6.3 TRAFFIC AND TRANSPORT IMPACTS

6.3.1 Introduction

This section of the ES addresses the impact of the operation of the Birmingham City Centre Extension scheme on the local road network and the users of the network (ie private car, bus, taxi, cyclists and pedestrians). Impacts associated with the construction of the scheme are described in Section 7.3.

6.3.2 Assessment Methodology

Overview

During operation, changes in traffic flows may arise due to a modal shift from private car to the proposed scheme and as a consequence of any reassignment of traffic to accommodate the scheme. The overall objective of this assessment is to provide estimates of the positive and negative impacts of changes in traffic brought about by the operation of the scheme. The assessment also examines the proposed permanent traffic management measures.

In carrying out this assessment data contained in the Traffic Management Strategy for the scheme has been utilised.

Traffic and Transport Assessment Criteria

The assessment criteria used to identify significant impacts arising from changes in traffic are described below.

- **Traffic Conditions** – Assessment of impacts resulting from the operation of the scheme on other road users is based on the results of local studies, including a traffic model produced by BCC, a traffic engineering report and a Traffic Control report.

- **Pedestrian and Cyclist Conflicts** – This assessment takes into account proposed pedestrian plans produced by Centro, a cycling review prepared by BCC cycling, walking and motorcycle officers and Centro and consultation with cyclists and cycling organisations.

- **Assessment of Traffic-related Air Quality and Noise** - Assessment of traffic-related environmental impacts (ie noise and air quality) is dealt with in Sections 6.4 and 6.5 respectively.

6.3.3 Baseline Conditions
Traffic Flows

Cordon surveys carried out by Mott MacDonald on access routes into the city centre every other year show that there has been little increase in traffic in recent years. The most likely cause of this slow growth in traffic is the level of congestion. This indicates that the road network is operating near or at capacity. There are currently high levels of congestion occurring, particularly in the network peak hours.

Bus Services

It is assumed that the proposed City Centre Bus Mall will be operating prior to the Birmingham City Centre Extension scheme coming into operation. The Bus Mall proposal has been developed as a result of a joint study between BCC, Centro and bus operators to look at public transport accessibility in the city centre. The purpose of the study was to develop proposals for:

- improving interchange between city centre bus services;

- enabling bus services to be located within a maximum walking distance of 300 m from the main shopping centre;

- providing layover facilities for regional, lower frequency services;

- improving bus circulation around the city centre;

- allowing for growth in bus usage over a 25 year period; and

- developing a package of highway works to give greater priority to buses, cyclists and pedestrians.

The Bus Mall will enable access to a wider range of bus services, through the development of key interchanges. The model has been based on walking distances to interchanges and bus stops being limited to a maximum of 300 m. The proposed main bus routeing circuit consists of Paradise Circus Queensway – Brunel Street – Hill Street – Smallbrook Queensway/Pershore Street/Bull Ring – Moor Street Queensway/Carrs Lane – Priory Queensway/Bull Street – Colmore Row/Newhall Street/Great Charles Street Queensway. The Bus Mall is already partially implemented with highway and bus infrastructure improvements in place at Moor Street Queensway, Colmore Circus, with works at Masshouse and Smallbrook Queensway due to be completed in Summer 2003.

Bus users will benefit from the proposed 25% increase in services resulting in the service frequencies as shown in Table 6.9. The proposed 25% increase is based on a 1% increase in services per annum over a 25 year period. It has been assumed that Carrs Lane, the lower section of Bull Street (from Corporation to High Street) and the upper section of Corporation Street (from Bull Street to Lancaster Circus Queensway) are open for buses.
Table 6.9  Bus Network Proposals

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<th>Group</th>
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The stopping locations of buses around the bus mall are shown in Table 6.10. To accommodate the additional buses arising from the 25% increase additional stops will be required.

A further bus interchange is expected to be provided between the Town Hall, Paradise Circus Queensway and Paradise Street.
Table 6.10  Stopping Locations of Buses around the Bus Mall

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<td>James Watt Qu/Aston Station (in)</td>
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Taxi Provision

In September 2001 there were a total of 58 24-hour taxi ranks in Birmingham city centre containing 168 spaces. There are also a total of 17 part time ranks containing 77 cab spaces. These statistics are fluid, as changes in the provision of hackney carriage stands are considered to reflect changing demand patterns. In addition, the highway layout in the city centre is evolving with the construction of new developments such as the Bull Ring and Masshouse Circus schemes. Changes to taxi rank provision are proposed as part of these schemes.

