

METROLINK PHASE 3

**941001 01 rpt Airport extension Environmental Statement Volume 1 non
technical summary**

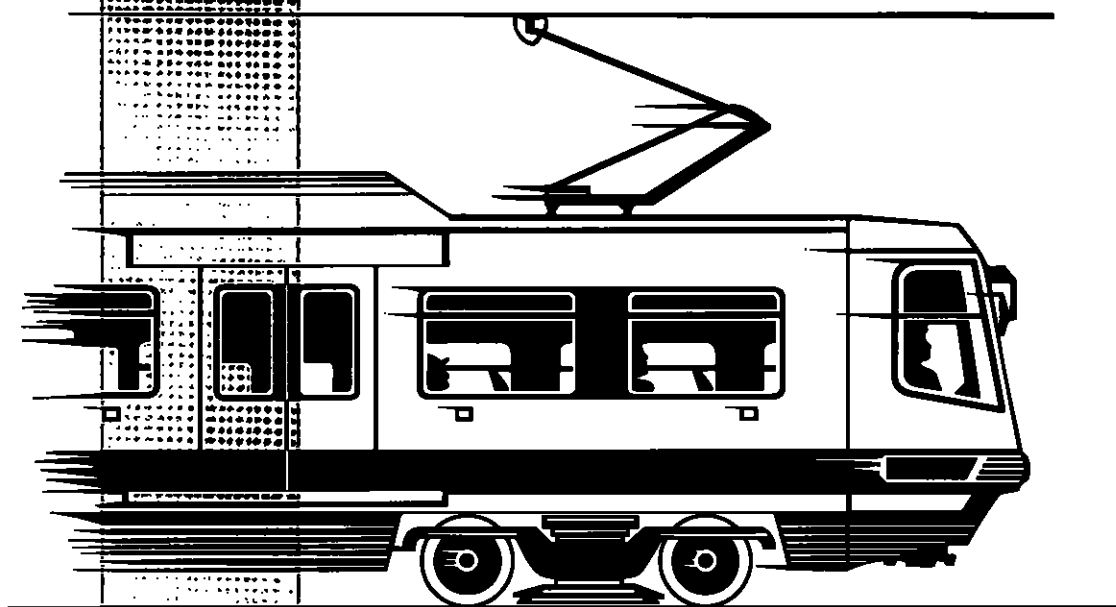
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Transport & Works Act 1992



The Greater Manchester (Light Rapid Transit System) (Airport Extension) Order

Environmental Statement Volume 1 Non-technical Summary



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GREATER MANCHESTER PASSENGER TRANSPORT EXECUTIVE

Transport and Works Act 1992

Greater Manchester Light Rapid Transit

(Airport Extension) Order 1994

Environmental Statement

Volume I: Non-Technical Summary

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NON-TECHNICAL SUMMARY

1 Introduction

- 1.1 The construction of the first stage of the Greater Manchester Light Rapid Transit (LRT) System has been one of the most significant recent investments in infrastructure in North West England. The Strategic Development Plan for Public Transport 1992-2002 set out the Greater Manchester Passenger Transport Authority's plan for developing a network of light rapid transit as an integrated part of the public transport provision for the conurbation. This plan identified a number of routes to be examined in more detail, including one through South Manchester to Manchester Airport.
- 1.2 An application is now being made for an Order under the Transport and Works Act 1992 to build and operate a light rapid transit line from Trafford Bar to Manchester Airport with a loop through Wythenshawe. An Environmental Statement has been prepared examining the likely environmental impact of this line. This document summarises its findings in a non-technical form.

2 The Proposed Scheme

- 2.1 The proposed route will bring a number of benefits to the South Manchester area:
- It will serve large residential areas in South Manchester and Trafford providing a fast link to the city centre, its shops and other facilities;
 - It will improve public transport accessibility to Wythenshawe Hospital and Manchester Airport;
 - It will improve access for workers to the large employment centres of Manchester Airport, Manchester City Centre and Trafford Park;
 - It will improve access to major recreational facilities in the Mersey Valley;
 - It will encourage the planned redevelopment of Wythenshawe Town Centre.

