding the canal basin, and the area was important for the transport of food, coal and other goods.

The Manchester terminus of the Liverpool & Manchester Railway, the world's first purpose-built passenger and goods railway, was opened on Liverpool Road in 1830. Additional railway buildings and viaducts for other railway lines were soon built in the area. The railway viaducts, crossing the River Irwell and canal network, reinforce the importance of the area as a goods transport interchange.

In the Conservation Area there is one scheduled ancient monument (fragment of Roman wall), three Grade I structures (the Liverpool Road passenger station, 1830 warehouse and 1830 railway bridge over the Irwell), one Grade II* building (St. George's Church, Hulme) and twenty-seven Grade II structures. Former libraries and schools intermingle with churches, houses and pubs, but the overriding



Cast-iron lattice-work and columns of viaduct



Former Sunday School of St. Matthew's Church



Terraced housing

character of the area is industrial, with massive warehouses, mills and wharves.

The majority of the buildings are built of stone, brick and slate. However, the decorative cast-iron structures and iron lattice beams of the massive railway viaducts, railway bridges and the two market buildings provide an important visual counterpoint to the predominant masonry and scale. The areas around the canals and wharves needed to be durable to survive the impact of iron-rimmed wheels and iron-shod horses hooves, and granite setts were the predominant floor surface. Both the character and the materials commonly used in the area tend to be functional and durable, especially in the transport and warehousing structures.

The area fell into decline in the mid- to later twentieth century, but since the 1980s the area has been transformed by a combination of tourism (particularly the Museum of Science and Industry) and leisure facilities, and attracting commercial and residential investment, enabling many of the old warehouses to be refurbished. The older structures are counterbalanced by some modern ones, such as the curvilinear pedestrian footbridge across the Bridgewater Canal and the stadium with tensile skin roof adjacent to the site of the Roman fort.



Bridge over Water Street with 1867 Viaduct entering Liverpool Road Station

3.5 Management Information

The Museum of Science and Industry has occupied the Liverpool Road Station site since 1983. The Museum wishes to better accommodate the increased number of visitors and school groups, and to create space for new galleries, including an introductory gallery at the entrance to the Museum.

There are several relevant designations, planning policy documents, and other strategies which apply to the buildings. Two of the buildings are listed Grade I and several other buildings and structures are listed Grade II. Any alterations or demolitions will need Listed Building Consent. Alterations and demolitions should follow the government guidance in PPG 15. The Unitary Development Plan Policies: Areas and Buildings of Special Architectural or Historic Interest and Development Affecting Listed Buildings will also apply to any significant alterations on the entire site.

In addition to the planning policies and guidance, there are further regulations and standards with which the proposals for the building will need to comply. These include Construction (Design and Management), the Disability Discrimination Act, Building Regulations and Environmental Health.

As owners, the Museum of Science and Industry, Manchester is responsible for managing and maintaining the structures. The Technical Services Department is responsible for the maintenance of the site, and the Head of Gallery and New Developments is responsible for managing the site. The Collections Department is responsible for advising on preservation and ethical issues, interpreting the buildings and any fittings removed from the buildings, and managing corporate records relating to the buildings. Records are kept of all maintenance work undertaken.

The most important buildings and structures on the site are well interpreted through an exhibition on the development of the railway in the Station Building and through an audio visual show within the 1830 Warehouse. Other buildings and structures are also interpreted through external graphic panels and both of the viaducts are still used for short train rides using the replica *Planet* steam locomotive.

Section 4 Statement of Significance

4.1 Overview of Significance

Liverpool Road Station heritage site comprises a large number of structures and areas which together constitute a very rare example of the development of a working station and railway yard over 150 years. The site includes seven structures listed in their own right, including two at Grade I, one at Grade II* and four at Grade II, as well as yards and spaces between them which are integral to the working and the character of the site. Liverpool Road Station is therefore of national importance.

The official list identifies the structures, not entirely accurately, as follows:

- **Former Liverpool Road Railway Station Master's House**, now Museum of Science and Industry, Liverpool Road. Designed by George Stephenson, 1830. **Grade I** (18.12.1963, amended 18.10.1977). [As the normal interpretation of curtilage applies, **this includes the former Passenger Station and former Shops/Carriage Shed**, curtilage. None of these buildings were designed by George Stephenson.]
- **Railway viaduct linking bridge over River Irwell to Liverpool Road Station, Water Street, 1830. Bridge rebuilt 1905. Grade II** (20.6.1988). [The bridge referred to is the road bridge over Water Street. The road bridge aside, the viaduct was designed by George Stephenson.]
- **Old warehouse to north of former Liverpool Road railway station, Liverpool Road. Designed by George and Robert Stephenson, c.1830. Grade I** (listed on 8.5.1973 as Grade II, upgraded to Grade II* on 18.12.1981 and then regraded to Grade I on 6.6.1994.)
- **Power Hall of the Museum of Science and Industry, Liverpool Road, 1855. Grade II** (6.6.1994).
- **Colonnaded railway viaduct at former Liverpool Road Goods Depot, circa 1870. Grade II** (18.12.1973).
- **Museum of Science and Industry former Lower Byrom Street Warehouse, Lower Byrom Street, 1880. Grade II** (6.6.1994).
- The adjacent skew bridge over the Irwell (designed by George Stephenson) has a Grade I listing.



Aerial view of site

The significance of the overall site derives from several different values:

Evidential: Cultural Value:

- **World's oldest-surviving passenger station**

The Liverpool Road Passenger Station of 1830 is the only surviving original passenger station from the pioneering phase of railway development and is therefore the oldest passenger station in the world. In comparison the original Liverpool passenger station at Crown Street was superseded by the original Lime Street Station in 1835. Crown Street Station continued in use as a goods depot until the 1970s, but only one later structure, a tower, now survives. The earlier Stockton & Darlington Railway only offered privately operated horse-drawn passenger services for the first few years and did not provide passenger stations until 1833. Mount Clare Station, Baltimore, also opened in 1830, but its oldest surviving building dates from 1851.



Station Building looking towards Power Hall



Station Building from Water Street, looking along Liverpool Road

- **World's first railway warehouse**

The 1830 Warehouse at Liverpool Road Station is the world's first railway warehouse because it was the first instance where a railway company needed to build its own warehouse. The Liverpool & Manchester Railway planned to carry a wide range of goods, including livestock, food, raw cotton and finished goods, all of which needed appropriate accommodation. As coal was the primary commodity carried by the Stockton & Darlington Railway, there was no need for warehousing to be provided. At the Liverpool end of the Liverpool & Manchester Railway, there was already ample warehousing available at the docks, which was the main transshipment point for goods. Crown Street Station was initially only a passenger and coal depot, although it became a more comprehensive goods depot after passenger services were transferred to Lime Street Station.



The 1830 Viaduct and the 1830 Warehouse

- **Most complete early railway station**
Apart from the 1830 road bridge over Water Street, which was replaced in 1905, all of the original Liverpool Road Station structures survive – the river bridge, the passenger station, the warehouse and the viaduct. Hence, in addition to their individual merits, the original structures have group value rooted in their mutual context. Further cumulative value is provided by the later buildings, which enable architectural comparisons to be made, particularly in relation to the development of the railway warehouse as a building type. The half-Georgian, half-Victorian character of Liverpool Road Station makes it a fascinating microcosm of railway station evolution.
- **Archaeological potential**
As an area of known Roman settlement during the first four centuries AD, the potential for finds of this nature cannot be discounted.

Historic: Illustrative Value

- **Prototype nineteenth century railway station**

As the most ambitious of the pioneering railways, the Liverpool & Manchester Railway provided a blueprint for railway development. Having no direct antecedents to draw on, the Liverpool & Manchester Railway had been forced to take its cues for passenger and goods facilities from the canal and stagecoach operators. The next generation of railway companies was able to model its stations on those of the Liverpool & Manchester Railway, not merely in their initial form, but as modified in response to operational experience.