Disabled Parking Bays

In September 2001 there were a total of 26 disabled parking bays with a total of 112 on street disabled parking spaces operational 24 hours a day. These may be used for an unrestricted period free of charge by disabled badge holders. Disabled badge holders may also park free of charge for an unlimited period in on street pay and display bays.

Motor Cycle Parking Bays

There are currently a total of 20 motor cycle parking bays in the city centre.

Pedestrian and Cycle Routes

In the past the Queensway has presented a barrier to cycle movements into and out of the city centre. Currently, however, a number of routes are available to facilitate access across Queensway. To the north of Lancaster Circus and James Watt Queensway a pedestrian subway system provides a shared use pedestrian and cycle route. To the east Albert Street allows access under the Queensway. To the south and south east sides of the city centre the Pershore Street/Dudley Street link and the Hurst Street/Hill Street link provide access routes into the city centre. On the north west side of the city the Newhall Street link is available.

The Millennium Cycle Route touches the south west side of the city centre, proceeding via John Bright Street, Lower Severn Street, the Suffolk Street Queensway slip road footway, Navigation Street, footway link to Holliday Street, Holliday Street, Bridge Street and Centenary Square.

Cycle Advisory Routes are located throughout the city centre and are identified on local cycle city route maps.

6.3.4 Long Term Impacts on Traffic

Introduction

The introduction of new street running infrastructure to the city centre and the resulting impact on road traffic flows, can have a number of effects, namely:
• changes in traffic conditions;
• changes in traffic-related noise and air quality, which have been assessed in Sections 6.4 and Section 6.5, respectively;
• changes in conditions for pedestrians and cyclists; and
• changes in conditions for public transport users at interchanges with the new infrastructure in question.

Receptors which are potentially sensitive to these types of impact comprise road users (drivers, pedestrians, cyclists and public transport users) and people adjacent to the road network including residents of properties, occupants of commercial or industrial premises and users of facilities.

Traffic Flow

• **Without Metro** - Mott MacDonald cordon counts indicate that there is very limited traffic growth in the city centre, indicating that most roads are at or near capacity. Therefore, a low growth level is expected prior to the opening of the Birmingham City Centre Extension scheme. Five Ways, Broad Street and Paradise Circus Queensway have a particularly high traffic flow with congestion occurring in peak periods. Certain roads in the city centre have been subject to a number of different traffic management measures recently. Roads include the top end of Bull Street and Temple Row.

• **With Metro** - The scheme passes via Colmore Circus Queensway to Bull Street, Corporation Street, Stephenson Place, Stephenson Street, Pinfold Street, Paradise Street, Paradise Circus Queensway and onto Broad Street. Many of these roads currently have and will continue to have restricted access for vehicular traffic. Typically access will only be available for access to off street areas and on street loading over restricted periods (access details to individual roads are given in Table 6.11). Broad Street is currently a busy, frequently congested road carrying traffic towards and away from the city centre. Part of the length will be closed to traffic, having the most significant traffic flow impact of the scheme. The change in traffic flow levels will vary along the length of the road. By closing most of the length of the road to traffic a significant reduction in traffic flow is expected. It is envisaged that a reduction of between 6% and 30% of the existing traffic flow will occur along Broad Street at different locations.

It is expected that fewer vehicles using Broad Street will reduce demand at Five Ways as some drivers may choose entirely different routes into the city centre. However, it is expected that the benefits (ie less congestion) resulting from this reduction will be offset by the impact of either closure of the underpass to traffic or by vehicles sharing the subway with the tram. Either scenario may add to the demand at Five Ways. Currently, traffic exiting the city centre via Hagley Road during the PM peak is sufficiently heavy to cause queues daily. Either scenario regarding use of the subway as described above is not expected to relieve this.
The closure of much of Broad Street will result in redistribution of traffic. A movement away from Broad Street onto alternative routes is expected due to the restrictions to through traffic for much of the length of the road. The effect of redistribution is difficult to quantify due to the high degree of re-routing likely to occur and the wide range of routes available. Generally it is expected that the traffic will merge into and effectively ‘disappear’ due to the high volumes of traffic elsewhere on the local road network. The traffic model produced by BCC gives an indication of likely changes in traffic flow resulting from the redistribution of traffic accessing, egressing and passing through the city centre. However, the traffic model is too coarse to accurately quantify in detail the extent of potential problems in specific localities on the road network. Locations where there could be problems were identified by BCC and Centro’s traffic engineers and have been described below. An attempt at quantifying the likely magnitude of change based on local conditions and the BCC traffic model has been made on some roads with the most significant change. However, it must be noted that these are estimates based on professional judgement and not on precise modelling.