- 2.2 The proposed route is 22 km in length. It runs generally north - south leaving the existing LRT line at Trafford Bar Stop. It utilises the abandoned British Rail line to Hough End, and then climbs sharply south west onto Mauldeth Road West. Stops are proposed at Firswood, Chorlton-cum-Hardy and Hough End.
- 2.3 Between Hough End and Hardy Lane Sports Centre the line runs in the central reservation of Mauldeth Road West and along Hardy Lane. Stops are proposed at Barlow Moor Road and Hardy Farm.
- 2.4 After Hardy Farm the line crosses the Mersey Valley on a long viaduct. Skirting Sale Golf Course, with a stop proposed close to Sale Water Park, the line turns south to follow the M63, crossing it at Fairy Lane Sports Ground. The line then runs across open land on the boundary between Manchester and Trafford, before following Moor Road to Wythenshawe Road. Stops are proposed at Northern Moor, Wythenshawe Park and Moor Road.
- 2.5 The next section runs alongside Southmoor Road between Wythenshawe Road and Hollyhedge Road, with stops proposed at Baguley (where an interchange could eventually be provided with British Rail) and Roundthorn. The line then runs along the eastern edge of Wythenshawe Hospital, turning sharply south west at Newall Green School. Stops are proposed at Wythenshawe Hospital and Newall Green.
- 2.6 After Newall Green the line crosses open fields at Davenport Green. After crossing the M56 the line enters the Airport complex with a stop next to the railway station.
- 2.7 From the Airport, the line loops back through Woodhouse Park and Wythenshawe to the stop at Roundthorn. On most of this section the Light Rail Vehicles (LRVs) will run on or alongside existing roads. Stops are proposed at Woodhouse Park, Shadowmoss, Peel Hall, Robinswood Road, Wythenshawe Centre, Crossacres, Benchill, Haveley and Baguley Hall.
- 2.8 LRVs will operate on the route at approximately six minute intervals during the day and approximately 12 minute intervals during the off-peak period. They are powered by 750 volt DC electric current delivered through overhead wires. The design and operation of the system is undertaken with safety as first priority.

3 Alternative Routes Considered

- 3.1 Before it was decided to design the present route in more detail, a number of alternative routes between Manchester City Centre and Manchester Airport were considered. These were rejected because they would have involved much property demolition, mainly in Northenden and Withington, or would have required major changes to the road network. However, it was recognised that Wythenshawe in particular could benefit from better public transport links and this area will be well served by the present proposed extension.
- 3.2 Even when the route had been selected it was recognised that there were a number of sensitive areas. Different alignments were tested and some alternatives were rejected because of their effects on the environment. Several alternatives were considered in the Mersey Valley where a range of issues including landscape quality, nature conservation, ground conditions and recreational uses made the choice of alignment particularly difficult.

4 The Construction Phase and its Impacts

- 4.1 Greater Manchester Passenger Transport Executive intends that the line should be complete and ready for operation by the middle of 2000. The preparatory work, taking twelve months, would need to commence in the first quarter of 1996, followed by a thirty month construction period and a six month commissioning period.
- 4.2 The nature of the construction means that disturbance will not affect each section of the route for the whole of the construction period, nor will all construction compounds be used at the same intensity throughout the period.
- 4.3 Construction work will generally involve:
- diversion of services, such as gas, water, electricity etc;
 - removal of topsoil/existing road surfaces;
 - import of ballast/concrete/tracks and other equipment;
 - tracklaying and re-instatement of road surfaces (as appropriate);
 - construction of stops, electrical sub-stations and ancillary buildings;
 - erection of overhead line equipment, signalling and street furniture;
 - landscaping and planting of adjoining land.

- 4.4 More significant engineering works are required at a number of locations including new crossings of the M56 and M63 motorways and the construction of the Mersey viaduct. Thirty four houses will need to be demolished on Brownley Road, though elsewhere very little property demolition will be required.
- 4.5 Noise and vibration resulting from construction will largely be confined to the nine main construction compounds and the sites of major engineering work. Short-term noise disturbance will occur at on-street sections where the existing road surface will have to be broken up before track laying. Construction traffic will also produce noise and vibration. Measures to reduce noise include screening of fixed plant and siting noisy equipment away from sensitive areas and routing traffic away from sensitive areas. Working hours will also be restricted.
- 4.6 Dust will be generated by work such as earthmoving and the transportation, use and storage of materials, particularly sand and cement. The enclosure of materials stockpiles and careful selection of working methods can help to reduce these problems.
- 4.7 The quality of surface and ground water in the vicinity of construction sites can be affected through contamination by oil lubricants and other fluids, and material from the demolition of buildings, construction work or disturbance of contaminated ground. Appropriate mitigation measures include the disposal of contaminated material at authorised disposal sites, and the use of on-site temporary waste storage facilities.

