

THAMESLINK 2000

Proof of Evidence on Effects of Blackfriars LU Closure and other Transport Issues

By
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NR/7/A1

Town and Country Planning Act 1990
Planning (Listed Buildings and Conservation Areas) Act 1990
Transport and Works Act 1992

Railtrack (Thameslink 2000) Order 1997
Railtrack (Thameslink 2000) (Variation) Order 1999

1. Inquiry into applications by Network Rail for the Thameslink 2000 railway project sites at

11-15 Borough High Street, London SE1
2-4 Bedale Street, London SE1
7 Stoney Street, London SE1
16-26 Borough High Street and 7 Bedale Street, London SE1
Blackfriars Railway Bridge, London EC4
Blackfriars Station North, London EC4
Blackfriars Railway Bridge, London SE1 (includes proposed south bank station entrance)

2. Re-opened inquiry into applications made by Railtrack plc for orders under the Transport and Works Act 1992 and associated applications.

CONTENTS

1.0	INTRODUCTION	3
1.1	Personal Details and Career History	3
2.0	SCOPE AND PURPOSE OF EVIDENCE	5
2.1	Scope of Evidence	5
2.2	Structure of Evidence	7
3.0	SIGNIFICANT CHANGES SINCE THE FIRST INQUIRY	8
4.0	THE IMPLICATIONS OF THE BLACKFRIARS LU STATION CLOSURE (MATTER 3)	9
4.1	Introduction	9
4.2	Methodology	10
4.3	Assessment of Underground Stations	16
4.4	Bus Use	18
4.5	Extension of Bus Route 388	20
4.6	Information and Signage Strategy	20
4.7	Mobility-Impaired Passengers	20
4.8	Conclusion	21
5.0	EFFECTS OF CONSTRUCTION AND OPERATION OF THE SCHEME ON THE CHARACTER OF THE BOROUGH HIGH STREET/ BOROUGH MARKET AREA (MATTER 5)	22
5.1	Traffic Effects	22
5.2	Pedestrian Effects	23
6.0	LONDON BRIDGE STATION – BUS AND TAXI ISSUES (MATTER 8B)	24
6.1	Introduction	24
6.2	Bus	24
6.3	Taxi	24
6.4	Other Development Proposals	25
7.0	CONSTRUCTION ISSUES (MATTER 9)	26
7.1	Planning and Environmental Management Strategy (PEMS)	26
7.2	Cowcross Street	27
7.3	Blackfriars Area	29

7.4	London Bridge Area	32
7.5	Operational Effects	35
8.0	DEVELOPMENT AT BLACKFRIARS STATION AND BRIDGE AND PPG 13 – TRANSPORT	37

TABLES

Table 4.1	Blackfriars AM Peak demand Growth	11
Table 4.2	Alternative Modes	12
Table 4.3	Alternative Tube Stations - Entries	13
Table 4.4	Alternative Tube Stations - Exits	14
Table 4.5	Alternative Tube Stations - Onwards Mode Exiting passengers	15
Table 7.1	Maximum Daily Construction Traffic Flows	32

I.0 INTRODUCTION

I.1 Personal Details and Career History

I.1.1 My name is Roy James McGowan and I am an Associate with Steer Davies Gleave, in Transport Planning and Management. I am a Member of the Institute of Logistics and Transport and a Fellow of the Institute of Highway Incorporated Engineers.

I.1.2 I have over 27 years of traffic engineering and transport planning experience of which the first 14 years were with the public sector working with the Greater London Council, London Borough of Hammersmith and Fulham Council, Epping Forest District Council and for eight years with Camden Council. At Camden Council I worked on the Kings Cross Railway Lands development proposals and prepared evidence for the Parliamentary Committee on the CTRL project.

I.1.3 I have experience in the design, evaluation and implementation of public transport schemes, controlled parking schemes, pedestrian and cyclist facilities, servicing, road safety schemes and traffic calming measures. I also have considerable experience in managing and co-ordinating technical teams and in-depth knowledge of master planning, development planning and local government procedures and requirements.

I.1.4 Since working with Steer Davies Gleave in 1992, I have been involved with a wide range of traffic engineering and transport planning projects and have extensive and detailed experience of development planning. A summary of this project experience includes:

- a. Bus priority and corridor studies across Merseyside and north London;
- b. Red Route scheme designs for Westminster City Council and the Traffic Director;
- c. Controlled parking scheme designs across north London and for central London;

- d. Road safety schemes for Brent Council to support Safe Routes to School initiatives;
- e. Public Inquiry transport witness for RAF East Camp, Hendon;
- f. Retained transport consultants for Wembley National Stadium since 1999 and for the Arsenal development projects since 2000;
- g. Major commercial development projects across central London including One New Change to the east of St Paul's Cathedral, the Mercers' development in Covent Garden, the redevelopment of 120 Cheapside and King's Cross Railway Lands;
- h. Public Inquiry transport witness for Stadium 2000 in Stratford;
- i. Olympic Transport Strategy for the London 2012 bid submission for TfL and with the LDA over a period of 18 months; and
- j. A wide range of development planning project experience at major transport interchanges including King's Cross, Finsbury Park, London Bridge and Victoria.

1.1.5 I was first commissioned to work on the Thameslink 2000 proposals in the spring of 2003 and developed the transport and access studies for Farringdon, Blackfriars, Borough Market and London Bridge. An extensive survey programme of traffic and pedestrian activity was undertaken in early July 2003 to inform these studies. The Transport and Access Report [CD/222] was completed in the spring of 2004 and informed the relevant sections of the new Environmental Statement (ES2004) published in June 2004 [CD/164-169].

2.0 SCOPE AND PURPOSE OF EVIDENCE

2.1 Scope of Evidence

2.1.1 This Proof of Evidence deals with the following Matters highlighted by the Secretary of State in his Statement of Matters.

2.1.2 **Matter 3:** “The justification for, and implications of, the proposed closure of Blackfriars Underground Station for 24 months, including the likely impacts of such closure on other stations, bus services, traffic and pedestrian flows.”