The main inbound re-routeings providing access to the city centre to the north side of Broad Street in the AM peak are expected to be via Monument Road and Sheepcote Street to reach the northern section of Paradise Circus. The increase in traffic along Sheepcote Street is expected to be significant, and has been estimated to increase by at least 50%. City bound traffic is also expected to use the Ring Road (Middleway). Additionally, traffic bound for the far side of the city and beyond is expected to travel via the M5/M6.

Some traffic accessing the south side of the city centre in the AM peak will travel via Bath Row and Holloway Circus. The change in traffic flow along Bath Row has been estimated to increase by approximately 20%. Traffic management measures will direct traffic along Granville Street and a one way system will be in place on Berkley Street and Gas Street. These roads are currently local access roads with very low flows. It has been estimated that Berkley Street currently has a flow of approximately 30 vehicles per hour. Berkley Street will become one way flow travelling towards Broad Street with a right turn onto Broad Street. It has been predicted that the flow on Berkley Street will increase by approximately 20% to 140 vehicles per hour once the Metro and traffic management measures are in place. The actual vehicle flow total is not a particularly high traffic flow in general terms and in relation to other city access routes. Other traffic that previously used Broad Street may use alternative routes to access the city centre such as the M42 if travelling to the far side of the city and beyond and also via the Ring Road (Middleway).

In the PM peak the traffic originating within the city centre travelling outbound towards Five Ways is expected to reassign onto Paradise Circus to gain access to Cambridge Street and Sheepcote Street, or onto Suffolk Street Queensway to go via Holloway Circus and Bath Row. Reassignment via Cambridge Street could potentially cause capacity problems at the Sheepcote Street junction on Broad Street or at Five Ways gyratory and Plough and Harrow junction on Hagley Road. Reassignment via Suffolk Street would add to existing problems for traffic turning right at Holloway Circus or at the Bristol Road/Ring Road junction. Capacity assessments by Centro and BCC engineers show that with the assumptions described above, the proposed traffic management provisions in Broad Street will function effectively.
Some of the traffic that currently travels would typically have travelled the length of Broad Street to access Paradise Circus Queensway. This traffic will re-route onto alternative routes, some of which will still require access to Paradise Circus Queensway and some of which will find routes that avoid Paradise Circus Queensway. Paradise Circus Queensway is expected to benefit from an overall reduction in traffic due to the restricted access along the length of Broad Street.

The proposed scheme is likely to increase public transport usage in the study areas and close a through route, leading to a reduction in car use. However, the scheme will occupy sections of roads resulting in these roads having a reduced highway capacity and some potentially localised air quality and noise impacts.

Overall, there will be a net decrease in traffic in the city centre providing benefits for road users, pedestrians and cyclists and air quality and noise.

### 6.3.5 Permanent Traffic Management Measures

#### Background

During the development of the permanent road infrastructure measures, particular consideration has been given to the requirements of bus operators, hackney carriages, private hire vehicles, cyclists, access/parking for people with disabilities, motor cycle parking and service requirements for frontages.

It is currently anticipated that those measures not yet implemented for the City Centre Bus Mall, as described in Section 6.3.3 will be implemented regardless of whether the tram scheme goes ahead.

#### Specific Traffic Management Measures

Traffic management measures suggested in the BCC Traffic Management Strategy are described in Table 6.11 in relation to specific streets.