5 Land Use, Planning and Property

- 5.1 Planning policies affecting the route corridor are contained in the following adopted local plans:

- Greater Manchester Minerals Local Plan;
- Greater Manchester Green Belt Local Plan;
- Mersey Valley Local Plan;
- Ringway Local Plan;

and in the Draft Unitary Development Plans (UDP's) for the City of Manchester and Trafford Metropolitan Borough. The LRT extension will help to achieve planning policies which promote economic development, improve access to the area and which aim to reduce the impact of transportation upon the environment.

- 5.2 On the first section of the route, planning policies already allow for the proposed extension of the LRT system along the former railway alignment through Chorlton-cum-Hardy.
- 5.3 The section between Hardy Farm and the M63 crossing passes through the Mersey Valley, an important area of open space for both formal and informal recreation and nature conservation interest. Local planning policies promote both these interests. While the proposed line will have an impact upon these interests, particularly during construction, careful detailed design will protect the rights of way and minimise the effect on the natural history of the area. For instance, the viaduct across the River Mersey will allow both horse riders and cyclists to pass beneath it on the banks of the river. Landtake will be kept to a minimum.
- 5.4 Between the M63 crossing and Wythenshawe Road, ten houses and a boys' club will need to be demolished. A replacement site will be provided for the latter. The LRT will be designed to integrate with proposed housing development at Northern Moor.
- 5.5 The section between Wythenshawe Road and Hollyhedge Road has a greater variety of land uses, including houses, churches, schools and local shops, and the Roundthorn Industrial Estate. The location of stops at Baguley and Roundthorn will help to improve accessibility to the Roundthorn Industrial Estate, the upgrading of which is promoted by planning policies. One house will need to be demolished and replaced.
- 5.6 At Wythenshawe Hospital, there is an opportunity to integrate the LRT Stop with the proposed re-development of the hospital. Improving access to the hospital is also supported by local planning policies. Demolition of some old outbuildings and nurses' residences, surplus to requirements, will be carried out.
- 5.7 The line crosses agricultural land between Whitecarr Lane and the M56. The land is not of the quality which would be protected by national planning policies. Little is currently farmed and the LRT would have little impact. Trafford's Draft UDP designates part of this area as Green Belt but allows for the release of 80 acres for a major high amenity employment site. If this is eventually approved, a stop could be built to serve it.
- 5.8 The route through the Airport will be designed to fit in with other proposals including the development of a major public transport interchange, but will affect some parking areas.

- 5.9 South of Woodhouse Park, some land currently used for agriculture will be lost and two houses will be demolished. Some alterations to industrial premises on Shadowmoss Road may also be required. Wythenshawe town centre stands to benefit from the presence of the LRT and improvements around the proposed stop.
- 5.10 In the northern part of Wythenshawe, the main effect of the scheme will be the demolition of thirty four houses on Brownley Road. This will avoid street running which is not practical because the road is a route for abnormal loads and contains numerous services. The stop at Benchill will greatly improve public transport accessibility to the area.

6 Cultural Heritage

- 6.1 No Conservation Areas or Scheduled Monuments are affected by the alignment. There are only a small number of buildings listed for their architectural or historic interest along the route.
- 6.2 South of the River Mersey, the site of Sale Old Hall is crossed by the route and may hold some archaeological interest. Trial excavations and detailed recording are proposed in order to establish whether there are any important remains below ground.
- 6.3 Newall Green Farmhouse and outbuildings are Grade II Listed Buildings, important for their group value. Sunnybank on the east side of Clay Lane appears on the 1830 tithe map, although the buildings are not listed. These buildings will suffer some visual intrusion from the LRT system passing close by.
- 6.4 Both the farmhouse and barn at Davenport Green are Grade II Listed Buildings. The hamlet of Davenport Green is first recorded in the seventeenth century with Davenport Green Hall dating to 1617. The alignment is over 50 metres from the more important buildings at Davenport Green, and no significant impact on them is expected.
- 6.5 The setting of the listed Hale Top Farm has already been affected by the development of the Airport and its access roads. The LRT will pass close to it.
- 6.6 In Wythenshawe, no important historic features have been identified.