- **Example of the technical expertise of nineteenth century Manchester building firms**

The original Liverpool Road Station buildings are a testament to the competence and efficiency of their builders. Both the 1830 Warehouse and the Passenger Station had to be built within a five-month period to be ready for the opening of the Railway on 15 September 1830. The Warehouse was a particular challenge because it abuts the curving viaduct. This arrangement required a parallelogram cross-section, which presented a more onerous construction task than a standard rectangular cross-section would have done. It is likely that the structural design of the building was dictated by a combination of the cross-sectional form and the time constraints. In other circumstances, one might have expected the Liverpool & Manchester Railway Company to opt for a more technologically advanced fireproof building, rather than a building with an internal timber frame. In the actual circumstances, the traditional building type was the safer choice, because a fireproof building would have been dependent on a foundry producing customised ironwork on time and on a smaller pool of appropriately experienced construction workers.

- **Exemplifies several aspects of railway innovation**

The Liverpool & Manchester Railway was the first railway to be approved at the outset as a passenger and goods railway, and to be built in accordance. While the Stockton & Darlington Railway Act had been amended to allow passenger services, passenger income was a mere 3% of total income in the first three years of operation. In contrast, the Liverpool & Manchester Railway was carrying 1,200 passengers a day within a few weeks of opening (more than quadruple the number previously carried by stagecoach) and passenger traffic provided about half of its revenue.

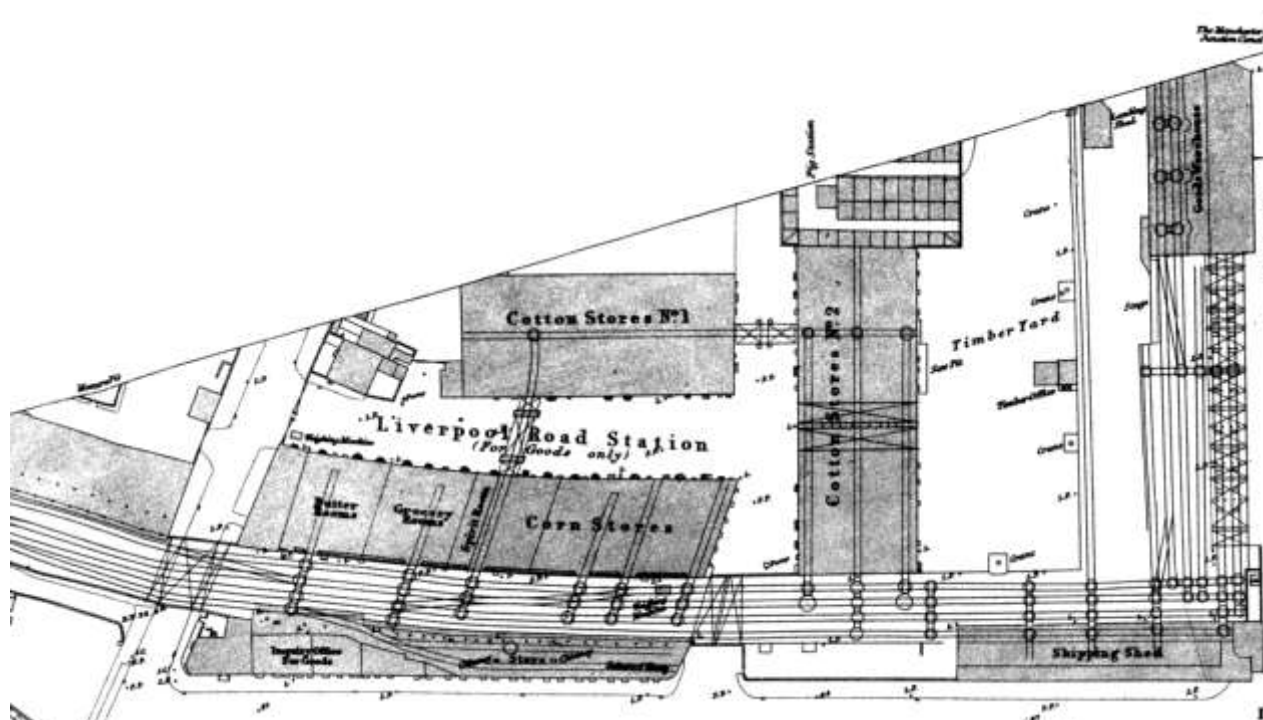
The Liverpool & Manchester Railway was also the first railway to use steam locomotives to haul both passenger and goods trains, except for the inclined section of line between Crown Street Station and the Wapping docks, where a stationary engine was used. The Stockton & Darlington Railway was using a combination of stationary steam engines and steam locomotives for goods services and horse-drawn locomotives for passenger services.

The Liverpool & Manchester Railway can also be regarded as the first mainline railway because the first step towards the creation of an interlinking railway network was taken when it joined up with

the Grand Junction Railway in 1837. Approved in 1833, the Grand Junction Railway was the first 'long-distance' railway, following a 125-kilometre (78-mile) route between Birmingham and Warrington. It met the Liverpool & Manchester Railway at Newton Junction, near Warrington.

- **Inspirational corporate prototype**

The Liverpool & Manchester Railway Act was the most detailed Railway Act to date, and as such formed a model for future Acts. About a third of the Act covered financial matters and the legal responsibilities of directors and shareholders. As both passenger traffic and goods traffic exceeded expectations, the company was an immediate financial success. The value of the £100 shares quickly doubled, and shareholders were soon assured of a regular annual dividend of 9.5%. This success encouraged the revival of a number of railway schemes that had lain dormant. In 1833, the first 'long-distance' railway was approved. This was the 125-kilometre (78-mile) Grand Junction Railway between Birmingham and Warrington, where it joined up with the Liverpool & Manchester Railway. Thus, the Liverpool & Manchester Railway can be characterised as the progenitor of the national mainline railway network. Between 1833 and 1843, 3,680 kilometres (2,300 miles) of railway were authorised, but the peak of 'railway mania' came in 1844-1846 when 255 Acts were passed, representing 7,774 kilometres (4,859 miles) of new track.



1850 Map showing layout of site at the time, including warehouses and Shipping Shed.

- **The interconnection between the railway and industrial development and trade**

Economic motives underpinned the creation of the Liverpool & Manchester Railway. Merchants and manufacturers had become increasingly dissatisfied with the inability of the canals and roads to cope with growing goods traffic and with the costs of goods

transport. Railways proved to be economically beneficial, not just by facilitating trade, but also by increasing demand for raw materials that they directly consumed, such as coal, iron and steel. It has been estimated that railway construction created 250,000 labouring jobs and railway operation another 100,000 jobs. Manufacturing industry in general benefited from the extended catchment area for raw materials and the expanded market for finished goods that an improved distribution network brought. This created opportunities for mass production and the associated economies of scale, but at the same time it increased competition.

Historical: Associative Value



**Medal commemorating
George Stephenson**

- **Association with the leading railway engineer, George Stephenson**

It is widely accepted, even by those who question his engineering inventiveness, that George Stephenson did more than anyone else to establish steam-powered railways as a practical proposition. His first biographer, Samuel Smiles, claimed to have been inspired by Stephenson's "perseverance, (his) noble-mindedness, and (his) great railway works". The construction of the Liverpool & Manchester Railway and the creation of *Rocket* (jointly with his son, Robert, and Henry Booth), together with the construction of the Stockton & Darlington Railway, certainly rank foremost amongst George Stephenson's achievements. Entirely self-taught himself, George was astute enough to ensure that his son Robert had a better general and engineering education. He also took a wider interest in the development of the engineering profession, as illustrated by his role as a founder of the Institution of Mechanical Engineers.

Aesthetic: Design Value

- **Dramatic contribution to the character of the streetscape**

Liverpool Road Station occupies a prominent site, which is bounded by Liverpool Road, Water Street, Lower Byrom Street and the Granada site. It is the Liverpool Road façade that forms the frontage of the site. The long frontage gives the site an imposing presence and is a characteristic shared by many of the Victorian railway stations that followed. Indeed, the nearby Great Northern Warehouse has the longest Victorian façade in Britain. The overall mass of the station buildings also makes an important contribution to the streetscape, particularly when viewed from one of the operational railway viaducts that cross Castlefield.



Liverpool Road, with Power Hall on right



Junction of Liverpool Road & Lower Byrom Street showing the Power Hall, with the Air and Space Museum (part of MoSI but not part of the Station site) to the right

Communal: Social Value

- **Impact on passenger travel and mobility**

As a cheaper and faster form of transport than the stagecoach or mail coach, the railways made travel accessible to more people. Canal packet boats were forced to offer cheaper rates, but the routes tended to be less convenient and the journeys were very slow. Cheap travel was a boon for many reasons. Travel was a way of maintaining family ties in a period when the influx of migrants to the growing industrial towns meant that families were likely to be more widely dispersed than previously. Railways also fostered the suburban development of towns and cities, as they made it possible for the middle classes to commute to work.