### Table 6.11 Permanent Traffic Management Arrangements

<table>
<thead>
<tr>
<th>Specific Road</th>
<th>Traffic Management Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colmore Circus Queensway (Snow Hill Queensway to Colmore Row)</td>
<td>24 hour clearway. The scheme will cross Colmore Circus Queensway at a signal control.</td>
</tr>
<tr>
<td>Bull Street (Colmore Circus Queensway to Access to Friends Meeting House)</td>
<td>No access for vehicular traffic. 24 hour clearway.</td>
</tr>
<tr>
<td>Bull Street (Access to Friends Meeting House to Temple Row)</td>
<td>No access for vehicular traffic except for access to off street areas, access to on street loading before 10 am waiting at any time. One way traffic with the exemption of cyclists. 24 hour clearway.</td>
</tr>
<tr>
<td>Bull Street (Temple Row to Corporation Street)</td>
<td>No access for motor vehicles except for access to off street areas, access to on street loading before 10 am waiting at any time. 24 hour clearway – except for loading within designated bays (including taxi bay) with the exemption of cyclists. Prescribed left turn from Corporation St into Bull St. All loading bays between New St and Fore St – operational before 10 am and after 6pm. Access to Corporation Street will be via Bull Street and Temple Row.</td>
</tr>
<tr>
<td>Corporation Street (Bull Street and New Street)</td>
<td>No access for vehicular traffic except for access to off street areas, access to on street loading before 10 am waiting at any time. 24 hour clearway – except for loading within designated bays (including taxi bay) with the exemption of cyclists and Midland Metro will be in operation with traffic flow both vehicular traffic and trams at the junction of Stephenson Place and Stephenson Place.</td>
</tr>
<tr>
<td>Stephenson Place</td>
<td>No access for vehicular traffic except for access to off street areas, access to on street loading before 10 am waiting at any time. 24 hour clearway – except for loading within designated bays (including taxi bay) with the exemption of cyclists and Midland Metro will be in operation with traffic flow both vehicular traffic and trams at the junction of Stephenson Place and Stephenson Place.</td>
</tr>
<tr>
<td>Specific Road</td>
<td>Traffic Management Measures</td>
</tr>
<tr>
<td>--------------</td>
<td>----------------------------</td>
</tr>
<tr>
<td>Stephenson Street</td>
<td>No access for vehicular traffic. Access will be via Corporation St, Bull St. Egress will be via New St and Bennetts Hill.</td>
</tr>
<tr>
<td>Stephenson Street (Navigation Street to Stephenson Place)</td>
<td>No access for vehicular traffic except for access to off street areas, access to on street loading before 1000 hours and after 1800 hours on any day. Access will be via Colmore Row, Temple Row West, Temple Row, Temple Street, and New Street. Egress will be via New St and Bennetts Hill.</td>
</tr>
<tr>
<td>Stephenson Street (Navigation Street to Pinfold Street)</td>
<td>No access for vehicular traffic except for loading before 1000 hours and after 1800 hours on any day. Access to off street areas at any time and for on street loading before 1000 hours and after 1800 hours on any day. Access via Temple Row West and Temple Row. Egress via New St and Bennetts Hill.</td>
</tr>
<tr>
<td>Pinfold Street (Stephenson Street to New Street)</td>
<td>No access for vehicular traffic except for access to off street areas. Access to on street loading before 1000 hours and after 1800 hours on any day. Access via Temple Row West, Temple Row, and Temple Street. Egress will be via New St and Bennetts Hill.</td>