7 Ecology and Conservation

- 7.1 The route passes mainly through urban areas which have limited nature conservation interest. There are no sites with statutory protection along the route.
- 7.2 Along the abandoned railway line, in Chorlton-cum-Hardy, rough grassland and scrub have developed on the side of the cutting, which provides a local wildlife corridor. Some clearance of vegetation will be needed to accommodate the LRT, but natural recolonisation would then restore its value.
- 7.3 At the crossing of Chorlton Brook the habitat becomes more varied, with the route passing through woodland, amenity areas and rough grassland. Any loss of vegetation would be of local significance.
- 7.4 The route through Hardy Farm crosses the northern part of the Hardy Farm Site of Biological Importance (SBI), which contains wetland habitats and a varied range of fauna and flora. This site is of district importance. Construction of the line could result in the loss of a small number of species which are scarce in the region and will disturb wetland habitats. Although it should prove possible to recreate these habitats close by, the value of the SBI will be reduced. Care will be taken during construction to minimise landtake, strictly control operations within or close to the SBI and restrict access to sensitive areas. It is proposed to transplant uncommon autumn crocus and northern marsh orchid which would be disturbed south of the Mersey crossing.
- 7.5 Between the M63 crossing and Newall Green, habitats are of only local importance. At Wythenshawe Hospital mature trees and hedgerows along the sides of Clay Lane are to be retained as far as possible. Ponds at Crewe Road will be protected during construction.
- 7.6 In the Davenport Green area the line passes through an area of semi-improved grassland surrounded by hawthorn hedges, a small amount of which would be lost. Nearby ponds would be protected during construction.
- 7.7 In Wythenshawe there will be very little impact on nature conservation. Big Wood and Hatchetts Wood will be close to the line and will be protected during construction. A patch of damp grassland next to Big Wood will be lost. This is of local interest.

8 Landscape and Visual

- 8.1** Potential sources of landscape and visual impacts fall into four main categories. The construction phase will include the impact of material storage areas, site huts, lighting and equipment. Secondly, some existing landscape features will need to be removed to accommodate the LRT, ranging from large scale elements such as buildings and mature trees, to small scale elements such as fences and street furniture. Thirdly, the introduction of new permanent features, such as overhead wiring, signs and furniture, new stops, engineering features and changes to existing surface treatments, can have an impact. Finally, the operation of the light rail vehicles themselves will have a passing impact upon the landscape through which they run.
- 8.2** Due to the urban and suburban nature of much of the route corridor, much of the landscape character is dominated by buildings and development. Thus variations in character tend to be influenced by changes in the design of buildings and the layout of streets. The obvious exceptions to this are in the Mersey Valley, including Sale Golf Course, and at Davenport Green.
- 8.3** Between Trafford Bar and Mauldeth Road West the route would follow the disused railway cutting which forms a fairly self-contained green corridor. There will be relatively low landscape impacts along this section.
- 8.4** Between Mauldeth Road West and the Hardy Farm Sports Centre, the route initially enters a relatively spacious urban setting along the wide, central reserve of Mauldeth Road West. The loss of all the trees from the central reservation will have a substantial impact. Planting in roadside verges will improve the situation in the longer term and may also be used to improve the appearance of Hardy Lane.
- 8.5** Between Hardy Farm and the M63 the route crosses the Mersey Valley, an important 'green lung' through South Manchester and a well used recreational corridor. Construction of the route on viaduct will have a significant impact on the open landscape and will change the views enjoyed by visitors to the area. Some of its appeal as an area unaffected by vehicular transport routes will be lost. Detailed design will be critical in this area. Beyond Sale Golf Course, the impact of the LRT upon the landscape will be low relative to the impact of the M63 motorway.
- 8.6** South of the M63 bridge there will be a considerable visual impact upon residents in Pimcroft Way, Millers Close and Ossington Walk. Fencing and landscaping will to some extent screen the line.