This proof sets out the implications of the closure. The need for closure is dealt with by Janet Goodland.

2.1.3 **Matter 5:** “The likely effects of construction and operation of the scheme on the character of the Borough High Street/ Borough Market area ...”

This proof sets out the forecast construction traffic flows and the access that will be retained for servicing and pedestrians.

2.1.4 **Matter 8:** “In regard to Network Rail’s preferred new design of London Bridge Station (known as ‘Masterplan’) for which Southwark Council granted planning permission in 2003:

- a. whether the Masterplan scheme overcomes the deficiencies previously identified by the Inspector following the earlier inquiry, such as would justify giving the statutory powers sought in the TWA Order to enable that scheme to be implemented; and
- b. how the Masterplan scheme will impact upon the provision of bus and taxi services at London Bridge Station, including whether it makes adequate arrangements for the space requirements of articulated buses.”

This proof examines item 8b. Item 8a is examined by Janet Goodland and Christopher Bennie.

2.1.5 **Matter 9:** “An updated assessment of the principal effects of the proposed reconfiguration and stopping up of highways in central London on bus services, pedestrian and cycle routes and the general flow of traffic, including in particular the impacts of:

- a. The permanent closure of Cowcross Street, Farringdon;
- b. Changes to the road layout around Blackfriars Station and the closure of roads in the London Bridge area;
- c. The movement of heavy good vehicles associated with construction works; and
- d. Disruption to taxi rank facilities at Charterhouse Street and Queen Victoria Street during construction.”

This Proof deals with items 9a, 9b, 9c and 9d.

2.1.6 Regarding the three planning applications relating to Blackfriars Station and railway bridge, the two Secretaries of State also wish to be informed about:

Matter 4: “The extent to which the proposed development at Blackfriars Station and Bridge is consistent with the advice in PPG13 [CD/172] on Transport.”

2.2 Structure of Evidence

2.2.1 This proof considers the above issues and is structured as follows:

- a. Chapter 3 lists the significant changes in the proposals since the previous Inquiry which are relevant to the consideration of the traffic and access issues;
- b. Chapter 4 examines the impacts of the closure of Blackfriars Underground station on passengers who currently use the station;
- c. Chapter 5 outlines the traffic effects of construction and operation of the scheme in the Borough High Street and Borough Market areas;
- d. Chapter 6 considers the bus and taxi issues at London Bridge Station;
- e. Chapter 7 examines the construction issues around Farringdon, Blackfriars and London Bridge Stations;
- f. Chapter 8 considers whether the proposed development at Blackfriars is consistent with the advice in PPG 13 Transport.

3.0 SIGNIFICANT CHANGES SINCE THE FIRST INQUIRY

- 3.1 At the time of the first Inquiry it was proposed that Blackfriars London Underground (LU) station would be kept open for normal weekday operations during construction. Since that time further design work has been carried out and it is now proposed that Blackfriars LU Station should be closed for a period of up to 24 months. The closure is required for safety and other construction reasons. Extensive discussions have been held with LU regarding this matter. Apart from a period of up to four weeks, the Blackfriars mainline station would remain open throughout the day (until 9pm) during the construction period. Further details on the need for closure is given by Janet Goodland.
- 3.2 The potential impacts on other Underground stations, such as Temple, Mansion House, St Paul's and Chancery Lane of the Blackfriars LU closure were not, therefore, considered at the previous Inquiry.
- 3.3 The London Bridge Masterplan now resolves many of the traffic and access issues that were outstanding from the first Inquiry. In particular the arrangements for buses and taxis at London Bridge Station have been agreed with Transport for London (TfL), as set out within TfL's Statement of Case.
- 3.4 The proposed Borough Market road closures for the construction period now provide improved retained access for servicing and pedestrians (Transport and Access Report, June 2004 [CD/222]).

4.0 THE IMPLICATIONS OF THE BLACKFRIARS LU STATION CLOSURE (MATTER 3)

4.1 Introduction

- 4.1.1 Since the first inquiry further design work has been carried out for Blackfriars Station. This design work has considered the construction issues in more detail. For safety reasons, it is proposed that Blackfriars Underground Station should be closed temporarily to facilitate reconstruction. Although trains will be able to pass through the station, it will be closed for a period of up to 24 months while the Blackfriars National Rail and Underground stations are reconstructed.
- 4.1.2 The construction strategy is to close the station; carry out the work in the shortest possible time in the safest environment; and reopen to a completed new station. Further details on this issue are given in Network Rail's Statement of Case [CD/191] and the issue is addressed by Janet Goodland.
- 4.1.3 The Environmental Statement produced in 2004 (ES2004) [CD/164-169] reported the predicted transport and access impacts associated with this closure. Since then further studies have been undertaken to provide a more detailed understanding of the likely changes in travel patterns of current Blackfriars Underground users faced with this closure, and the ability of existing transport infrastructure to accommodate these changes.
- 4.1.4 The findings of the study are reported in full in the 'Temporary Closure of Blackfriars Underground – Transport Assessment' (July 2005) [CD/221] which has been prepared for Network Rail and are summarised below.

4.2 Methodology

Consultation

4.2.1 The Blackfriars survey and forecasting methodologies were developed in consultation with London Underground (LU). LU is also reviewing the results of the survey and the forecasting work. Meetings with LU which included discussion of this matter were held as follows:

- a. 2 June 2005 – General TfL Liaison meeting, including LU and TfL Street Management;
- b. 15 June 2005 – to discuss survey and forecasting methodology – agreement reached with LU;
- c. July 2005 – to discuss survey results and consequences of the additional passengers on station operation.

4.2.2 Additional discussions have been held with the Corporation of London and Westminster City Council regarding the impact of additional pedestrian flows around the three main alternative Underground stations, Temple, Mansion House and St Paul's. The following discussions have taken place:

- a. Corporation of London – 1 June 2005 to discuss the scope of the Transport Assessment for Blackfriars Closure and surface level impacts at Mansion House, St Paul's and Chancery Lane Stations; and
- b. Westminster City Council – 31 May 2005 to discuss the surface level impacts at Temple Station.