</tr>
<tr>
<td>Cherry Street (Corporation Street to Cannons Street)</td>
<td>No access for vehicular traffic at any time. Access via Temple Row. Egress via Temple Row or New St and Bennetts Hill.</td>
</tr>
<tr>
<td>Cherry Street (Temple Row to Cannons Street)</td>
<td>No access for vehicular traffic except for on street loading before 1000 hours and after 1800 hours on any day. Access via Temple Row West, Temple Row, and Temple Street. Egress via New St and Bennetts Hill.</td>
</tr>
<tr>
<td>Cannon Street (New Street to Fore Street)</td>
<td>No access for vehicular traffic except for access to off street areas at any time and for on street loading before 1000 hours and after 1800 hours on any day. Access via Temple Row West, Temple Row, and Temple Street. Egress via New St and Bennetts Hill.</td>
</tr>
<tr>
<td>Cannon Street (Fore Street to Cherry Street)</td>
<td>No access for vehicular traffic except for access to off street areas at any time and for on street loading before 1000 hours and after 1800 hours on any day. Access via Temple Row West, Temple Row, and Temple Street. Egress via New St and Bennetts Hill.</td>
</tr>
<tr>
<td>Temple Row (Needless Alley to Bull Street)</td>
<td>No access for vehicular traffic except for access to off street areas and to on street loading before 1000 hours and after 1800 hours on any day. Access via Temple Row West, Temple Row, and Temple Street. Egress via New St and Bennetts Hill.</td>
</tr>
<tr>
<td>Forest Green (Corporation Street and Bull Street)</td>
<td>Vehicles will be excluded except for on street loading before 1000 hours and after 1800 hours on any day. Access via Temple Row West and Temple Row. Egress via New St and Bennetts Hill.</td>
</tr>
<tr>
<td>Union Street (Union Passage to High Street)</td>
<td>No access for vehicular traffic.</td>
</tr>
<tr>
<td>High Street (New Street to Carrs Lane)</td>
<td>No access for vehicular traffic.</td>
</tr>
<tr>
<td>Union Passage/Warwick Passage/Union Street</td>
<td>No access for vehicular traffic.</td>
</tr>
<tr>
<td>Union Passage</td>
<td>No access for vehicular traffic.</td>
</tr>
<tr>
<td>Fore Street</td>
<td>No access for vehicular traffic.</td>
</tr>
<tr>
<td>Cherry Street (Corporation Street to Cannons Street)</td>
<td>No access for vehicular traffic.</td>
</tr>
<tr>
<td>Cherry Street (Temple Row to Cannons Street)</td>
<td>No access for vehicular traffic except for on street loading before 1000 hours and after 1800 hours on any day. Access via Temple Row West, Temple Row, and Temple Street. Egress via New St and Bennetts Hill.</td>
</tr>
<tr>
<td>Cannon Street (New Street to Fore Street)</td>
<td>No access for vehicular traffic except for on street loading before 1000 hours and after 1800 hours on any day. Access via Temple Row West, Temple Row, and Temple Street. Egress via New St and Bennetts Hill.</td>
</tr>
<tr>
<td>Cannon Street (Fore Street to Cherry Street)</td>
<td>No access for vehicular traffic except for access to off street areas at any time and for on street loading before 1000 hours and after 1800 hours on any day. Access via Temple Row West, Temple Row, and Temple Street. Egress via New St and Bennetts Hill.</td>
</tr>
<tr>
<td>Temple Row (Needless Alley to Bull Street)</td>
<td>No access for vehicular traffic except for access to off street areas and to on street loading before 1000 hours and after 1800 hours on any day. Access via Temple Row West, Temple Row, and Temple Street. Egress via New St and Bennetts Hill.</td>
</tr>
</tbody>
</table>