- 8.7 Generally, between Wythenshawe Road and Hollyhedge Road, the townscape is of a larger scale with substantial factory units along Southmoor Road, school and college campuses and the extensive public housing estate east of Southmoor Road. In this urban setting the stops and equipment associated with the line will soon become part of the street scene. The loss of mature trees adjacent to Altrincham Road and the proposed Baguley Stop, would have a locally significant landscape impact.
- 8.8 Between Hollyhedge Road and Whitecarr Lane, the townscape changes in character being dominated by the layout of Wythenshawe Hospital and post war public housing on the edge of the urban area. The line will have little impact, though the semi-rural setting of Newall Green Farm may be affected to some extent.
- 8.9 The landscape impact of the route section between Whitecarr Lane and the M56 will depend upon whether proposed development at Davenport Green takes place. If it does it will have a much greater impact than the LRT. On its own, the LRT would be a new element in this rural landscape.
- 8.10 Much of the section between the M56 and the Airport terminus runs through car parking and service areas, with the landscaped area around Terminal 2 being new and immature. The LRT will eventually be set in a new landscaped setting surrounded by the developing Airport and its impact will be low.
- 8.11 In the Wythenshawe area, the LRT will affect a number of street trees which will be replaced. In time, it will become an accepted feature of the street scene. There are opportunities to improve the area around Wythenshawe Forum when the LRT stop is constructed.
- 8.12 Additional landscaping, including tree planting, is proposed on many sections of the route which will have a positive impact on the local environment.

9 Noise

- 9.1 LRT Systems produce relatively low levels of engine noise as they are electric powered. In the main, additional noise will come from the sound of wheels running on steel rails, along with noise from auxiliary equipment, from activity near stops and horn sounding. Continuous low level noise will also be generated by the nine electricity sub-stations that will be sited along the system.

- 9.2 One of the most important aspects in reducing noise levels is the regular maintenance of wheels and rails. Other mitigation measures include the provision of solid barriers alongside the tracks and, in the most extreme cases, insulation of dwellings. Insulation is not considered to be needed anywhere on the Airport Extension. Except for emergencies, the use of horns will be strictly controlled. Final design of the electrical sub-stations will include noise mitigation measures, such as the use of indoor transformers.
- 9.3 Noise during the construction phase will depend upon the specific construction activity and how near it is to local residents. The construction of stops close to residential properties on Firs Avenue, Chatfield Road, Hardy Farm, Buckden Walk, Bordley Walk and Bretton Walk will lead to substantial noise impacts such that temporary screening will be erected during the construction period.
- 9.4 There are several other areas that could experience temporary substantial impacts due to noise from track construction. These are the residential areas on Buckfast Close, Hardy Lane, residential properties between the M63 Crossing and Wythenshawe Road, Shrevenham Walk and frontage properties on Shadowmoss Road, Poundswick Lane, Brownley Road and Hollyhedge Road. Areas that could experience substantial temporary disturbance due to noise from property demolition include Pimmcroft Way, Carsdale Road and Woodend Road. Mitigation measures that include control of working hours and the types of equipment used would reduce most of these impacts to more moderate levels.
- 9.5 Along much of the route, background noise caused by traffic and other activities is such that the noise from LRVs would have a relatively small additional impact. Areas where noise may cause a problem are in the immediate vicinity of stops or where the route passes particularly close to sensitive properties. Moderate noise increases have been predicted for Buckfast Close, Hardy Lane, residential properties between the M63 Crossing and Wythenshawe Road, Southmoor Road, Roaring Gate Farm, Garrick Gardens, Woodend Road and Hollyhedge Road. Trackside barrier provision has been proposed for those areas where significant noise reduction can be achieved without compromising safety, access and visual criteria.