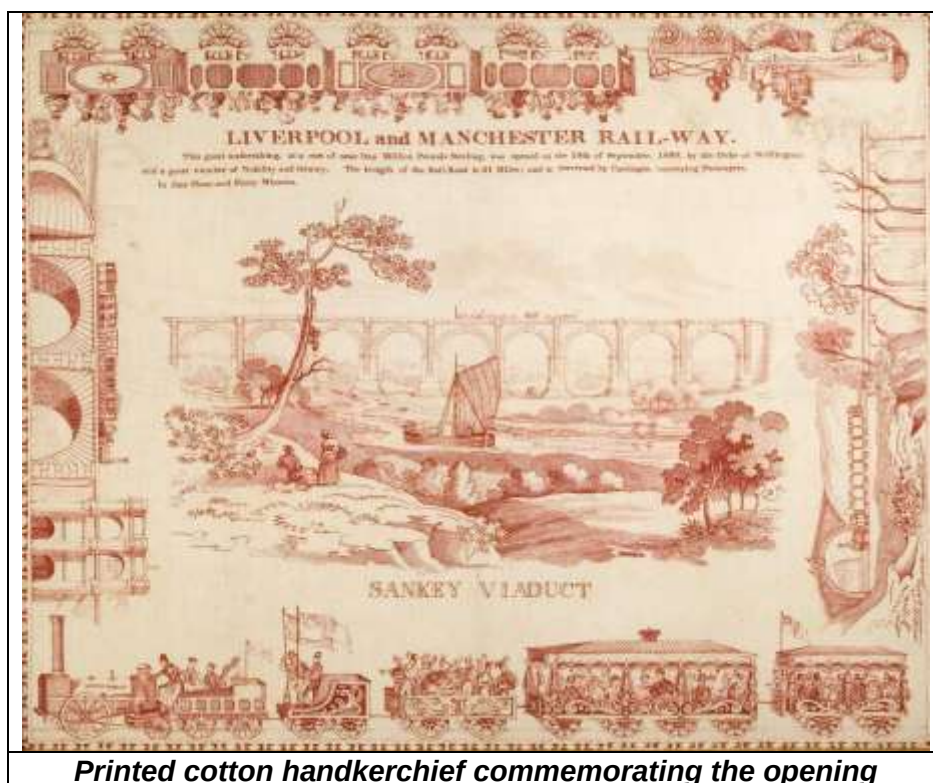
Terminating at nearby Knott Mill Station (now Deansgate Station), the Manchester, South Junction & Altrincham Railway, which opened in 1849, has been described as the first commuter line.



Commemorative jug produced in 1829, showing the Moorish Arch in Liverpool on one side and the locomotive 'Novelty' on the other

- **Publicity triumph of opening celebrations**

The opening of the Liverpool & Manchester Railway was a public relations triumph. The public imagination had already been fired by the 1829 Rainhill Trials, which drew an estimated crowd in excess of 10,000 people. Propitiously, the opening ceremony attracted a more prestigious guest list than any previous railway opening, epitomised by the agreement of the Duke of Wellington, the current Prime Minister, who was still feted by many as the hero of Waterloo, to preside as chief guest. Large crowds thronged the route, particularly in Liverpool and Manchester. The celebrations turned sour midway through the day when William Huskisson, MP for Liverpool and former president of the Board of Trade, met with a fatal accident when the trains stopped at Parkside to take on water. A further blight was cast on the proceedings by the hostile reaction of some of the crowd gathered in Manchester to the Duke of Wellington, as an opponent of political reform.



Printed cotton handkerchief commemorating the opening

- **Valued by the community**

The closure of Liverpool Road Station by British Rail in 1975 was noted by Robert Waterhouse in an article in *The Guardian*.¹¹⁷ He gloomily wrote that: "Looking forward to the 1980 celebrations of the Liverpool and Manchester Railway, it would be pleasant to report that the future of Liverpool Road Station ... was fully assured, but the position is as confused as ever. ... the only certain factor is the station's deteriorating condition." Impatient with Greater Manchester Council's indecisiveness about acquiring the site for museum use, the Manchester branch of the Victorian

Society organised a meeting in December to discuss the future of the Station. This led to the formation of the Liverpool Road Station Society in early 1978. The Society's objectives were to secure the restoration of the buildings for museum use and to promote Liverpool Road Station's inclusion in the 150th anniversary celebrations. Society members were active in both campaigning for the Station's preservation and assisting with preparations for the 1980 Great Railway Exposition. When the Museum opened, the Liverpool Road Station Society was disbanded, but its members were invited to join the Museum's new Friends organisation and some remain Friends today.

Communal: Symbolic Value

- **Inspiration to engineers**

The Liverpool & Manchester Railway was a remarkable achievement in terms of both civil and mechanical engineering. As such it inspired a young generation of engineers, including James Nasmyth (1808-1890). In his autobiography, Nasmyth describes how he watched George and Robert Stephenson driving *Rocket* on 16 September 1830. He wrote: "During their trips of four or five miles along the line the *Rocket* attained the speed of 30 miles an hour – a speed thought almost incredible! It was to me a most memorable sight to see the father and son so appropriately engaged in working the engine that was to effect so great a change in the future communications of the civilised world." The Museum has a sketch that Nasmyth made of Liverpool Road Station a few years later.

Nasmyth, who was at that time employed in London by Henry Maudslay, the leading machine tool maker, later opened his own workshop, the Bridgewater Foundry, in Patricroft, Salford. Although best known for his invention of the steam hammer, Nasmyth was also a locomotive builder.

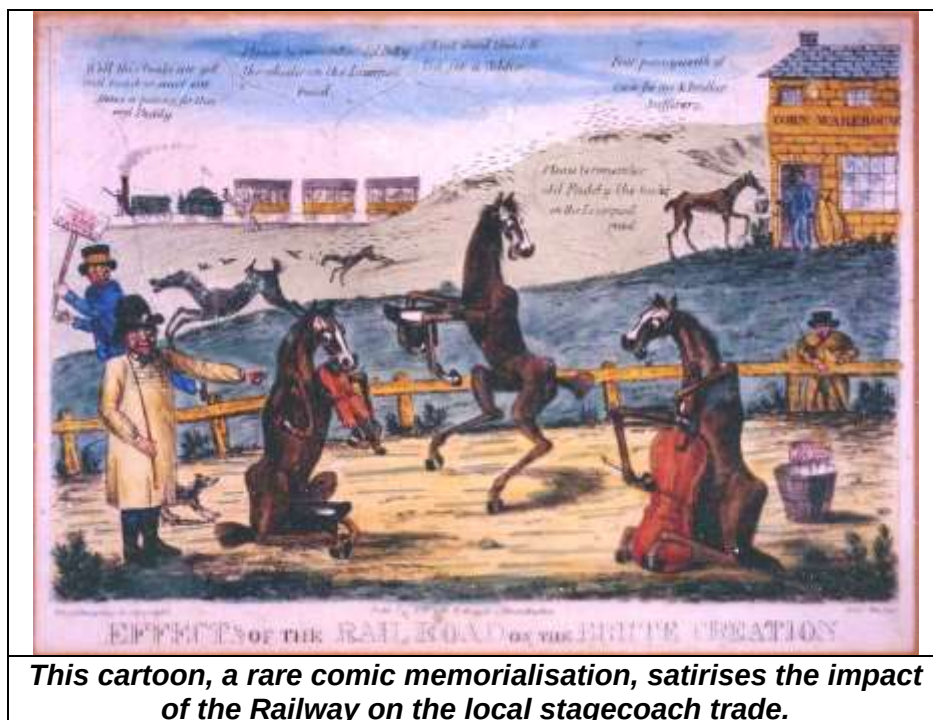
- **Inspiration to writers**

One of the famous guests at the opening of the Liverpool and Manchester Railway was the poet Alfred Tennyson, later Lord Tennyson and poet laureate. He later drew on his impressions for a line in his poem *Locksley Hall*, which was published in 1842, but written in about 1838. The line runs: "Let the great world spin for ever down the ringing grooves of change". According to an account in the *Memoirs* written by his son, Tennyson explained that he had gained the mistaken impression that the trains ran in grooves rather than on rails, because the crowds and poor light on the opening day had obscured his view. As a beacon of change, railways continued to inspire nineteenth-century writers, including Mrs Gaskell (in *Mary Barton*) and Charles Dickens (most notably in *Dombey and Son*).

