

**Advantage West
Midlands and
Wolverhampton City
Council**

**Bilston Urban Village,
Broad Lanes, Bilston**

Transport Assessment

July 2001

Entec UK Limited

Report for

Advantage West Midlands
3 Priestley Wharf
Holt Street
Aston Science Park
Birmingham
B7 4BZ

Main Contributors

Karen Hudson

Issued by

.....
Karen Hudson

Approved by

.....
Nick King

Entec UK Limited

Gables House
Kenilworth Road
Leamington Spa
Warwickshire
CV32 6JX
England
Tel: +44 (0) 1926 439000
Fax: +44 (0) 1926 439010

05295

h:\projects\ea-210\05295\traffic\text\transport assessment
final1.doc

Advantage West Midlands and Wolverhampton City Council

Bilston Urban Village, Broad Lanes, Bilston

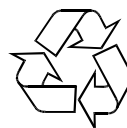
Transport Assessment

July 2001

Entec UK Limited



Certificate No. FS 32936



In accordance with an environmentally responsible approach, this report is printed on recycled paper produced from 100% post-consumer waste.

Contents

1.	Introduction	1
1.1	The Site	1
1.2	Purpose of this Report	1
1.3	Methodology	1
1.4	Scope of the Report	2
2.	Existing Conditions	5
2.1	Location	5
2.2	Access to the Site	5
2.3	Highway Network	6
2.4	Existing Traffic Flow	7
2.5	Current Transport Policies	12
2.5.1	West Midlands Local Transport Plan 2000	12
2.5.2	Elements of the West Midlands Local Transport Plan - Specific to the Bilston Site	14
2.5.3	Transport Policy Context	16
2.6	Public Transport	16
2.7	Pedestrians and Cyclists	16
3.	Proposed Development	19
3.1	Existing Site Description	19
3.2	Development Proposals	19
3.2.1	Remediation and Construction	19
3.2.2	Built Development	19
4.	Trip Attraction & Generation	21
4.1	Remediation & Construction	21
4.2	During Operation	22
4.2.1	Trip Generation	22
4.2.2	Modal Choice	22

5. Trip Distribution	23
5.1 Assignment of the Development Generated Traffic	23
6. Assessment Years	25
6.1 Opening Year and Future Year	25
6.2 Traffic Growth	25
7. Highway Impact	27
7.1 Methodology	27
7.2 Highway Impact	27
7.3 Link Analysis	33
7.3.1 Single-carriageway	33
7.3.2 Dual-carriageway Link Analysis	33
8. Environmental Impact	35
8.1 Environmental Statement	35
9. Internal Layout	37
9.1 Masterplan	37
9.2 Parking Provision	37
9.3 Pedestrians and Cyclists	37
10. Public Transport	39
10.1 Existing Services in the Bilston Area	39
10.1.1 Forms of Public Transport	39
10.1.2 Bus	39
10.1.3 Train	45
10.1.4 Tram	45
10.2 Future Provision and Modal Shift	46
11. Summary	47
Table 2.1 2000 Year End Existing Traffic Flows AM and PM Peak Hour Total Vehicles	8
Table 2.2 Turning Proportions during the AM Peak Hour	9
Table 2.3 Turning Proportions during the PM Peak Hour	11
Table 3.1 Proposed Development	20

Table 4.1	jdt, Mott MacDonald Trip Generations from the GENERATE database	22
Table 7.1	Year 2019 AM Peak Hour Comparison of Do-Nothing and Do-Something With Development Traffic Flows	28
Table 7.2	Year 2019 PM Peak Hour Comparison of Do-Nothing and Do-Something With Development Traffic Flows	29
Table 7.3	Year 2034 AM Peak Hour Comparison of Do-Nothing and Do-Something With Development Traffic Flows	30
Table 7.4	Year 2034 PM Peak Hour Comparison of Do-Nothing and Do-Something With Development Traffic Flows	31
Table 7.5	Road Links which will experience an Increase in Traffic due to the Development Generated Traffic Flows	32
Table 10.1	Summary of Bus Services in the Bilston Area	40
Table 10.2	Summary of Rail Services at Stations near to Bilston	45
Figure 2.1	Local Road Network and Public Transport Facilities	After Page 18
Figure 2.2	Masterplan Drawing Number SK/02/03 Transport, Existing Rights of Way, Adopted & Unadopted Roads	After Page 18
Figure 2.3	Masterplan Drawing Number SK/02/09 Transport Proposed - Principal Roads, Pedestrian and Cycle Routes	After Page 18
Figure 2.4	2000 base network AM Peak	After Page 18
Figure 2.5	2000 base network PM Peak	After Page 18
Figure 2.6	2001 Base Network Turning Proportions AM Peak from Existing Traffic Counts	After Page 18
Figure 2.7	2001 Base Network Turning Proportions PM Peak from Existing Traffic Counts	After Page 18
Figure 5.1	Do-Something network	After Page 24
Figure 5.2	2019 Do-Something network AM Peak-Development Traffic Only	After Page 24
Figure 5.3	2019 Do-Something network PM Peak-Development Traffic Only	After Page 24
Figure 5.4	2034 Do-Something network AM Peak-Development Traffic Only	After Page 24
Figure 5.5	2034 Do-Something network PM Peak-Development Traffic Only	After Page 24
Figure 6.1	2019 Do-Nothing network AM Peak	After Page 26
Figure 6.2	2019 Do-Nothing network PM Peak	After Page 26
Figure 6.3	2034 Do-Nothing network AM Peak	After Page 26
Figure 6.4	2034 Do-Nothing network PM Peak	After Page 26
Figure 6.5	2019 Do-Something network AM Peak	After Page 26
Figure 6.6	2019 Do-Something network PM Peak	After Page 26
Figure 6.7	2034 Do-Something network AM Peak	After Page 26
Figure 6.8	2034 Do-Something network PM Peak	After Page 26
Figure 7.1	2019 Do-Something network AM Peak, Percentage Change in Traffic Flows	After Page 34
Figure 7.2	2019 Do-Something network PM Peak, Percentage Change in Traffic Flows	After Page 34
Figure 7.3	2034 Do-Something network AM Peak, Percentage Change in Traffic Flows	After Page 34
Figure 7.4	2034 Do-Something network PM Peak, Percentage Change in Traffic Flows	After Page 34