10 Traffic and Related Safety Issues

- 10.1 Possible traffic impacts include temporary diversions required in the construction phase, redesigning of junctions, alterations to side roads and the introduction of more extensive signal controls. The last should lead to improvements in highway and pedestrian safety.
- 10.2 Along the route, the access to British Arkady's car park will need to be altered and the traffic flows on Elsinore Road will be interrupted by wig-wag signals at the LRT crossing. A signalled crossing will allow the LRVs to cross the east bound carriageway of Mauldeth Road West to enter the central reservation. Slight delays to eastbound traffic may result. There are unlikely to be any adverse impacts on the traffic capacity of either Mauldeth Road West or Hardy Lane, though changes to Hardy Lane will be required to permit on-street parking to continue. Traffic flows will be affected at the revised Mauldeth Road West/ Barlow Moor Road junction and to a lesser extent at the Nell Lane junction.
- 10.3 After crossing the M63, the route crosses Sale Road by means of a new signalled level crossing. Signal phasing and changes in junction design will also be introduced at the Wythenshawe Road/ Moor Road junction. The junction with Crewe Road and the modified South Manchester College access will also be signalled. Some delays to traffic will result at these locations. The scheme will include major modifications to the junction of Moor Road, Southmoor Road and Altrincham Road and may help to reduce accidents at this location.
- 10.4 The junction of Southmoor Road and Hollyhedge Road will have traffic signals. This will make the junction easier to negotiate but will involve local diversions due to the closure of the junction of Fouracres Road and Hollyhedge Road. The junctions of Timpson Road and Floatshall Road with Hollyhedge Road will be signalled. Other roads in the vicinity will be crossed at unsignalled level crossings. A new signal controlled junction will be introduced at the Floats Road/ Clay Lane junction to the south of Wythenshawe Hospital. The LRT crosses the Whitecarr Lane at crossing without barriers and enters the westbound carriageway of Thorley Lane at a signalled entry, with no resulting reduction in road capacity or safety.
- 10.5 The LRT alignment is off-street through the Airport complex, passing beneath the main access roads until it reaches the low level Manchester Airport Stop. Leaving the stop the alignment rises to cross Ringway Road West at ground level, by means of traffic signals.

- 10.6 Shadowmoss Road is crossed close to its junction with Ringway Road West and at its northern end, at its junction with Simonsway. Signal controls will probably be introduced at both junctions. A new signalled junction is to replace the roundabout at Simonsway/ Ruddpark Road/ Brownley Road, which will allow the LRVs to cross this junction and pedestrian facilities to be introduced.
- 10.7 The LRT scheme will cross Simonsway into the Wythenshawe Forum complex at the existing signals which will require modification to include a phase for LRVs. Rolandsway is crossed close to its junction with Poundswick Road with the aid of signals, although this is not expected to affect traffic flows. The alignment proceeds northwards off-street on the east side of Brownley Road to a new signal junction at Hollyhedge Road/ Brownley Road which will replace the existing roundabout.
- 10.8 The alignment is street-running along Hollyhedge Road to its junction with Greenbrow Road. Signals will be introduced to allow the LRVs to cross the junction and continue off-street to the north of Hollyhedge Road. A new bridge across the M56 will be constructed for the LRT scheme close to the existing bridge. Two minor roads to the north of Hollyhedge Road will be crossed, Wendon Road and Mardon Road. These will be fully signalled at their exit onto Hollyhedge Road, and will incorporate a phase for the LRV crossing.

11 Vibration

- 11.1 Vibration is a complex subject. For the LRT scheme, the source of vibration is the movement of the wheels along the rails. This then passes through the track bed and into the ground. How it affects nearby buildings will depend upon the design of foundations and local ground conditions.
- 11.2 The level of vibration generated by LRVs depends on the unevenness of the wheels and rails, and on the weight and speed of the LRV. The level of vibration transmitted into the ground depends on the track design. On street running sections of the LRT system the rail is rigidly connected to the track foundation, which would tend to transmit higher levels of vibration into the ground. On open sections, however, the rail is fixed to sleepers which are set into ballast to reduce vibration transmission into the ground.
- 11.3 Maintenance of rolling stock and track is important in reducing vibration. Surface grinding can be used to correct excessive roughness on wheels and rails. In addition, the isolation of the track bed can be very effective in reducing ground borne vibration

along particular sections of track. The rail can be fixed to the track with resilient fasteners or the entire track slab can be floated on elastomer pads, whilst along ballasted sections of track, a mat can be placed under ballast to reduce vibration.