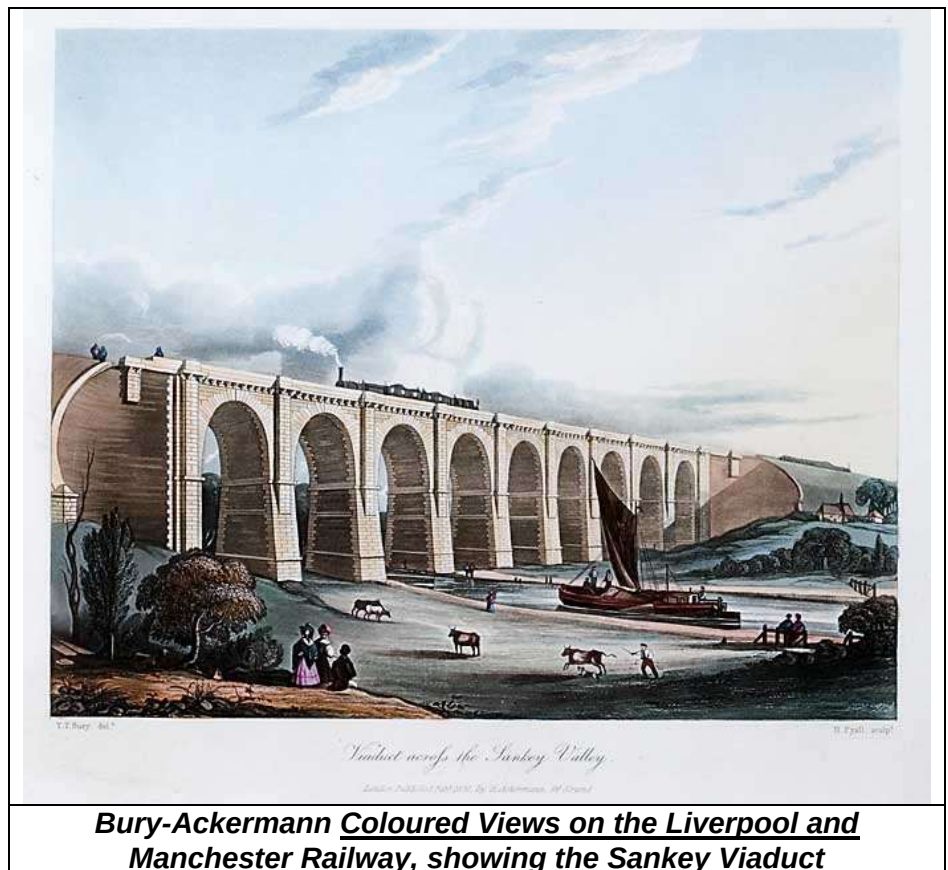
- **Inspiration to artists**

In his seminal work *Art and the Industrial Revolution*, Francis Klingender notes that the opening of the Liverpool and Manchester Railway "became a national sensation, stimulating the publication of prints in unprecedented quantities, to say

nothing of commemorative medals, mugs and jugs, printed handkerchiefs, jigsaw puzzles No engineering work had ever been so well documented before. None would be so well documented again until Crystal Palace in 1851."¹¹⁸



The Liverpool and Manchester Railway Company actively encouraged the glorification of their venture through artistic representation. The directors engaged Rudolf Ackermann, a leading London-based publisher, to produce a series of commemorative prints. Ackermann initially commissioned Thomas Talbot Bury to produce a set of views of landmarks along the route. He later commissioned I. Shaw to produce the two 'long prints', one of two passenger trains and the other of two goods trains, that Klingender describes as "the most famous railway prints in history". The internal celebrity of the Liverpool and Manchester Railway is demonstrated by the fact that Ackermann produced Spanish and Italian editions of the prints and that unofficial copies appeared in France and Germany.



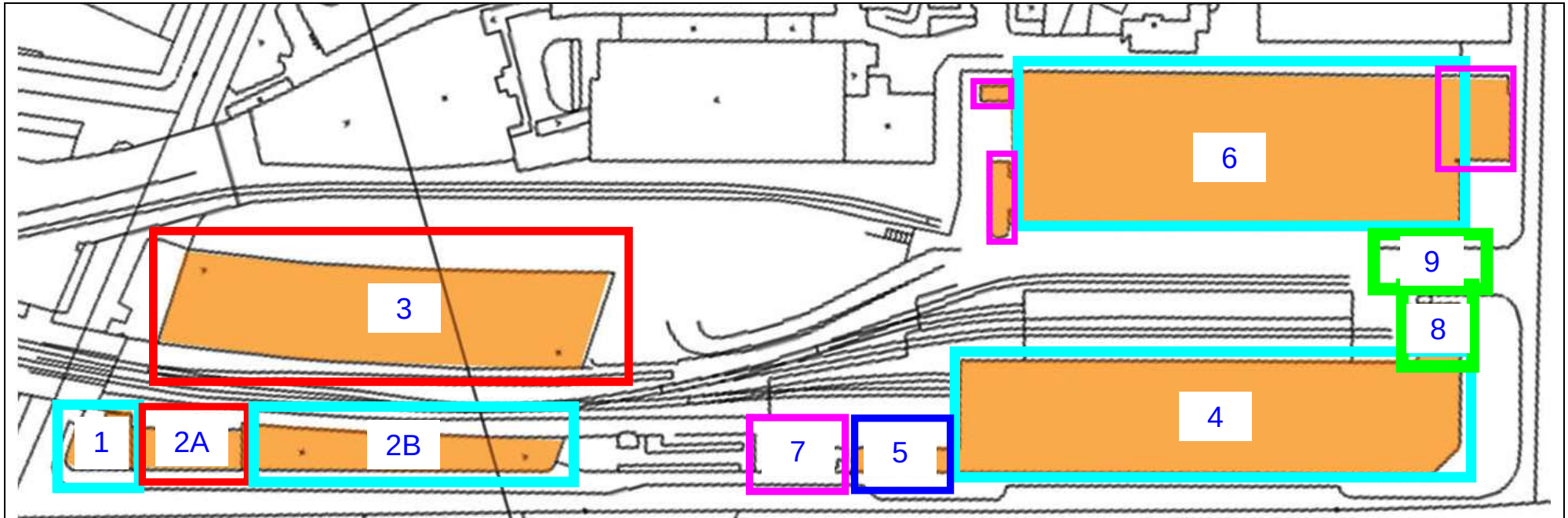
Bury-Ackermann Coloured Views on the Liverpool and Manchester Railway, showing the Sankey Viaduct

The excursion business was another popular element of rail travel. The Liverpool & Manchester Railway ran scheduled excursion trains for events such as Liverpool Festival Week, but also hired trains or carriages to societies, associations and other special parties. Thomas Cook, founder of the high street travel company, began in 1841 by arranging rail excursions. As the century drew on, legislation reducing working hours increased the opportunities for leisure travel. Rail transport transformed the fortunes of seaside resorts, such as Blackpool and Morecambe.



Drawing c. 1860 showing Station Master's House at junction of Liverpool Road and Water Street.