Existing bus stops on the north side to be removed and new stops including potential Ring and Ride bus routes.
<table>
<thead>
<tr>
<th>Specific Road</th>
<th>Traffic Management Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Street (Dale End to Carrs Lane)</td>
<td>24 hour taxi rank will be provided on the eastern side. Existing bus stops on the east side will be removed.</td>
</tr>
<tr>
<td>Bull Street (High Street to Corporation Street)</td>
<td>No vehicular traffic except buses, disabled badge holders, on street loading before 11 am and after 6pm and 6 am. One way traffic will be reversed with traffic flow in a northerly direction. A contra flow cycle lane will be introduced on the west side of the road. 24 hour taxi rank will be provided on the eastern side. Existing bus stops on the east side will be removed.</td>
</tr>
<tr>
<td>Corporation Street (Bull Street to Priory Queensway)</td>
<td>No vehicular traffic except buses, disabled badge holders, on street loading before 11 am and after 6pm and 6 am. One way traffic will be reversed with traffic flow in a northerly direction. Existing bus stops on the east side will be removed. No waiting at any time. Access via Moor Street Queensway. All traffic proceeding in Bull Street in a north-westerly direction shall on reaching the junction of Temperate Street.</td>
</tr>
<tr>
<td>Corporation (Priory Queensway to Lancaster Circus Queensway)</td>
<td>A new part time taxi rank will be provided on the southeast side. For the remainder of the time the bay is a 24 hour clearway.</td>
</tr>
<tr>
<td>Colmore Row</td>
<td>The existing taxi rank on the northwest side near Eden Place will be extended replacing pay and display bays immediately to the west of Newhall Street.</td>
</tr>
<tr>
<td>Waterloo Street</td>
<td>Existing pay and display bays on the southeast side between Colmore Row and Bennetts Hill will be removed.</td>
</tr>
<tr>
<td>Temple Row West</td>
<td>Existing pay and display bays on the southeast side will be removed and replaced with additional disabled parking bays.</td>
</tr>
<tr>
<td>Temple Row</td>
<td>The existing motor cycle parking bay and taxi rank on the southeast side between Temple Street and Needle Street will be removed.</td>
</tr>
<tr>
<td>Bennetts Hill</td>
<td>The existing disabled parking bays on the northeast and southwest sides between New Street and Water Street will be removed.</td>
</tr>
<tr>
<td>Temple Street</td>
<td>The existing loading facility on the east side to be designated as a 24 hour loading bay. Four existing bus stops to be removed. A 24 hour clearway will be in operation except for designated loading bay.</td>
</tr>
<tr>
<td>Navigation Street</td>
<td>The existing loading facility on the northeast side between Pinfold Street and Stephenson Street to be closed to all traffic. No vehicular traffic except buses, disabled badge holders, on street loading before 11 am and after 6 pm and 6 am. One way traffic will be reversed with traffic flow in a northerly direction. Existing bus stops on the east side will be removed.</td>
</tr>
<tr>
<td>Pinfold Street (Stephenson Street to Navigation Street)</td>
<td>Existing motor cycle bay on the southwest side to be removed. A 24 hour loading bay is to be designated. Traffic flow is in a south-easterly direction. A 24 hour clearway will be in operation except within the designated areas. Existing 24 hour taxi ranks by The Crown PH to remain.</td>
</tr>
<tr>
<td>Swallow Street</td>
<td>Existing bus stops to be removed. One way traffic in the section between Swallow Street and Paradise Circus Queensway to be reversed so that traffic flow is in a south-easterly direction with a contra flow cycle lane. A disabled taxi and cycle bay will be introduced on the southeast side between Swallow Street and Navigation Street. A disabled parking bay shall be introduced on the southeast side between Swallow Street and Navigation Street. A disabled parking bay shall be introduced on the northeast and southeast sides between New Street and Water Street.</td>
</tr>
<tr>
<td>Hill Street (Paradise Street to Navigation Street)</td>
<td>A 24 hour clearway will be in operation. A new signal control junction will be in operation to control traffic flow at the junction of Suffolk Street on slip/Paradise Circus Queensway. Access for Metro (both directions), buses and cycles only. Bus lane on west side Paradise Circus Queensway and Suffolk Street off slip road.</td>
</tr>
<tr>
<td>Paradise Circus Queensway (Paradise Street to Broad Street)</td>
<td>No vehicular traffic except for designated loading bay. No waiting at any time.</td>
</tr>
<tr>
<td>Broad Street (Gas Street to Paradise Street)</td>
<td>A 24 hour clearway will be in operation except for designated taxi ranks and bus stops. No vehicular traffic except for designated areas. Existing 24 hour taxi ranks by The Crown PH to remain.</td>
</tr>
<tr>
<td>Berkeley Street</td>
<td>A new part time taxi rank will be provided on the southeast side at the junction with Broad Street. For the remainder of the time the bay is a 24 hour clearway. Existing bus stops on the southeast side to remain. Prescribed right turn from Berkeley St into Broad Street.</td>
</tr>
<tr>
<td>Broad Street (Gas Street to Berkeley St)</td>
<td>A 24 hour clearway. No vehicular traffic except for Metro, buses, taxis, cycles and for access to off street parking.</td>
</tr>
<tr>
<td>Broad Street (Berkley Street to Granville Street)</td>
<td>A 24 hour clearway. Signal control at the junction of Granville Street and street with no name with no name with Broad Street.</td>
</tr>
<tr>
<td>Broad Street (Granville Street to street with no name to Sheepcote Street)</td>
<td>No access for vehicular traffic except for Metro and buses. New loading bays on north west side of Broad Street and Sheepcote Street with Broad Street.</td>
</tr>
<tr>
<td>Broad Street (Sheepcote Street to Five Ways)</td>
<td>A new part time taxi rank will be provided on the southwest side between Broad Street and Tennant Street. The bays will operate as loading bays. Dedicated left turn onto Broad Street.</td>
</tr>
<tr>
<td>Granville Street</td>
<td>New 24 hour and part time taxi ranks will be provided on the southwest side between Tennant Street and Broad Street at the junction of Bishopsgate Street and Broad Street.</td>
</tr>
<tr>
<td>Bishopsgate Street</td>
<td>No vehicular traffic except buses, disabled badge holders, on street loading before 11 am and after 6pm and 6 am. One way traffic will be reversed with traffic flow in a northerly direction. Existing bus stops on the east side will be removed.</td>
</tr>
<tr>
<td>Five Ways underpass</td>
<td>24 hour clearway. Height restriction at Five Ways underpass.</td>
</tr>
<tr>
<td>Hagley Road</td>
<td>24 hour clearway. Signal control and yellow boxes at the crossing of the Hagley Road.</td>
</tr>
<tr>
<td>Bridge Street</td>
<td>The junction with Broad Street will be closed to all traffic and a new turning head created.</td>
</tr>
</tbody>
</table>
Taxi Stands