4.2.3 Consultation will continue with the local authorities to ensure that their views and concerns are carefully reflected in the measures and mitigation which will be developed for the eventual Traffic Management Plan.

Passenger Survey at Blackfriars Station

4.2.4 A detailed survey was carried out in the morning peak period (07.00-10.00) in April 2005 to understand the likely behaviour of passengers who currently enter and exit Blackfriars Underground Station. The sample size

represents 11% of passengers entering and exiting the station. The information collected was used together with LU RODS (Rolling Origin and Destination Survey) 2003 data to assess the likely diversion rates to alternative modes and underground stations.

4.2.5 Table 4.1 below shows the growth in the numbers of people entering and exiting Blackfriars Station from 2003 to 2007. It is estimated that just over 14,000 people will use Blackfriars Underground Station in the morning peak in 2007. These are the numbers of passengers that will ultimately seek an alternative mode of travel.

TABLE 4.1 BLACKFRIARS AM PEAK DEMAND GROWTH

	Observed Passengers in 2003	Forecast for 2007	Percentage Growth
Entry	4,525	4,638	2.5
Exit	9,389	9,623	2.5
Total	13,914	14,261	2.5

4.2.6 Table 4.2 below shows the diversion of Blackfriars passengers to an alternative mode, split by those passengers entering and exiting the station. It shows that the majority of entering passengers (3,009 or 65%) would continue to use the tube but access the system using a different station. A further 682 people (15%) would choose to travel by bus.

4.2.7 For passengers who currently exit the tube at Blackfriars, approximately 75% (7,148 people) would continue to use the tube but exit at a different station nearby.

TABLE 4.2 ALTERNATIVE MODES

Alternative Mode	Entering Passengers			Exiting Passengers		
	Survey Count	Percentage	No of Passengers in 2007	Survey Count	Percentage	No of Passengers in 2007
Tube	384	64.9	3,009	644	74.3	7,148
Bus	87	14.7	682	47	5.4	522
Train	46	7.8	360	60	6.9	666
Car	5	0.8	39	3	0.3	33
Walk	19	3.2	149	59	6.8	655
Cycle	3	0.5	24	2	0.3	22
Not make journey	25	4.2	196	43	5.0	477
Other	23	3.9	180	9	1.0	100
Total	592	100	4,638	867	100	9,623

4.2.8 Table 4.3 below shows the alternative tube stations that will be used by passengers who currently enter the tube system at Blackfriars. For example, of the 384 passengers who said that they would travel by tube, 120 stated that instead they would use Victoria Station to enter the system. This would indicate that some mainline passengers will stop using the Blackfriars mainline station and divert to other mainline stations to access the Underground for example, they will use Victoria, Cannon Street and London Bridge.

4.2.9 The results show that St Paul's, Mansion House and Temple would experience increases in people entering the station of 25%, 13% and 85% respectively.

TABLE 4.3 ALTERNATIVE TUBE STATIONS - ENTRIES

Tube Station	Survey Result		Demand Impact 2007		
	Count	%	Background AM Peak Entry	Additional Blackfriars Passengers	% Increment
Victoria	120	31.2	30,385	940	3.1
London Bridge	44	11.5	21,771	345	1.6
Temple	37	9.6	340	289	85.0
Bank / Monument	32	8.4	14,797	253	1.7
Embankment	29	7.4	4,352	224	5.1
Cannon Street	20	5.2	3,496	158	4.5
Elephant & Castle	11	2.9	4,390	86	2.0
St. Paul's	21	5.4	645	162	25.2
Farringdon	8	2.0	6,330	59	0.9
Mansion House	7	1.8	421	55	13.1
Waterloo	9	2.3	44,812	71	0.2
Other Tube Station	47	12.2	-	367	-
Total	384	100		3,009	

4.2.10 Table 4.4 below shows the breakdown by alternative tube station of those passengers who currently exit the tube system at Blackfriars. The survey indicates that Temple, St Paul's and Mansion House are likely to be used by the majority of passengers (60%). A further 7% would choose to travel to Chancery Lane.

4.2.11 Temple, St Paul's and Mansion House would experience significant increases in the numbers of passengers exiting the tube system (29%, 17% and 19% respectively). Chancery Lane would experience a smaller increase of about 4%.

TABLE 4.4 ALTERNATIVE TUBE STATIONS - EXITS

Tube Station	Survey Result		Demand Impact 2007		
	Count	%	Background AM Peak Exit	Additional Blackfriars Passengers	% Increment
Temple	166	25.8	6,422	1,843	28.7
St. Paul's	132	20.5	8,876	1,465	16.5
Mansion House	84	13.0	4,994	932	18.7
Chancery Lane	47	7.3	11,867	522	4.4
Waterloo	37	5.7	16,897	411	2.4
Bank / Monument	23	3.6	34,428	255	0.7
Liverpool Street	20	3.1	24,437	222	0.9
Farringdon	21	3.3	15,846	233	1.5
Southwark	21	3.3	4,152	233	5.6
London Bridge	12	1.9	17,732	133	0.8
Embankment	19	3.0	8,595	211	2.5
Other	62	9.6	-	688	-
Total	644	100		7,148	

4.2.12 The survey results were analysed further to understand the mode that passengers would choose to continue their onward journey to the Blackfriars area once they had exited their alternative station. Table 4.5 below shows the onward mode of travel. The majority of people diverted to these adjacent stations (nearly 80%) would choose to walk to their final employment destination. Bus usage would be relatively small: approximately 5% or 355 people. Over half of the passengers in the 'other' category would use a taxi to complete their journey.