- 11.4 Perceptible vibration impacts during the construction phase have been predicted for Hardy Lane, Pimmcroft Way, Carsdale Road and Woodend Road. These short term impacts will result from road breaking operations and demolition work.
- 11.5 Moderate vibration impacts during the operation of the line have been predicted for Shrevenham Walk and Woodend Road, as a result of close passage of LRVs. In these two areas the isolation of a section of track bed has been proposed in order to reduce disturbance.

12 Contaminated Land and Waste Disposal

- 12.1 The proposed route will pass through areas where there is some evidence of former activities which may have contaminated soils or groundwater. The level of any contamination will be determined during a site investigation prior to construction. Any contaminated material disturbed by construction will require by law disposal at a suitably licensed site.
- 12.2 There is the potential for landfill gas generation and migration from a number of landfill sites, namely Humphrey Road/Seymour Park Landfill, Nell Lane Landfill, Hardy Farm Landfill and Sale Golf Course Landfill. Such gas forms an explosive risk and may be hazardous to site workers if released during excavation. A gas monitoring programme will be introduced before construction, and will, if necessary continue during the operation of the LRT along these sections of the route. Additional precautions would be required should a construction compound be sited on Hardy Farm Landfill.
- 12.3 Asbestos may be found in some of the buildings to be demolished as part of the scheme and the extent of this would be determined prior to construction. In addition, Rifle Road Landfill site is known to contain asbestos, but its boundaries are currently unclear. Any asbestos found during site investigation will be removed by a specialist company and disposed of to a suitably licensed site.