As part of a separate strategy being taken forward by BCC there will be an increase of seven full time taxi spaces in the city centre (ie on or within Queensway) and an increase of five part time taxi spaces. In the Broad Street area there will be a net increase of 17 full time taxi spaces and a reduction of 15 part time taxi spaces. This combines to create a total increase of 24 full time taxi spaces and a decrease of 10 part time spaces, resulting in an overall increase of 14 taxi spaces.

The proposed BCC strategy arrangements involves an increase of 12 spaces in the queuing system to serve New Street Station. The proposals also provide a specific route for alternative access to New Street Station in Navigation Street. The proposed ranks in Temple Street serve the hub of the pedestrianised area in New Street and replace the old rank in Stephenson Place.

The proposed provision of ranks as part of the scheme, together with changes associated with the Bull Ring and Masshouse Circus redevelopments will result in all areas of the city centre being within approximately 300 m of a taxi rank facility.

Bus Facilities

The remaining elements of the Bus Mall proposal will be in operation when the city centre extension begins operation. The technical work to develop the bus mall proposals incorporated the proposals for street running Metro to ensure minimal conflict. Therefore, no impacts on the Bus Mall are expected and the situation will be as detailed in Section 6.3.3 and Tables 6.9 and 6.10.

Disabled Parking Bays

A total of 37 disabled parking spaces need to be removed to accommodate the safe operation of the Metro system and it is proposed that a total of 38 spaces be implemented, giving a net increase of one space. The proposed bays are located in positions dispersed immediately around the edge of the pedestrianised restricted access area to maximise accessibility into the city centre. All areas of the pedestrian zone are within approximately 250 m of a disabled parking bay.

Where ring and ride facilities and disabled parking bays are displaced (ie on Corporation Street) as a result of the scheme, alternative provision will be made at a location to be agreed with BCC and Centro.

Pay and Display Bays

To accommodate the new motor cycle bays, disabled parking bays and taxi ranks, it will be necessary to remove existing pay and display bays in Colmore Row, Waterloo Street, Temple Row West, Swallow Street, Berkley Street and Granville Street.
Cycle Routes

It is intended as part of the Birmingham City Centre Traffic Management Strategy to make the city centre more accessible to cyclists by using the measures outlined in Box 6.1.

Box 6.1 Proposed Measures for Improving Cycle Accessibility
ocyclists by restricting access to the length of Broad Street between Gas Street and p
a paradise Cir- custo Metro, buses, taxis and cycles only. There is potential to create a
link between Broad Street and Paradise Street in the City Core by the provision of an...
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a Central scheme. This would have to form part of the agreement between BCC and...
e Arena Central de developer, as the current proposalalist for footways only between Suff
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available via New Street/Dale End to Albert Street on the other side of the city centre.
New Street
High Street
Dale End
link is
mostly pedestrian
with access for cyclists
ow

cycle lane would be provided in the length of High Street between Dale and C
ars Lane.

A north-south link cycle route is proposed using Hill Street, Victoria Sq.
u are, Chamberlain Square then northbound traffic via Margaret Street, Cornwall Street
and Newhall Street, southbound traffic via Newhall, Edmund Street to Chamberlain Square.
Victoria Square and Hill Street.

The divergence of the northbound and southbound
contraflow
cycle lane will be provided for the length of Hill Street between Navigation Avenue.
nised.

Thenorth/southlink
andtheeast/westlink
intersectat
VictoriaSquare.

A
link from
the Millennium
Cycle Route is proposed via Navigation Street and Lower Te
cycles.

A link is proposed between Victoria Square and the northeast side of the City.
Core at Priory Queensway. Southbound traffic would proceed via Priory Queensway.
way, Colmore Square, Colmore Row to Victoria Square. Northbound traffic will proce
ay. Colmoro Square, Victoria Square and a section of Temple Row will be pedestrianised.
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a link between Temple Row to the Priory Queensway would be available via the Minotaur link.
ries, but cyclists would be required to dismount.

Other cycling options are available to
link the above routes and promote accessibility within the city centre. These include
the use of Eden Place, a pedestrianised street linked to Edmund Street and Colmore Row.
The Temple Row
West, Temple Row, Temple Street, New Street, Bennett's Hill Loop, mostly
Ceeto Corporation Street and Temple Row.
Cyclone routes will not be suggested along their...
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y.
In addition to the measures outlined above in Box 6.1 Centro will undertake the following measures to ensure a high standard of cycle accessibility and safety:

- The National Millennium Cycle Route currently crosses Broad Street by Centenary Square.

- As many routes and streets as possible will be maintained for cycle access. Some streets will have special access rights for cyclists. For example, where parts of Bull Street and Corporation Street will be one-way traffic, pedal cycles will be permitted to travel in both directions.

- A publicity exercise will be undertaken to educate cyclists and motorcyclists of the hazards that the Metro may introduce (hazards may consist of crossing the tramlines at a shallow angle and tyres slipping on the tram rail). Where possible the Metro route has been designed to allow cyclists to avoid the path of the tram. However, there are locations where this has not been possible.

**Traffic Signals and Pedestrian Crossings**

*Box 6.2 describes the locations that will undergo alterations from their existing state to facilitate the movements of overall traffic and the Birmingham City Centre Extension scheme. Pedestrian movements have also been considered.*

In addition to the measures outlined in *Box 6.2* certain measures will be put in place to ensure pedestrian safety. Such measures include pedestrian deterrent paving.
Snow

Hill viaduct.

This will link with the proposed staircase and lift to provide for...
access to St Chad's stop.