TABLE 4.5 ALTERNATIVE TUBE STATIONS - ONWARDS MODE EXITING PASSENGERS

Tube Station	Total	Demand Impact 2007				As Percentage			
		Foot	Bus	Train	Other	Foot	Bus	Train	Other
Temple	1,843	1,565	55	22	200	84.9	3.0	1.2	10.8
St. Paul's	1,465	1,232	11	0	222	84.1	0.8	0.0	15.2
Mansion House	932	799	0	11	122	85.7	0.0	1.2	13.1
Chancery Lane	522	455	22	0	44	87.2	4.3	0.0	8.5
Waterloo	411	311	33	0	67	75.7	8.1	0.0	16.2
Bank / Monument	255	222	11	11	11	87.0	4.3	4.3	4.3
Liverpool Street	222	122	89	0	11	55.0	40.0	0.0	5.0
Farringdon	233	189	0	11	33	81.0	0.0	4.8	14.3
Southwark	233	200	22	0	11	85.7	9.5	0.0	4.8
London Bridge	133	55	0	0	78	41.7	0.0	0.0	58.3
Embankment	211	155	44	0	11	73.7	21.1	0.0	5.3
Other	688	300	67	111	211	43.5	9.7	16.1	30.6
Total	7,148	5,605	355	166	1,021	78.4	5.0	2.3	14.3

4.2.13 Figure 4.1 (Appendix NR/7/B) shows the destinations of passengers exiting Blackfriars Underground Station during the AM peak taken from the survey. There is a cluster of passengers travelling to an area northeast of Temple Station along Fleet Street. These passengers could use Temple Station as an alternative station. Another cluster is evident along Ludgate Hill adjacent to St. Paul's Cathedral. These passengers could use St. Paul's Underground Station as an alternative destination.

4.3 Assessment of Underground Stations

Station Operations

- 4.3.1 London Underground has considered the impacts of the displaced passengers on the operation of their stations. They consider that these stations will continue to operate safely with the additional passengers, or that LU will be able to divert that additional demand to where is it best able to cope with it. Some station management measures may be required from time to time particularly at St Paul's. Entry could be restricted and escalators could be managed to provide an 'exit-only' station. During the escalator replacement works at Chancery Lane the station was designated as 'exit only' during the morning peak.
- 4.3.2 However, it is recognised that an important mitigation measure will be advertising and signage campaign which informs passengers of suitable alternatives. Travel information advising passengers of the closure will be given by the National Rail Enquiries service and via websites. LU does have some concern about the predicted additional passenger flow to Victoria station given the management required for the station operation but it is believed that the majority of those passengers who have stated that they will divert to Victoria station will make a second choice once they have understood the existing level of use at Victoria.
- 4.3.3 The map of the Underground both at stations and on trains will be updated and announcements made on the trains to inform passengers of the alternative choices available. A similar approach was used for works on the lifts at Covent Garden station during the 1990's when passengers were advised to use Holborn or Leicester Square stations as adjacent alternatives. Once at surface level a comprehensive signing strategy will be put in place to assist passengers reach their final destination. It is also possible that additional staff may be required to assist passengers with directions from nearby Underground stations. The effectiveness of this

campaign will also be monitored throughout the construction period.

- 4.3.4 LU has confirmed that, at the moment, there are no other major station closures proposed on the Underground network during the construction period. A major closure is defined as occurring between 6am and 10 pm during weekdays.

Alternative Adjacent Stations

- 4.3.5 Temple Station is forecast to deal with 26% of the displaced Blackfriars passengers. This equates to 1,843 additional pedestrians exiting the station. An estimated 289 additional people will also enter the station during the morning peak period.
- 4.3.6 Temple Station has a single exit out onto a courtyard with access to both Temple Place, via stairs, and Victoria Embankment. Peak hour video footage shows that the footway along Temple Place is narrow and this slows the passage of pedestrians to and from the station. This is an existing problem that increased levels of passengers will exacerbate. Those passengers using Temple who are travelling towards the Blackfriars area are likely to be spread equally between Temple Place and Victoria Embankment.
- 4.3.7 It is recommended that the footways are widened on both sides of Temple Place to ensure there is sufficient capacity and to encourage all pedestrians to use the zebra crossing provided. Temple Place is currently one-way with two lanes and this could be reduced without affecting the flow of traffic. Two options have been put forward in order to enhance the provision for pedestrians at Temple Station.
- 4.3.8 Option 1 (Figure 4.2 Appendix NR/7/B) involves narrowing the Temple Place carriageway to one lane locally at the junction with Arundel St and widening the footway width to around 5 metres. This would still allow tourist coaches using the coach parking facilities in Temple Place to manoeuvre. Narrowing the carriageway in this area and widening the

crossing has many benefits for pedestrian safety.

4.3.9 Option 2 (Figure 4.3 Appendix NR/7/B) maintains two lanes west to east along Temple Place. These lanes are slightly narrowed allowing widening of the existing footways. Both options will slow traffic turning left from Arundel Street into Temple Place.

4.3.10 St Paul's, Chancery Lane and Mansion House stations are all felt to have adequate spare capacity at surface level to be able to cope with the forecast increase in passengers generated by the Blackfriars closure. It is not considered necessary to implement specific surface level mitigation measures at the other Underground stations other than the signage and information strategy already outlined.

4.4 Bus Use

4.4.1 The following bus routes were included within the bus occupancy survey:

- a. Blackfriars - Routes 45, 63 and 100;
- b. Fleet Street - Routes 4, 11, 15, 23, 26, 76, 172, and 341;
- c. St Paul's Churchyard – Routes 4, 11, 15, 17, 23, 26, 76, 100, and 172;
and
- d. Route 388.

4.4.2 Most routes were found to be busy with many buses having standing room only. All routes had some spare capacity. Routes across Blackfriars Bridge were found to be busy with little seating available. Routes along Fleet Street were shown to have the highest levels of available capacity with few buses shown to have no seating available.

4.4.3 The passenger survey forecasts that only 682 people (14.7%) who currently enter the Tube network at Blackfriars would choose bus as their alternative mode of travel from Blackfriars. An estimated 522 people who currently leave the Tube network at Blackfriars would choose bus as their

alternative main mode of travel. This equates to only 5.4% of total exiting passengers during the AM peak period.