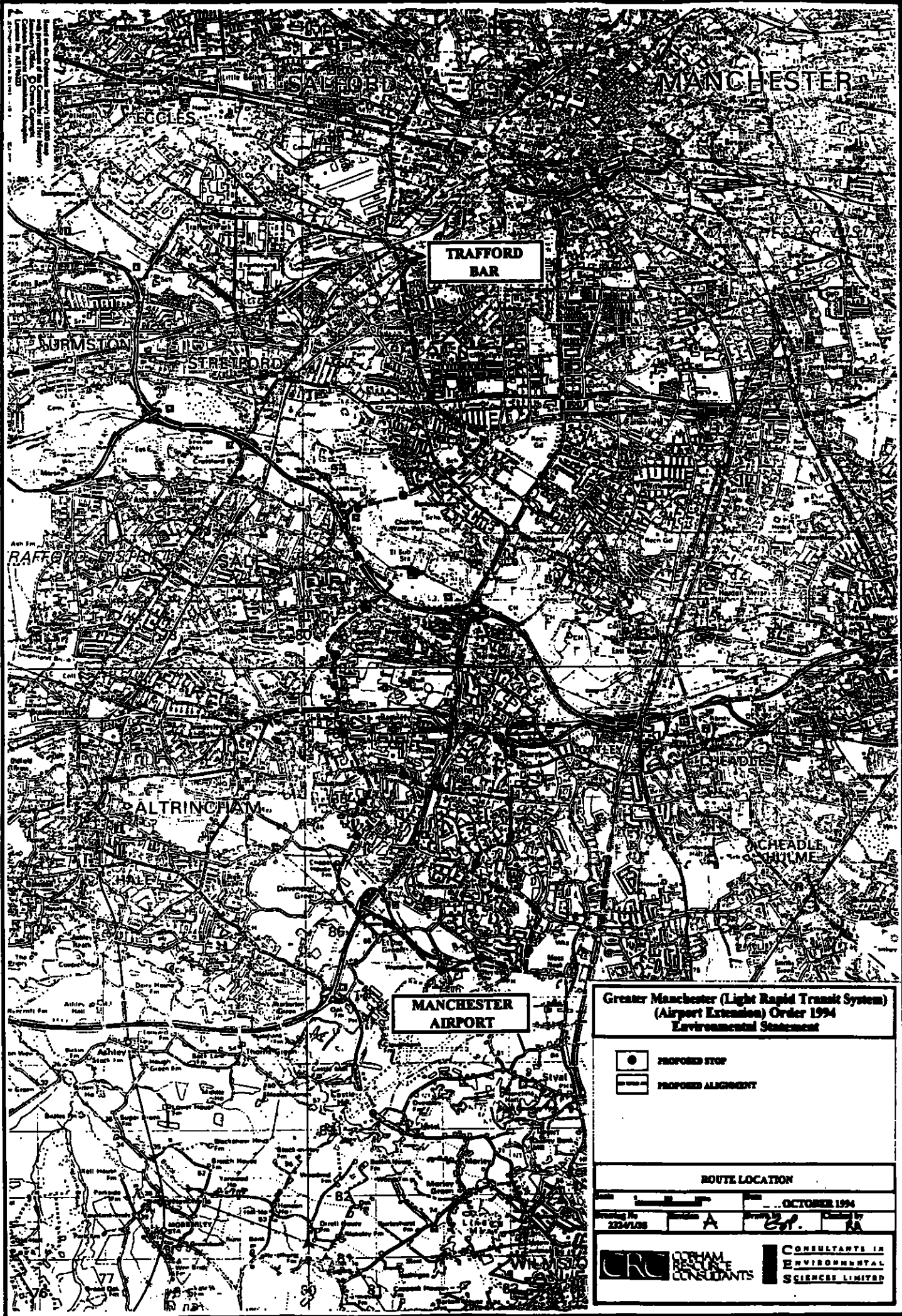
13 Water Quality

- 13.1 There are four designated main rivers within the study area, namely Chorlton Brook, River Mersey, Baguley Brook and Fairywell Brook. In addition, there are a number of other watercourses: Barrow Brook through Sale Golf Course, Mill Brook near Wythenshawe Hospital, Baguley Brook upstream of Painswick Pond, a tributary of Baguley Brook near Wythenshawe Centre and Brownley Brook through Peel Hall.
- 13.2 During the construction phase, watercourses could be affected by the construction of bridges and culverts across watercourses and other work adjacent to them. The main impacts could arise from construction materials and soil entering the watercourse and from spillages of oil. Within urban areas and especially where the route runs along an existing road, construction activities may result in sediment and contaminated effluent being washed into surface water sewers. Good site practice will be employed to prevent water pollution.
- 13.3 It is proposed to construct a bridge over Chorlton Brook and a viaduct across the River Mersey and the Mersey floodplain. These would be designed to allow the National Rivers Authority continued access along the banks for maintenance purposes. New culverts would be installed where the alignment crosses Baguley Brook at Bordley Walk, Mill Brook and Fairywell Brook and would lead to permanent loss of open stream channel. The existing culvert across Barrow Brook will require replacement with a stronger version. Construction impacts will be concentrated at all these locations. There would be no direct impacts on other watercourses.
- 13.4 Operational impacts on water quality are anticipated to be minimal. The LRVs do not emit any pollutants which could accumulate on ground or track surfaces and hence be washed into nearby watercourses.

14 Air Quality

- 14.1 Light rail vehicles do not emit air pollutants directly. The air quality impacts of the scheme arise principally from its effects on traffic movements and traffic management. Additional impact is caused by the generation of electricity to power the vehicles. In the short term, dust created by construction activities may cause temporary impacts, particularly where extensive earthmoving activities, road surface breaking, property demolition or stockpiling of materials takes place. However, good construction practice and careful site management will minimise the impacts due to dust.

- 14.2 Localised low air quality impacts are predicted to arise at currently signalled road junctions where changes in signalling will occur due to the presence of the scheme. These include the junction of Southmoor Moor and Floatshall Road; Southmoor Road and Hollyhedge Road; Clay Lane and Floats Road; Simonsway and Shadowmoss Road; Simonsway, Brownley Road and Ruddpark Road; Hollyhedge and Brownley Road and Hollyhedge and Greenwood Road. A slight improvement in air pollution from road traffic is predicted at the junction of Wythenshawe Road and Moor Road and the junction of Ringway Road West and Shadowmoss Road. The air quality impacts at all these locations will be, however very small.



**TRAFFORD
BAR**

**MANCHESTER
AIRPORT**

**Greater Manchester (Light Rapid Transit System)
(Airport Extension) Order 1994
Environmental Statement**

-  PROPOSED STOP
-  PROPOSED ALIGNMENT

ROUTE LOCATION

Scale: 1:50,000
 Drawing No: 2224/108
 Revision: A
 Date: OCTOBER 1994
 Author: [Signature]
 Checker: [Signature]

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 RESOLVE
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