Significance: Buildings

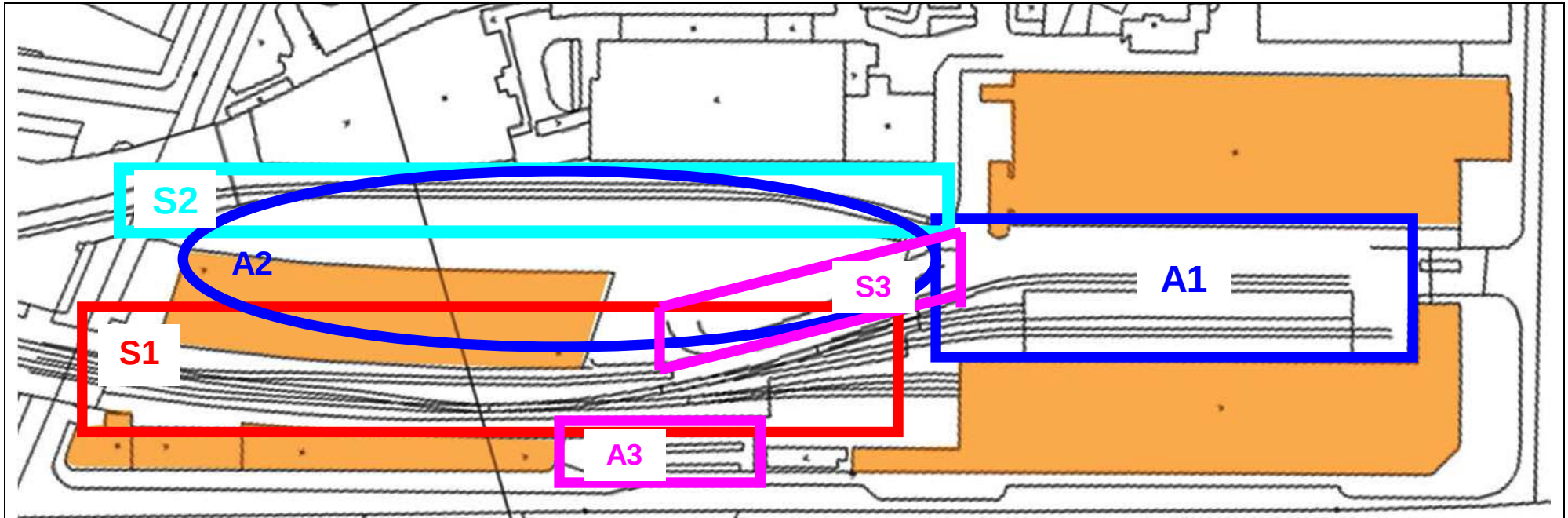


1		Level A: Very High
2		Level B: High
3		Level C: Medium
4		Level D: Low
5		Neutral
6		Intrusive

Key to Buildings

1	Station Master's House	3	1830 Warehouse	7	Toilet Block
2A	Passenger Station Buildings	4	Power Hall	8	Visitor Services Block
2B	Carriage Shed, Carrier's Office & Shops	5	Curatorial Centre	9	Gatehouse
		6	Main Building		

Significance: Structures & Areas



1		Level A: Very High
2		Level B: High
3		Level C: Medium
4		Level D: Low
5		Neutral
6		Intrusive

Key to Areas and Structures

A1	Upper Yard		S1	1830 Viaduct
A2	Lower Yard		S2	1867 Viaduct and Colonnades
A3	Ramp from Liverpool Road to Upper Yard		S3	Car Ramp

4.2 Schedule of Significance

The individual buildings, structures and areas do not have the same level of significance when assessed separately. These elements, and separate components of these elements, have been assessed on their intactness, their special interest, and their contribution to the wider significance of the site. There are four levels of significance as well as Neutral and Intrusive grades.

Level A: Very High Level of Significance

The element has international significance. The element is relatively intact, has a very high level of special interest and is vital to the wider significance of the site.

Level B: High Level of Significance

The element has national significance. The element is relatively intact, has a special interest or makes an important contribution to the wider significance of the site.

Level C: Medium Level of Significance

The element has been altered, has less special interest or its contribution to the wider significance of the site is less important.

Level D: Low Level of Significance

The element has been significantly altered, has a low level of integrity, the special interest has been lost or it makes little contribution to the wider significance of the site.

Neutral: The element is historically unimportant or has a neutral visual impact on the surrounding buildings.

Intrusive: The element is historically unimportant and has a negative physical or visual impact on the surrounding structure.

Element	Significance
Building 1: Station Master's House	
Overall	B
- Original exterior structure	B
- Original interior structure	B
- Later interior partition walls	D
- Backyard	C
Building 2A Passenger Station in the Station Building	
- Original exterior structure	A
- Original interior structure	A
- Later reconstructed elements of interior	C

Element	Significance
Building 2B: Carriage Shed & Shops in Station Building	
Overall	B
- Rebuilt exterior structure	B
- Office shell	Neutral
- Store shell	Neutral
- Rebuilt interior structure	B
- Office interior walls and fixtures	Neutral
- Alterations and insertions for exhibition	Neutral
Building 3: 1830 Warehouse	
Overall	A
- Original exterior structure	A
- Modern glazing and automatic doors	Neutral
- Ramps	Neutral
- Original interior structure	A
- Secondary offices and lifting equipment	B
- Steel and concrete frame and floors (Bay 5 only)	Intrusive
- Steel and glass stairwells	Neutral
- Roof insulation	Neutral
- Sluice room (Basement, Bay 5)	Neutral
- Toilets (Ground Floor, Bay 2)	Neutral
Building 4: Power Hall	
Overall	B
- Original exterior structure	B
- Original interior structure	B
- Glass infill of exterior entrances	Neutral
- Roller-shutter doors	D
- Internal overhead crane	C
Building 5: Curatorial Centre	
Overall	C
- Original exterior structure	C
- Original interior structure	C
- Later interior and exterior alterations	Neutral
Building 6: Main Building	
Overall	B
- Original exterior structure	B
- Brick, steel and glass entrance extension (north-east corner)	Neutral
- Steel and glass stair and lift tower (south-west corner)	Neutral
- Steel and mesh fire escape (north-west corner)	Neutral
- Internal ramp	Intrusive
- Internal staircases	Neutral
- Interior walls and fixtures	Neutral
- Altered floors	Neutral

Building 7: Toilet Block	
Overall	Neutral
- Brick toilet block	Neutral
Building 8: Visitor Services	
Overall	Intrusive
- Brick structure	Intrusive
Building 9: Gatehouse and Barriers	
Overall	Intrusive
- Gatehouse, gates and barriers	Intrusive
Structure 1: 1830 Viaduct	
Overall	A
- Original structure	A
- Secondary exterior brick walls and boarding	B
- Interior partition walls and doors	Neutral
- Floors	Neutral
- Staircases, stairwells and lift	Neutral
Structure 2: 1867 Viaduct and Colonnades	
Overall	B
- Original structure	B
- Store, office and workshop shells	Neutral
- Tarmac paths	Neutral
- Interior walls and fixtures	Neutral
- Concrete floors	Neutral
Structure 3: Vehicle Ramp	
Overall	Neutral
- Vehicle ramp	Neutral
Area 1: Upper Yard	
Overall	C
- Stone sett floor	C
- Rail lines	C
- Tarmac paths and parking bays	Neutral
- Metal fencing	Neutral
- Telephone kiosk	Neutral
- Train platform and shelter	Neutral
- Aqueduct valve and compound	Neutral
- Crane Gantry	C
- Service pits	C

Area 2: Lower Yard	
Overall	C
- Stone sett floor	C
- Spiral staircase	Neutral
- Sub-station	Neutral
- Tarmac paths	Neutral
Area 3: Ramp from Liverpool Road to Upper Yard	
Overall	Neutral
- Pedestrian ramp and garden	Neutral

The above tables, together with the following plans identifying the significance of the Buildings, Structures and Areas, document that the most important buildings and structures, those assessed at a Very High Level, are clustered to the western end of the site. The Medium and High Level buildings and structures are distributed throughout the site. The Neutral and Intrusive structures and buildings are located in the south central and eastern sections of the site, reflecting higher levels of interventions, alterations and extensions found in these areas. The south-western section of the site contains only High and Very High buildings and structures, reflecting both the historic importance of the structures, but also reflecting the high levels of restoration, and low levels of alterations, extensions and interventions to these structures.

Although the two major areas, the Upper and Lower Yards, have been assessed at the same level of significance, Medium, the Upper Yard is significantly later in date compared with the 1830 origin of the Lower Yard. The Upper Yard has also lost more of the elements which documented its use as a rail goods yard such as turntables, whereas the Lower Yard always functioned as storage area and transshipment area to road wagons, and has consequently lost less original elements.

Section 5 Issues and Vulnerability

This section of the plan identifies those factors which have adversely affected the significance of the building in the past, factors which are adversely affecting the significance of the building now and those factors which have the potential to adversely affect the significance in the future. By identifying these issues, policies can be prepared to prevent or rectify the loss of significance. The following factors have affected or are likely to affect the significance of the former Liverpool Road Station:

- **Impact of twentieth century additions and alterations**

Alterations made for the early conversion of the buildings to Museum use lack some of the quality of work which could be expected for buildings of such importance. Some additions or new buildings were built so like the existing historic buildings that differentiation for the public is difficult.