4.4.4 In addition, when considering those passengers who will use alternative tube stations, only 5% of those would opt for bus as their onward mode of travel when leaving the underground network. This is equivalent to 355 passengers. Of these, a total of 89 passengers are forecast to leave the underground network at Liverpool Street and interchange to bus to complete their journey to the Blackfriars area.

4.4.5 The additional bus passenger levels, when considered over the three-hour AM peak period and across the different routes that serve the Blackfriars area, are a very small proportion of the existing bus passenger demand. It is expected that the bus network can easily cope with this increase in passenger levels and this is confirmed by the extra capacity highlighted by the bus occupancy survey results. These survey results can be found in the 'Temporary Closure of Blackfriars Underground – Transport Assessment' (July 2005) [CD/221].

4.5 Extension of Bus Route 388

- 4.5.1 It has been suggested that bus route 388 could be extended from Blackfriars Station to Temple Station. Route 388 is operated by TfL Buses. It originates in Hackney Wick and links Liverpool Street Station to Blackfriars Station where it currently terminates.
- 4.5.2 The bus capacity survey revealed that there would be plenty of spare capacity available on this route to accommodate additional passengers.
- 4.5.3 The survey results indicate that an extension of the Route 388 to Temple would not be necessary, as most passengers would walk from their alternative Underground station to their final destination.

4.6 Information and Signage Strategy

- 4.6.1 A comprehensive passenger advice and information campaign would be developed to coincide with the proposed closure. This will follow best practice guidelines and will involve a combination of a public information campaign and a pedestrian signage strategy.
- 4.6.2 A clear and informative pedestrian signage strategy would be put into place. This will involve providing signage and information at all nearby Underground Stations, Blackfriars Mainline Station along with bus routes serving the Blackfriars area.
- 4.6.3 Considering the small increase in journey time and the proposed information and signage mitigation, there would be no major impact on these passengers.

4.7 Mobility-Impaired Passengers

- 4.7.1 There will be no worsening of conditions for mobility-impaired passengers.

4.8 Conclusion

- 4.8.1 The results of this investigation into the effects of the proposed closure of Blackfriars Underground Station lead to the conclusion that the impact, whilst causing inconvenience, will not be of such significance as to be unacceptable. Sufficient alternative stations and travel modes exist to allow all displaced passengers to reach their destination without gross additional travelling time.

5.0 EFFECTS OF CONSTRUCTION AND OPERATION OF THE SCHEME ON THE CHARACTER OF THE BOROUGH HIGH STREET/ BOROUGH MARKET AREA (MATTER 5)

5.1 Traffic Effects

5.1.1 During the Borough Viaduct works, construction traffic will be generated. It is estimated that up to five construction vehicles each day will be required. The reduction in traffic experienced since 2003 on Borough High Street and Southwark Street due to the introduction of Congestion Charging will mean that the additional construction traffic can easily be accommodated. The current daily flow along Borough High Street is 35,000 vehicles. The forecast increase in traffic flow on these main roads for construction activities will therefore not be a significant effect where the estimated reduction in traffic levels of 15% since Congestion Charging equates to 5,250 vehicles each day compared with the five additional construction vehicles.

5.1.2 The works will require a series of temporary road closures. Borough High Street/Southwark High Street, Bedale Street, Stoney Street and Redcross Way will all be subject to temporary closures.

5.1.3 During the closure of Borough High Street, which it is assumed would take place over a single Bank Holiday weekend, traffic would be diverted to the two adjacent London bridges, Southwark Bridge and Tower Bridge. This diversion is significant because of its scale. It is forecast that the flows on a Bank Holiday weekend will be much lower, perhaps only 50% of the weekday flow of 35,000 vehicles. I am satisfied that the alternative routes available provide reasonable alternatives for diverted traffic and I have provided further detail on this in the Transport and Access report [CD/222]

- 5.1.4 The temporary closures of Bedale Street, Stoney Street and Redcross Way will require night-time traffic diversions. However, Network Rail will ensure that only one of these routes will be closed at a time and will provide access on a near-by adjacent route at all times. Therefore there will not be a significant adverse effect on traffic or the operation of the Borough Market. Network Rail has given a commitment that the Market will remain operational throughout construction.
- 5.1.5 The total number of lorry movements for the construction works is 2,600 one-way lorry trips for the 24-month period. If this is applied to a 5-day week (a worst case scenario) this equates to a daily flow of 5 construction vehicles per day requiring access to either Park Street, the Hop Exchange, Borough Market or Borough High Street. This level of construction traffic flow will not have a significant adverse effect.

5.2 Pedestrian Effects

- 5.2.1 There would be some disruption to the existing pedestrian routes in the area caused by the night-time and weekend closures of Bedale Street and Stoney Street. The closures will not have a significant effect on pedestrians as there will be alternative, near-by adjacent routes provided throughout the period of the construction works.

6.0 LONDON BRIDGE STATION – BUS AND TAXI ISSUES (MATTER 8B)

6.1 Introduction

6.1.1 The Masterplan scheme at London Bridge has planning permission subject to a Section 106 agreement. It includes the following improved arrangements for buses and taxis.

6.2 Bus

6.2.1 The bus station will be redeveloped on its present site and enlarged to the east. The number of bus stands will be increased from 11 to 15. All stands will be created around island waiting areas and a new roof will be provided. Buses will enter the bus station via Station Approach and leave by London Bridge Street. A further three bus layover spaces will be provided along London Bridge Street and Railway Approach. The proposed layout is shown in Figure 6.1 [Appendix NR/7/B].

6.3 Taxi

6.3.1 Taxis will no longer use the London Bridge bus station forecourt accessed from Station Approach and this area will be for bus services only, except to access Southwark Towers.

6.3.2 The proposed taxi drop-off and pick up facilities are shown in Figure 6.2 [Appendix NR/7/B]. Taxi drop-off facilities will be provided on St Thomas Street adjacent to the station concourse which will provide excellent interchange facilities with the national rail and underground rail services.

6.3.3 A new taxi pick-up facility is provided on Tooley Street that provides a lay-by area for up to 7 taxi bays. These bays are then fed by a further 16 taxi bays provided in a further lay-by area off Bermondsey Street. This arrangement provides a total of 23 taxi pick-up bays.