A new footway area will be provided from Colmore Circus.
The new Snow Hilltop.

A new skyline at Cold Circle Queen.
s way b et w een Co lm o r e Row a nd Snow

H ill Q ueen sw ay w ill fa c ilit ate Me tro mov em ents.
A signal-controlled Toucan crossing has been provided as part of Colmore Squares.
heme at the junction of Colmore Circus Queensway. The crossing of Bull Street is to be...
removed.
The existing signal-controlled crossing on Colmore Row will remain.
The
pedestrian crossing in Corporation Street at junction with Cherry Street/Union Street.
The traffic signals at the junction of Corporation Street/New Street have been removed.
henson Place will be removed.

Traffic signals at the junction of Bull Street and Corp
oration Street will be removed.

A new uncontrolled pedestrian crossing will be local.
Phenason Street at the junction with Navigation Street will be removed. The pedestrian...
a y t r a f f i c f l o w . T h e z e b r a c r o s s i n g i n P i n f o l d S t r e e t a t N a v i g a t i o n S t r e e t w i l l b e r e m o v e d.
do accommodate entry of additional traffic from northern section of Hill Street. The p
destroying at the
junction of Hill
Street and Paradise
Street will be removed.
A new signal for traffic and tram will be located at the bottom of Corporation Street.
and Stephenson Street to ensure a tram and road vehicle from opposed directions.
not due to the narrowing of Stevenson Place and Stevenson Street corner.

Am
odified signal arrangement is required at Paradise Circus between Paradise Street a
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near paradise Circus will be removed.
It is possible that the pedestrian crossing in
Broad Street at Gas Street may be removed.

A footpath ramp will be provided to access
ad Street from Suffolk Street Queensway will be provided. A new footbridge will be co
nstructed over Suffolk Street Queensway. A new signal-controlled pedestrian crossing
The ing of Suffolk Streets south bound ship broad from paradise Circus will be provided.
existing
Paradise
Subway
will
be
in
filled.

A
new
signal-
controlled
pedestrian
crosses
t Street will be altered and extended to include Oozell, Street and Granville Street.
New signal-controlled pedestrian crossings will be provided over both arms of Sheep
People Street connecting to Broad Street, and also across Broad Street at these locations.
The existing signal controlled pedestrian crossing of Broad Street between Bush
opsgate Street and Sheepcote Street will remain.

A new signal-controlled pedestrian...
ancrossing will be provided over Rylan and Street at its junction with Broad Street, and ac
A new footway within the underpass will provide access to...
helicopter and staircase.

A new signalised junction at Five Ways underpass southwest.
end and Hagley Road will be provided.

The existing subway under Hagley Road will be a
ent to a t-grade crossing adjacent to the terminus.

A new signalised junction will
be provided at the junction of Islington Row Middleway and Bath Row.
All the amendments outlined above concerning vehicles, car parks, pedestrians and cyclists will require a review of existing direction signs. Pedestrians will benefit from improved amenity arising from the closure of many roads to vehicles, as well as the net reduction in traffic in the city centre.

1.1.6 Summary

The Birmingham City Centre Extension scheme will cause a redistribution of traffic on the wider road network. At some locations this will generate problems on an already overloaded network. At other locations there is the potential for a reduction in traffic although this is most likely to be a result of closure of the road to through traffic, with local access only. The level of impact from the redistribution of traffic will be assessed further and quantified in the Transport Assessment, which will be available prior to the Public Inquiry.

It is envisaged that traffic measures associated with the scheme and those relating to the new Bus Mall will give rise to significant improvements to the environment in the city centre. An improved bus circulation resulting from the traffic management measures and the new Bus Mall will provide benefits for bus users. The Bus Mall proposals aim to limit walking distances to 300 m from a bus stop in the main shopping area of Union Street/Corporation Street. A net increase in the number of taxi ranks will be beneficial to operators and to customers. There will be a net increase of one disabled parking space so all areas of the pedestrian zone are within approximately 250 m of a disabled parking bay. Pedestrians and cyclists will benefit from the overall reduction in traffic. A number of new pedestrian crossings will be provided and the city centre will become more accessible to cyclists given the measures outlined in Box 6.1. Overall, there will be a net decrease in traffic in the city centre providing benefits for road users, pedestrians and cyclists and air quality and noise.


() Mott MacDonald (2002) Broad Street Traffic Engineering, January

() Mott MacDonald (2002) Metro Cross City Paradise Circus Traffic Control, July

() For the purpose of these statistics the area on and within the ring road have been included, together with the Harborne Road rank which is immediately outside the ring road near to the proposed Metro terminal at Five Ways.