- **Entrance area is too small**

The growth of visitors numbers, from approximately 250,000 in 2000 to over 400,000 at present, requires larger entrance facilities. The existing facilities, including the reception area, toilets, access routes and visitor circulation area are not adequate to meet increased visitor numbers.



Modern entrance on north-east corner of Main Building

- **Current safety considerations**

At present pedestrians, including school groups, are obliged to cross the upper level car park and access road to visit the Power Hall.

- **Susceptibility of cast iron to stress fractures and corrosion**

A cast-iron capital casing fell off one of the pillars on the Liverpool Road Station site, highlighting the potential safety issues of damaged-cast iron structures.



Upper Yard and Lower Byrom Street entrance, with crossing from Main Building to Power Hall

- **Poor visual quality of gatehouse and barriers**

The gatehouse and barriers were necessary to restrict access whilst admission was charged to the site. These barriers give a negative impression to visitors, making it difficult for them to identify the entrance to the Museum.

- **Impact of car parking in Upper Yard**

The car parking area in the upper yard, used by the public to cross to the other buildings on the site, gives a poor impression, and breaks up the cohesion of the historic setting.



Lower Byrom Street entrance



Car parking in Upper Yard

- **Potential for below ground remains**

Although it may be unlikely that any Roman remains would be present, later foundations of demolished buildings are likely to remain in specific places, e.g. the Lower Yard, along with underground pipes from a hydraulic power network.

- **Complexity of services**

The variety and interconnectivity of different services is extremely complicated, as different buildings and areas were developed for museum use in different phases.

- **Opportunities for new uses or better uses of space**

Opportunities exist for better use of the space across the site including within the Main Building, the use of vacant arches facing the Lower Yard under the 1830 Viaduct and new uses of external spaces.

- **Fragmented relationship between existing buildings**

The relationship between the differing structures, areas and buildings is fragmented and unclear to most visitors, leading to a reduction in the effectiveness of the learning programmes and visitor experiences.

- **Need for additional exhibition space**

Both the number of collection items and the range of themes covered by the collections, notably for late twentieth century industries, have increased to the extent that additional permanent exhibition space is necessary.

- **Need for facilities for live interpretation**

In order to meet the differing learning styles of the visitors, interactive exhibits, events, costumed interpretation and science shows have been introduced, but existing facilities are extremely limited.

- **Need for additional dedicated learning/ educational spaces**

In excess of 65,000 school children currently visit the Museum a year. Educational facilities presently need to use other facilities such as the conferencing facilities to accommodate these numbers.



Collections Centre



Cotton preparatory and spinning machines

- **Need for additional facilities for corporate hospitality**

Corporate Hospitality is an important income stream for the Museum, but current facilities limit the number and size of events.

- **Need for additional and more centralised staff accommodation**

Currently staff are accommodated in many small locations throughout the site. This makes communications between all staff difficult and much staff time is wasted walking to and from meetings.

- **Sense of isolation of the Museum site within Castlefield**

The Liverpool Road Station site does not appear to be well connected with the rest of Castlefield.

- **Dampness within Station Master's House and Main Building**

The basement of both the Station Master's House and parts of the Main building are very damp with water ingress from unknown sources a continuing problem.

- **Lack of resources**

The necessary level of support for maintenance of the site may be difficult to achieve.

- **Requirements for increased use and additional public access**

Alterations to or intensification of existing uses may require alterations for access, servicing such as a lifts, toilets, and catering facilities which may impact on the historic features of the existing buildings.



Colonnade



Collections Centre, Store 1

- **Design of appropriate security features**

Security features such as CCTV and alarms may negatively affect the external views of the building. Installation of an alarm system may affect the historic elements of the interiors.

- **Requirements for Museum collections**

Providing a more stable environment for the collections may require new heating, ventilation, fire safety, lighting and electrical systems which may impact the historic features of the existing buildings.

- **Impact of providing access**

Providing an appropriate level of disabled access may require alterations to the historic fabric both externally and internally which may detract from the historic setting or internal historic features.



Ramps in Lower Yard for access to ground floor of 1830 Warehouse

Section 6 Conservation Management Policies

6.1 Conservation Policy Aims

In order to achieve the vision for the site, specific Conservation Management Plan Policies have been developed for the care and management of the former Liverpool Road Station. The policies form a framework to advise the development of detailed proposals for repair and alteration, and for the continued management and maintenance of the structure. The policies specifically aim to:

- ◆ Preserve the significance of the site for the benefit of the present and future generations.
- ◆ Set out priorities for repair and restoration.
- ◆ Identify specific requirements to retain or enhance the significance of the setting and the structures.
- ◆ Promote and provide interpretation of the cultural significance of the site.
- ◆ Provide guidance to appropriately manage alterations and extensions.
- ◆ Provide guidance for the design of new buildings.
- ◆ Provide a maintenance plan for the site once repaired and widened.

6.2 A Conservation Philosophy

The Policies which follow have been prepared based upon a conservation philosophy which aims to ensure the integrity of the site through an emphasis on retention and repair of the significant historic elements. An honest assessment of the needs of the Museum, and the need for safe pedestrian access, leads to acceptance that there will be some alteration and new build or extensions necessary. The philosophy which should guide this work can be summarised as follows:

- ◆ Existing significant elements of the buildings, structures or areas should be repaired rather than restored
- ◆ Existing historic elements in good condition should be retained
- ◆ Elements of historic structures or buildings should be replaced only where essential
- ◆ New development or additions outside of the historic footprint should complement but not copy the historic structures
- ◆ Interventions should be kept to the minimum necessary to ensure a viable future use
- ◆ Intrusive features of little historic interest may be removed

In general alterations and additions have worth and should be respected as documenting changes of use. However, a simple blanket application of the “conserve as found” or “repair not restoration” approach is not the appropriate method in this case as there are later intrusive additions which would be given a credence of which they are not worthy. In particular, the Visitor Services Building

and the Gatehouse are built in materials and style so similar to the historic buildings that differentiation is made difficult for the general public. In this case this debases the historic buildings. Where additions prove damaging to the historic fabric, or are overwhelmingly visually intrusive, retaining the alteration or extension detracts from the historic fabric and the integrity of the complex. In this case, later additions and later damage are considered for their poor visual quality and impact on the building or interior.



Lower Byrom Street façade of Power Hall



Lower Byrom Street Façade of Visitor Services Block, which is joined to Power Hall

6.3 Appropriate Uses

The most appropriate use for a structure is often that for which it was originally designed. In this case, museum use rescued the site from further damage and potential demolition. Museum use has provided a viable use for the site, allowed for continuous maintenance of the buildings and, perhaps most significantly, allowed the public to appreciate the importance of the buildings and structures. Alterations that allow the continued use of the structures and do not damage the significance of the structures will enable the structures to be kept in use and therefore more likely to be maintained properly in the future.

6.4 Priorities for Repair and Conservation

The buildings that form Liverpool Road Station are maintained by the Museum's Technical Services Department, with assistance from external sources where necessary. There is no need for immediate work to halt any ongoing deterioration. There are some general repairs necessary which are not immediate in nature, but important such as re-pointing.

- ◆ *The first priority is the repair of the existing historic material. Where materials are to be replaced, the replacement materials should be on a like-for-like basis and historically appropriate.*

There are some areas where intrusive elements have been inserted. These elements may still be useful, but detract from the integrity of the buildings. The repair or renewing of these features and removal

of intrusive additions would reinforce the historic importance of the structures.

- ◆ *The second priority is to remove intrusive elements which detract from the integrity of the buildings and replace original materials which have been damaged by alterations.*



Intrusive: Gatehouse and Barriers at Lower Byrom Street Entrance

6.5 The Conservation Management Policies

The following policies are written specifically for the former Liverpool Road Station. They do draw on the structure of policy areas described in the draft English Heritage *Conservation Principles, Policies and Guidance for the Sustainable Management of the Historic Environment*, which should be considered when preparing this part of a Conservation Management Plan.

Setting

Policy S1 To ensure that there is a balance between the needs of the Museum and the protection of the most significant views of the most significant buildings.

Reason: The views of the buildings along Liverpool Road are the most significant external views of the site and reinforce the historic significance of the streetscape. The views of the Station Building, 1830 Viaduct and 1830 Warehouse are the most significant views from within the site, as these show the earliest and most important phase of the site.