6.3.4 These facilities will be fully accessible to passengers with mobility

impairment and provide direct interchange with mainline rail with easy step- free access from the Jubilee Line Extension (JLE) service.

6.4 Other Development Proposals

6.4.1 At the time that planning permission was granted for the Masterplan it was TfL's view that the proposed bus and taxi proposals outlined above would be adequate to serve the proposed development. In addition at the Public Inquiry held to consider the application for the London Bridge Tower, TfL accepted the 13 bus stands /stops that would be made available through this development on the condition that the Section 106 agreement provides £3million towards further bus station enhancements in the future.

6.4.2 The Masterplan scheme provides 15 bus stops / stands with an additional three layover spaces. This therefore exceeds the capacity that TfL were seeking at the London Bridge Tower Inquiry. The introduction of articulated buses by TfL Buses was not considered at the London Bridge Tower Inquiry and was not considered for the Masterplan scheme proposals. The operational and layover space for articulated buses is greater than for standard bus services and will need to be designed for within the space available.

6.4.3 Since then further developments have come forward in the area and TfL is engaged in ongoing discussions with the respective developers to secure the relevant space requirements to facilitate changes to the bus and taxi arrangements. TfL says in its Statement of Case that it is "satisfied that Masterplan does not conflict with this work."

7.0 CONSTRUCTION ISSUES (MATTER 9)

7.1 Planning and Environmental Management Strategy (PEMS)

7.1.1 Network Rail has developed a strategy for controlling and managing the planning and environmental impacts arising from the proposals. Its Planning and Environmental Management Strategy (PEMS) defines how Network Rail's policies, obligations and commitments in relation to planning and environmental management will be delivered. A detailed description of PEMS [CD/169 Appendix E] is provided within the Environmental Statement ES2004.

7.1.2 Prior to the commencement of any site activities, contractors will be required to produce Environmental Method Statements that will identify how their environmental management plans are to be implemented in respect of particular tasks and locations. These will include the specific commitments agreed with stakeholders including the local authority, police and emergency services and local businesses. Contractors will be required to agree with the local authority the level of information supplied to them and the frequency with which it is to be supplied.

Traffic Management Plan (TMP)

7.1.3 As part of the PEMS, the Contractor will be required to prepare and implement a Traffic Management Plan to minimise, as far as practicably possible, the adverse effects on traffic flow during construction.

7.1.4 The TMP is to take into account the advice of the highway authority, other relevant local planning authorities and emergency services and is to identify:

- a. Temporary and permanent road closures and diversions;
- b. Any interference with a carriageway or footway;
- c. Temporary traffic control measures;
- d. Temporary and permanent access to the works;

- e. Temporary road layouts;
- f. Routes to be used by traffic generated by construction activity, including suitability of routes for intended vehicle use, imposed time restrictions on use and any routes prohibited from use;
- g. Means of monitoring lorry use;
- h. Management of site work vehicles at the site;
- i. Pedestrian routes that may be affected; and
- j. Site-specific controls including those specified by relevant authorities.

7.2 Cowcross Street

7.2.1 The works at Farringdon include significant track and platform works involving the closure of the Thameslink Moorgate Branch, the provision of a new Thameslink station and LU facilities and the part-pedestrianisation of Cowcross Street. There are two major traffic impacts, the closure of Cowcross Street to vehicles and the temporary road closure impacting on the access to Caxton House and NCP Car Park (Cardinal Tower). There will also be effects on pedestrian routes during construction where site hoarding lines will enclose existing footways.

7.2.2 The effect of the closure of Cowcross Street to through traffic commencing from the start of the construction phase and made permanent for the operational phase will be to divert traffic away from this section of road. The assessment of the re-assignment of the diverted traffic flows for the eastbound and westbound flows is presented in detail in the Transport and Access report (June 2004)[CD/222].

7.2.3 The 1999 Traffic and Transportation Effects Technical Annex prepared by Aspen Burrow Crocker predicted that all the diverted traffic from Cowcross Street would divert to the junction of Clerkenwell Road with Farringdon Road. The left turn from Clerkenwell (east) into Farringdon Road (south) is no longer permitted and a signal controlled crossing has been introduced across the south arm of Farringdon Road to assist

pedestrian movement. The traffic assignment has therefore been re-assessed and the forecast percentage change at each relevant junction, presented as a percentage of the traffic diverted from Cowcross Street is presented on Figures 5.2 and 5.3 of Volume 2 of the Transport and Access report (June 2004)[CD/222].

- 7.2.4 The traffic diverted away from using Cowcross Street as a through route will have an impact over a wider area as most of this traffic is attempting to avoid traffic queues/delays on more major designated routes. With the left turn banned from Clerkenwell Road (east) traffic will take alternative routes at the junction of St John Street with Clerkenwell Road and at the junctions of Farringdon Road with Clerkenwell Road, Greville Street/Cowcross Street and with Charterhouse Street. Some traffic will access Farringdon Road further north through other routes across Islington. Figures 5.2 and 5.3 [CD/222] for Farringdon present the existing AM, PM and 18 hour traffic flows using Cowcross Street and set out the percentage change of these flows at each relevant junction.
- 7.2.5 For eastbound traffic turning right from Farringdon Road into Cowcross Street it is predicted that the majority of this traffic will divert along Charterhouse Street into Smithfield Market or will turn right from Farringdon Road (further south) into West Smithfield. For westbound traffic currently using Cowcross Street, the majority of this traffic will continue south along St John Street to Charterhouse Street.
- 7.2.6 The existing flows along Cowcross Street are low and the effect of diverting this traffic onto adjacent routes means that there will be no significant adverse effects on the highway capacity and traffic safety during and after construction.
- 7.2.7 Throughout the 36 month construction period pedestrian access would be maintained to the station and Turnmill Street. During the Cowcross Street works this will involve the construction of a temporary footbridge and the

provision of a pedestrian diversion route.

7.2.8 Construction sites are also provided along Turnmill Street, Vine Street bridge, the north-west corner of Farringdon Station (on Farringdon Road) and on the north side of Charterhouse Street. Some of these sites will enclose existing footways and pedestrians will be required to use alternative footpaths at these locations.

7.2.9 Alternative pedestrian routes are available for all of these sites and these will be signed and managed in accordance with PEMS. There will be no significant adverse effects on pedestrians during the construction phase as adjacent alternative pedestrian routes are available wherever a pedestrian route is temporarily closed. No pedestrian diversions are required over long alternative routes.

7.2.10 There is no reason to assume that cyclists would not still be able to use this section of Cowcross Street. Therefore it is not expected that there will be any significant effects on cyclists.

7.3 Blackfriars Area

Traffic Management Plan (TMP)

7.3.1 The eventual TMP which will be put in place for the closure of Blackfriars LU station during the Blackfriars construction period will be developed in consultation with TfL, the Corporation of London and other major stakeholders including Unilever and KPMG.

Realignment of Blackfriars Junction

7.3.2 Construction necessitates a temporary reconfiguration of this junction to the west to enlarge the work site for construction works within the hoarding lines (Figure 7.1 Appendix NR/7/B). It is not anticipated that traffic flow will be significantly disrupted.

- 7.3.3 The existing road layout will be reinstated following construction or integrated into TfL's Masterplan proposals to assist pedestrians.

Taxi rank and Bus Stop on Queen Victoria Street

- 7.3.4 The taxi rank on Queen Victoria Street will be temporarily suspended during construction. It will be reinstated following the construction period. The bus stop for Route 388 located adjacent to the taxi rank will be unaffected.

Pedestrian Circulation

Subways

- 7.3.5 The exit from the LU station to the pedestrian subways and the two exits on the east side of Queen Victoria Street will be closed throughout the construction period. Otherwise the pedestrian subway network located around Blackfriars Station will remain open throughout the construction period.
- 7.3.6 Pedestrians will exit the station via a protected walkway from the platforms to beyond the boarding line. The route of this walkway will change as construction progresses. In conjunction with TfL, a system of at-grade signalised pedestrian crossings will be implemented, giving full street-level accessibility across Queen Victoria Street and New Bridge Street. An agreement between Network Rail and TfL is being developed to provide for this.

Hoarding Line

- 7.3.7 Pedestrian access to the mainline station will be maintained throughout the construction period. The location of this entrance may change during construction.
- 7.3.8 A protected pedestrian footpath will be provided on the outside of the hoarding line (Figure 7.1 Appendix NR/7/B).

Thames Path South Side

- 7.3.9 During the construction of a new entrance from the south of Blackfriars Bridge the river path under the rail bridge will be temporarily closed.
- 7.3.10 The alternative route for pedestrians who are able to use steps is presented in Figure 7.2 [Appendix NR/7/B]. Walking westwards from Tate Modern towards the London Eye the diverted route will follow Hopton Street, Southwark Street to Blackfriars Bridge Road then north to the steps that rejoin the river path adjacent to Express Newspapers. The reverse of this route would be used for pedestrians walking eastwards. The stepped access to rejoin the Thames path will preclude its use by mobility impaired pedestrians therefore these pedestrians will require additional diversion via Upper Ground.

Access to Blackfriars Passage

- 7.3.11 Blackfriars Passage will be kept open for most periods during station closure. There may be a need to partially close the road during the construction of the emergency evacuation route from the LU station. There is no reason why pedestrian and cycle access cannot be maintained during construction.

7.4 London Bridge Area

- 7.4.1 The construction works for London Bridge station will require the closure of Stainer Street and Weston Street to traffic and pedestrians at an early stage. A short section of two-way traffic operation along St Thomas Street between Weston Street (south of St Thomas Street) and Bermondsey Street will be introduced to accommodate diverted traffic. The main construction site, the proposed working sites and storage areas are presented on Figure 7.3 [Appendix NR/7/B].
- 7.4.2 Construction traffic access will be provided via St Thomas Street, Borough High Street, Duke Street Hill, Tooley Street and Bermondsey Street. The forecast construction traffic flows for each of the main construction stages are shown in Table 7.1.

TABLE 7.1 MAXIMUM DAILY CONSTRUCTION TRAFFIC FLOWS

Construction stage	Maximum daily one-way flow
Demolition, excavation and removal	170
Substructure	24
Superstructure	25
Platform works	10
Concourse works	20

- 7.4.3 In addition, the site will be serviced by 25 transit van type vehicles and 10 seven tonne lorries per day.
- 7.4.4 On two occasions, two phases of works will be undertaken at the same time. It is the excavation and demolition stage that requires by far the highest number of construction vehicles. With 170 construction vehicles per day removing demolished material and a further 35 vehicles per day required for general activities, the potential maximum construction traffic flow per day at London Bridge could be 375 vehicles per day. This would last for about 3 weeks. Based on a 10-hour working day, the peak

construction vehicle flow of 375 vehicles would equal 38 vehicles per hour, just over one vehicle every 2 minutes.

7.4.5 Once the demolition is completed, the traffic flows reduce to about 25 HGVs per day for each phase (50 vehicles where two phases are carried out at the same time) plus the 25 transit type vehicles and 10 seven tonne lorries per day giving a maximum daily flow of 85 vehicles per day. This level of activity lasts for 23 weeks and then reduces further for the platform and concourse works.

7.4.6 The construction traffic flow for London Bridge station will therefore not have a significant adverse effect.

Road Closure

7.4.7 There will be a Bank Holiday weekend closure of Borough High Street required to enable the new bridge to be lifted into position. These works are likely to involve the closure of the junction with Duke Street Hill as well as the junction with Station Approach. This closure will prevent through traffic using Borough High Street and will have a significant adverse effect.

7.4.8 Stainer Street and Weston Street will be closed during construction and then closed permanently after construction.

7.4.9 The closure of Stainer Street and Weston Street to vehicles during the construction phase will divert through traffic away from these roads. It is considered that the closure of Weston Street will not cause a significant adverse effect.