View along Liverpool Road from Water Street



Corner of Liverpool Road and Lower Byrom Street



View of buildings at western end of site: Station Building and 1830 Warehouse



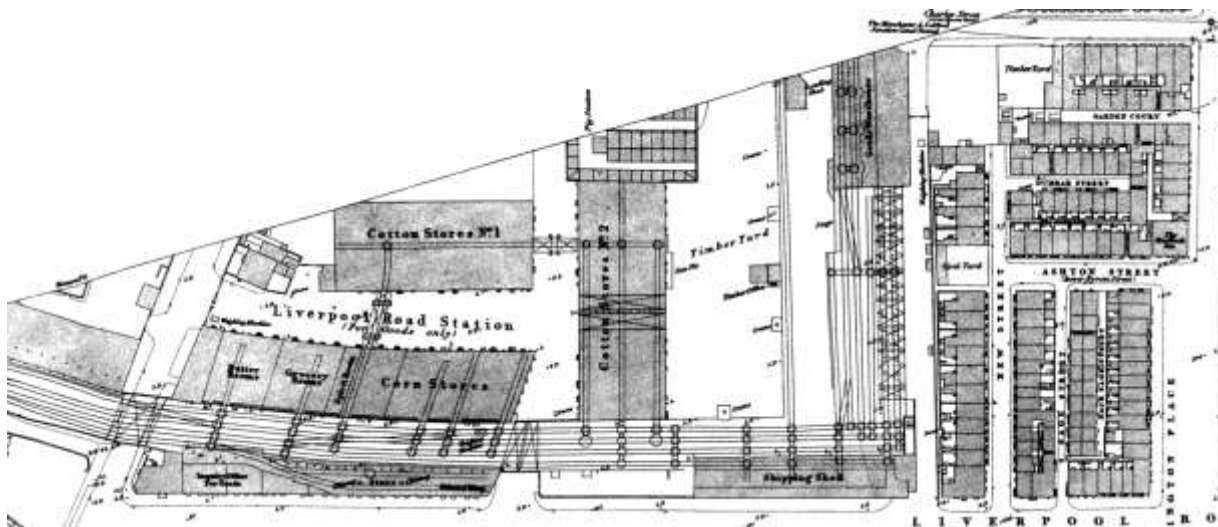
View of buildings at eastern end of site: Main Building, Power Hall & Gantry, Curatorial Centre

Policy S2 To ensure any new paving materials are simple, functional, and reflect and enhance the character of the site.

Reason: An inappropriate paving material or design would detract from the significance of the site and not meet the principles for enhancement and improving design promoted by Manchester City Council.

Policy S3 To ensure that an archaeological watching brief is in place before any excavation of the site for alterations, extensions, or new build.

Reason: It is necessary that any remains of archaeological significance are properly preserved or recorded. This area formerly contained several phases of buildings, and evidence of these may still exist below ground.



1850 Map covering area of current Site, and potential for underground remains

Retention of Significance

Policy RS1 To repair, retain and uncover historic railway infrastructure elements throughout the site.

Reason: The character of the former railway station, warehouses, and goods yards is made up of many different elements, all of which contribute to the whole. The retention of these historic elements will document the past uses of the site and will have a positive effect on the significance of the entire site.

Policy RS1.1 To retain the railway tracks wherever these still exist.

Policy RS1.2 To preserve and interpret removed railway elements such as turntables and capstans.

Policy RS1.3 To retain the cranes and gantry in the Upper Yard.

Policy RS2 To retain and repair the earliest and most important section of the site with as little alteration or intervention as possible.

Reason: The buildings and viaduct, built in 1830-31, all clustered at the western section of the site, are internationally important early railway structures. These structures should have the highest level of protection. The Lower Yard and the 1867 Viaduct, also at this end of the site, are also significant, and both elements have had only minimal alteration.

Policy RS2.1 To allow internal alterations to the partitions of the Station Master's House, the Passenger Station, the Carriage Shed

and shop extension, as these interiors have been altered or completely rebuilt.

Policy RS 2.2 To identify and remedy the cause of dampness in the basement of the Station Master's House to prevent further deterioration of the original brickwork.

Policy RS 2.3 To repair and convert for Museum use the arches below the 1830 Viaduct fronting onto the Lower Yard.

Policy RS 2.4 To remove the storage containers below the vehicle ramp in the Lower Yard.

Policy RS2.5 To retain the cobbled floorscape of the Lower Yard.

Policy RS3 To retain and repair the later nineteenth century structures on the eastern section of the site, allowing alterations necessary for Museum use.

Reason: Although less significant than the earlier section of the site, the mid- to late nineteenth century former goods warehouse, transit shed and offices have not been significantly damaged and retain their integrity. The Upper Yard, although altered, retains its identity as a goods yard.

Policy RS 3.1 To retain the cobbled floorscape, the Crane Gantry, the rail tracks and the service pits in the Upper Yard.

Policy RS 3.2 To retain the loading stage within the Power Hall.

Policy RS 3.3 To retain the original remaining elements of the interior of the Curatorial Centre, including the plaster cornices.

Policy RS 3.4 To consider removing the inserted internal pedestrian ramp within the Main Building.

Policy RS4 To reinforce the historic character by removing the twentieth century Visitor Services Building and the Gatehouse and barriers, additions identified as intrusive, if the structures are no longer necessary.

Reason: The intrusive elements have a detrimental effect on the integrity of the surrounding structures.

Policy RS5 To allow the removal of any neutral buildings or elements, if the structures are no longer necessary.

Reason: The removal of the neutral elements will not have a detrimental effect on the integrity of the surrounding site.

Disabled Access and Disabled Facilities (DA)

Policy DA1 To provide reasonable access to the buildings and site and ensure the design and location of disabled access and disabled facilities are sympathetic to the buildings while respecting current practice.

Reason: There may be opportunities to provide lifts and accessible toilets, which may not have a detrimental effect on the significance of the buildings.



Disabled access to ground floor of 1830 Warehouse on north (Reception) and east (Electricity Gallery) sides

Public Access, Interpretation and Presentation

Policy PA1 To enhance public appreciation of the Liverpool Road Station Site through increased access and interpretation.

Reason: The overriding consideration for presentation and interpretation is the Museum collections. The entire site, as a nationally important group of buildings, is considered as part of the Museum's collections and referred to as such in the Museum's Acquisition and Disposal Policy 2005-09. The Museum already interprets the development and importance of the site in an exhibition. Increased public access can be provided in a way which enhances the viability of the Museum.

Policy PA1.1 To encourage an increase in public access through increased gallery space and increased use of educational facilities, catering facilities, conference rooms and events space.

Policy PA1.2 To encourage documentation and public interpretation of ongoing works during any alteration or development scheme.

Management and Co-ordination

Policy MC1 To ensure that decisions regarding the structures of the Liverpool Road Station balance the needs of the historic buildings with the needs of the collections.

Reason: There could arise conflicting needs which will require accommodation.

Policy MC2 To ensure that opportunities to generate additional income are considered such that there is sufficient funding to maintain the historic structures over the long term.

Reason: Prior to Museum use, the integrity of the structures was damaged in the past by the decreasing economic viability of railway goods operations and a lack of maintenance.



Former Carriage Shed (Station Building) 1979



Liverpool Road façade

Policy MC3 To ensure that the condition of the wrought-iron and cast-iron structure is regularly surveyed to identify any stress fractures or other dangerous defects.

Reason: Cast iron in particular is susceptible to stress fractures. Defective elements could effect the structural integrity of the building, and are a health and safety consideration as elements could dislodge and fall.

Policy MC4 To encourage the correction of errors in fact and clarification of descriptions and building names in the listings of the buildings.

Reason: Much research has been carried out on the structures and buildings on the site since they were listed. Several of the listing descriptions contain errors in fact, as George Stephenson did not design the Station Building, as claimed, but did design other structures on the site which are not mentioned in the listing descriptions. The listing descriptions of the viaducts are particularly inaccurate and confusing. The Station Master's House is listed Grade I, and it has always been understood that the listing was meant to include the Passenger Station and the 1831 Carriage Shed and Shops extension. The lack of separate listings for separate buildings of different dates, not internally connected, of different functions, and differing levels of significance leads to confusion.

Alterations and Interventions

Policy AI1 To make any decisions on the repair, restoration, and conversion of the fabric of the structures and the setting with the advice of an appropriately trained professional and with the full understanding of the cultural significance of the buildings.

Reason: The repair and alteration of historic structures requires a high degree of knowledge of the history of the particular building type and knowledge of traditional building materials and techniques. Poor standards of repair have damaged buildings in the past and will do so in the future if repair and alterations are not planned and managed correctly.

Policy AI1.1 To ensure that managers of the museum are aware of this requirement.

Policy AI1.2 To vet and only employ professionals and contractors with experience of working on historic buildings.

Policy AI1.3 To brief all contractors as to the significance of the buildings and structures prior to the commencement of works.

Policy AI2 To ensure sensitive and unobtrusive introduction of services such as a lift, toilets, water, electricity, gas, telecoms, heating and drainage.

Reason: Obtrusive or insensitive installation of services could have a negative effect on the historic buildings and the surrounding site.

Policy AI3 To ensure that design of new elements necessary for safety do not detract from the historic character of the structure.

Reason: Careful planning and contextual design can ensure that measures necessary for safety are effective and relatively unobtrusive.

Policy AI4 To ensure that security measures are unobtrusive and do not detract from the historic character of the buildings and surrounding site.

Reason: Careful planning and contextual design can ensure that security measures are effective and unobtrusive.

Archaeological Recording

Policy AR1 To ensure that any remains of archaeological significance on the site are properly preserved or recorded, as appropriate; a professional assessment, where necessary followed by an evaluation, will be undertaken, in any area of

demolition or excavation, prior to determination of the application for the proposals.

Reason: It is necessary that any remains of archaeological significance are properly preserved or recorded. Roman age artefacts have been unearthed near to the site, and although it is considered unlikely, artefacts may be uncovered during excavation work.

Policy AR2 To carry out any archaeological investigation or archaeological watching brief in accordance with the Code of Practice and agreed standards and guidance of the Institute of Field Archaeologists and according to a scheme of work agreed with the County Archaeologist and English Heritage.

Reason: The quality of information received from any archaeological involvement during any excavation will depend upon the implementation of good practice and proper interpretation of the findings.

Policy AR3 To ensure that any above ground historical structures are properly recorded, as appropriate, prior to demolition or significant alteration.

Reason: Historical structures, even where they post-date the construction of the original building or are of low significance, document changes of use and thus contribute to a fuller understanding of the building.

New Developments

Policy ND1 To ensure that the design of any extensions or new development within the Liverpool Road Station site is designed with sensitivity and an awareness of its visual context and that it respects the character of the surrounding structures.

Reason: The importance and visibility of the former Liverpool Road Station necessitates a careful approach to any new design elements, including lighting and street furniture, so that they neither detract from the existing structures nor too closely imitate the historic structures as to make differentiation difficult.

Policy ND1.1 To ensure that the quality of materials used in any new internal additions or external extensions are of commensurate quality to the historic materials.

Policy ND1.2 To ensure that the style of the new structure appears clearly modern, expressing the new use and utilising a contemporary architectural vocabulary that does not imitate the existing details.

Maintenance

Policy M1 To avoid future maintenance problems.

Reason: A lack of maintenance in the past, prior to Museum use, led to the buildings deteriorating to a significant degree.

Policy M1.1 Address and rectify potential maintenance problems and design faults, such as difficult roof access, as part of the proposed repair project.

Policy M1.2 Ensure that the requirements of a regular building survey and periodic maintenance are understood by Museum staff.

Policy M1.2 Ensure that sufficient funding for periodic maintenance is identified within the Museum's budget.

Section 7 Maintenance Plan

1.00 Roof													
1.01	Sweep roofs to inspect surfaces	£0	26-Weekly			X						X	
1.02	Inspect slated roofs	£0	26-Weekly			X						X	
1.03	Inspect ridge slates and pointing	£0	26-Weekly			X						X	
1.04	Inspect lead flashings for signs of displacement	£0	26-Weekly			X						X	
1.05	Visually inspect condition of roof glazing	£0	26-Weekly			X						X	
1.06	Internal inspection of roof voids for signs of damp	£0	26-Weekly			X						X	
2.00 Drainage													
2.01	Clean out gutters	£0	26-Weekly				X						X
2.02	Visually inspect condition of downpipes	£0	26-Weekly				X						X
2.03	Visually inspect condition of fixings	£0	26-Weekly				X						X
2.04	Visually inspect condition of leaf guards	£0	26-Weekly				X						X
2.05	Inspect condition of internal downpipes	£0	26-Weekly				X						X
2.06	Inspect condition of internal drain channels	£0	26-Weekly				X						X
	Clean out external drains	Contractor £750	52-Weekly										
3.00 External walls and paving													
3.01	Inspect for cracking or loose pointing	£0	52-Weekly						X				
3.02	Inspect balustrade fixings and coping stones	£0	52-Weekly						X				
3.03	Check walls for decaying brickwork	£0	26-Weekly			X						X	
3.04	Remove loose decaying brick shards from high levels	£0	26-Weekly			X						X	
3.05	Check fixings of lightning conductor tapes	£0	52-Weekly						X				
3.06	Remove any vegetation	£0	52-Weekly			X							
3.07	Clean around air bricks	£0	52-Weekly						X				

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3.08	Full application of weedkiller	Contractor	£1,000	26-Weekly			X							X			
4.00	External doors and gates																
4.01	Check condition of threshold and windows		£0	26-Weekly	X								X				
4.02	Inspect edges for weathering		£0	26-Weekly	X								X				
4.03	Check base of timbers for decay		£0	26-Weekly	X								X				
4.04	Inspect sash operation, glass and putty		£0	26-Weekly	X								X				
4.05	Maintain hinges, oil locks and check fixings		£200	26-Weekly	X								X				
5.00	External Handrails																
5.01	Check fixings and ironmongery on all external gates		£0	52-Weekly									X				
5.02	Repaint perimeter fences and gates		£0	52-Weekly									X				
5.03	Visually inspect condition of external handrails, gates and fences		£0	52-Weekly									X				
5.04	Inspect handrail fixings		£0	52-Weekly									X				
5.05	Repaint external handrails		£500	52-Weekly									X				
6.00	Interior																
6.01	Inspect for damp ingress, dry rot, live plasterboard		£0	52-Weekly		X											
6.02	Inspect condition of flooring		£0	52-Weekly		X											
6.03	Inspect floor voids for signs of damp ingress, decay		£0	52-Weekly		X											
6.04	Ensure adequate ventilation in floor voids		£0	52-Weekly		X											
6.05	Check condition of door handles		£0	26-Weekly		X							X				
6.06	Check condition and operation of door locks / security systems		£0	26-Weekly		X							X				
6.07	Check door closer operation		£0	26-Weekly		X							X				
6.08	Check latching of fire doors		£0														
6.09	Check operation of fire door push bars		£0														
6.10	Check condition of glass viewing panes		£0	52-Weekly													
6.11	Oil door hinges and locks		£100	52-Weekly									X				
6.12	Inspect joinery and timber for woodworm, infestation		£0	26-Weekly		X							X				
7.00	Plumbing																

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7.01	Inspect / clean all traps		£0	52-Weekly													X			
7.02	Clean out floor gullies to basement		£100	52-Weekly													X			
7.03	Check traps for drips		£0	52-Weekly													X			
8.00	Electrics																			
8.01	Portable Appliance Testing	Contractor	£2,500	52-Weekly															X	
8.02	Fixed Electrical Testing of circuits by ICEE Electrician	Contractor	£5,000																	
9.00	Heating, Ventilation and Air Conditioning																			
9.01	Regular inspection of fans, belts etc	Contractor	£2,000	13-weekly																
10.00	Security																			
10.01																				
11.00	Internal Paintwork																			
11.01	Inspect condition of gallery paintwork		£0	52-Weekly															X	
11.02	Repaint gallery	Contractor	£5,000	5-10 years																
11.03	Inspect condition of internal building paintwork		£0																	
11.04	Repaint internal walls	Contractor	£20,000																	
12.00	External Paintwork																			
12.01	Inspect condition of external paintwork		£0	52-Weekly																
12.02	Repaint	Contractor	£20,000	5-10 years																
12.00	Structural Survey																			
	Detailed inspection of fabric	Specialist	£5,000	5 years																

Total	£62,150
General repairs and maintenance budget each year	£108,000

Section 8 End Notes

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