7.4.10 The diverted traffic flows as a result of the closure of Stainer Street, will significantly increase the use of Bermondsey Street and Tooley Street (east of Bermondsey Street only), with lower levels of diverted traffic along St Thomas Street, Borough High Street and Duke Street Hill. The traffic flow along Bermondsey Street will increase by just under 60% during the peak

periods. The flow along Tooley Street (east of Bermondsey Street), will increase by nearly 30%. These increases in traffic flow will have a significant adverse effect but the roads will continue to function as the diverted flows are within the operational capacity of the remaining highway network. Further traffic flow details and information on the reassignment of the traffic is provided in the Transport and Access report (June 2004) [CD/222].

Pedestrian effects

- 7.4.11 Pedestrian access through the work site area created by the closure of Stainer Street and Weston Street will not be possible and the pedestrians will need to use either Joiner Street or Bermondsey Street as alternative routes. However, the pedestrian flows along Stainer and Weston Street are very low. The alternative routes are not onerous diversions and for the small number of pedestrians involved there will be no significant adverse effects.
- 7.4.12 Alternative pedestrian routes are available for pedestrians to pass each of the sites at Vinegar Yard and Bermondsey Street and there will be no significant adverse effects.
- 7.4.13 The pedestrian footbridge from London Bridge station to Hay's Galleria will be closed towards the end the construction works. During the morning peak period, the total two-way flow on this bridge from 07:00 to 10:00 is 3,343 pedestrians and for the evening peak period from 16:00 to 19:00 the two-way flow is 2,490. These pedestrian flows will divert to exits along Joiner Street and Tooley Street and will increase the number of pedestrians crossing Tooley Street by on average nearly 1,500 pedestrians in the peak hours. This closure will not have a significant adverse effect as this route will not be closed until the station concourse is completed and opened, and also general traffic flow along Tooley Street will be reduced (see paragraph 7.5.3 below).

7.5 Operational Effects

7.5.1 The traffic proposals for London Bridge Station include the following key changes:

- a. The closure of Stainer Street and Weston Street;
- b. The reversion of St Thomas Street to two-way working throughout its length;
- c. Modifications to the St Thomas Street/Bermondsey Street junction; and
- d. Modifications to the Tooley Street/Bermondsey Street junction.

7.5.2 Following the completion of construction, the main changes in the area to road traffic would be the permanent closure of Stainer Street and Weston Street to through traffic. The impacts on traffic flows caused by these closures have been described above. A comprehensive package of traffic calming and pedestrian crossing improvements would be implemented as part of the Section 106 agreement. These include:

- a. A cycle route will be retained along Bermondsey Street for northbound cyclists;
- b. Traffic calming along St Thomas Street, Joiner Street, Bermondsey Street and Tooley Street to reduce traffic speeds and enhance the pedestrian environment; and
- c. Improved pedestrian crossing facilities at junctions around the station.

7.5.3 In addition TfL Street Management has approved proposals for a bus only right turn from Borough High Street into Duke Street Hill. This will reduce general traffic flow along Duke Street Hill and Tooley Street which will assist pedestrians crossing Tooley Street to and from the new street level station concourse.

7.5.4 The closure of Weston Street would not have a significant adverse effect, but the closure of Stainer Street would have a significant effect on

Bermondsey Street and Tooley Street (east of Bermondsey Street).

- 7.5.5 Although there would be an increase in rail passengers exiting to Tooley Street it is not envisaged that there would be a significant increase in the Station's private vehicle generation as the majority of passengers would walk to/from their final destinations.
- 7.5.6 A detailed assessment of these proposed highway changes are presented in the Transport and Access Report [CD/222].

8.0 DEVELOPMENT AT BLACKFRIARS STATION AND BRIDGE AND PPG 13 – TRANSPORT

8.1 The proposed scheme includes the following proposals:

- a. Extended platforms, which will be roofed to provide weather protection at the mainline station;
- b. A new mainline station and ticket hall on the South Bank, access to the platforms will be via lifts and stairs;
- c. A link to the mainline platforms over Queen Victoria Street via a new pedestrian footbridge accessed from street level by lift and stairs at the Blackfriar pub;
- d. The existing separate rail and Underground ticket areas will be combined into a shared ticket hall at street level; and
- e. A new station entrance will be provided, the existing subway entrance will be closed, access down to the Underground platforms and up to the mainline platforms past the shared ticket line will be via escalators and lifts.

8.2 The current difficult pedestrian environment around the station would be improved. Passengers and pedestrians would benefit from a significantly improved Blackfriars Station through the following:

- a. Additional train services;
- b. Improved interchange with Underground services;
- c. Greater capacity and facilities for passengers which would be more convenient to use;
- d. Safer crossing of Queen Victoria Street;
- e. Step free access to both the Underground and National Rail stations; and
- f. Reduction in walking distances from the South Bank.

8.3 PPG 13 [CD/172] states that the aim is to deliver an integrated transport policy.

“This means integration:

- Within and between different types of transport; ...”

8.4 The proposals for Blackfriars would facilitate better integration between National Rail and Underground services. PPG 13 [CD/172] states that in order to deliver the objectives of the guidance, local authorities should *inter alia* ensure that the needs of people with mobility impairments – as pedestrians, public transport users and motorists – are taken into account in the implementation of planning policies and traffic management schemes, and in the design of individual developments.

8.5 The Government wants to promote public transport that is accessible to disabled people and a pedestrian environment that enables them to make use of it. The needs of disabled people should be met in all developments by ensuring developments, including transport infrastructure are accessible to and usable by disabled people – as motorists, public transport users and pedestrians – through decisions on location, design and layout.

8.6 The proposals for Blackfriars Station would improve the facilities for the mobility-impaired.

8.7 Blackfriars Station would provide improved pedestrian accessibility to the national rail and LU stations as well as for passengers interchanging between the two stations. This would achieve the objectives of providing ‘quick, easy and safe interchange between different modes of transport’ which is seen by PPG 13 [CD/172] as essential to integration.