1. Introduction

1.1 The Site

Bilston is located approximately 4 kilometres to the south east of Wolverhampton city centre. It is proposed to develop an area comprising a former landfill site and derelict land located to the south of the existing town centre of Bilston and to the north of the settlement of Bradley. The site is approximately 37.75 hectares gross site area and the development will comprise a mix of residential, employment, leisure, retail and community types of development. The proposed site is bounded on its northern edge by the A463 Black Country Route (BCR), its eastern edge by the Midland Metro Line One, its southern edge by the Bradley arm of the Birmingham Canal and on its western edge by Broad Lanes.

1.2 Purpose of this Report

Entec UK Ltd have been commissioned by Advantage West Midlands to produce an Environmental Statement and a Transport Assessment to support the outline planning application for the proposed development. This report is the Transport Assessment (TA) for the proposed development which will enable Wolverhampton City Council to consider the relative scale of any impacts and whether these impacts arising from traffic generated by the development are acceptable in principle or can be successfully mitigated. At this outline application stage the TA forms a robust scoping assessment which will highlight the areas where more detailed assessment is required.

It is proposed that the site will comprise a mix of development including residential, employment, retail, leisure, and community facilities to form an Urban Village. By providing a sustainable form and mix of development it is envisaged that the site will bring both vitality and viability to the urban environment. It is envisaged that buildings and spaces making up the Urban Village will be used by different people at different times of the day. This will enable elements of the Urban Village, such as car parking, to be shared use and encourage local trips using sustainable transport, thus reducing the need for the private car.

1.3 Methodology

This TA is based on the methodology set out in The Institution of Highways and Transportation (IHT) “*Guidelines for Traffic Impact Assessment*” published in September 1994.

The basic methodology adopted incorporates the following:

- A description of existing conditions including the wider policy context.
- A description of the proposed development and the likely phasing of that development.
- Selection of years for which assessment is to be carried out.

-
- Prediction of development traffic for the assessment years both by private vehicle and using other modes; this includes modal choice, trip attraction, trip distribution and assignment.
 - Identification of road links and junctions and other transport infrastructure potentially affected by traffic from the development.
 - Prediction of future traffic in the assessment years both with and without the development.
 - Identification of the road links and junctions included in the assessment which will become subject to significant changes in traffic flows due to the presence of the proposed development.
 - Identification of any people or environmental resources potentially affected by the environmental impacts of traffic from the proposed development and the assessment of the resulting environmental effects for these people and resources. This aspect has been considered in detail in the accompanying Environmental Statement and is summarised in this TA in Chapter 8.
 - Consideration of any measures proposed to be incorporated within the proposed development or on the wider transport network including:
 - discussion of the links and junctions on the transport network which may require improvement and the possible solutions to alleviate any areas of constraint which may have been identified,
 - the internal layout of the development,
 - the proposed parking provision within the development,
 - the proposed provision for public transport to serve the development,
 - provision for pedestrians and cyclists both within the development and on routes to and from the development.

1.4 Scope of the Report

During the preparation of this report there have been ongoing consultations with Wolverhampton City Council, the local highway authority for the Bilston area, with regard to the specific traffic and transport issues which are required to be considered in the TA, for the current development proposals.

The specific road links which will be considered in this report, are as follows:

- the potential impacts on the road links which approach the A41 Oxford Street/A463 BCR/Brook Street roundabout;
- the potential impact on the A463 BCR which forms a link between the Oxford Street roundabout and the Coseley Road roundabout;
- the potential impacts on the road links which approach the Coseley Road/A463 BCR/Broad Lanes roundabout; and

-
- the potential impact on Loxdale Street - Salop Street - Highfields Road as a link between Oxford Street and Broad Lanes.

In addition to road links, other items which will be addressed, are as follows:

- existing and proposed public transport provision in the area; and
- existing and proposed pedestrian and cyclist provision.

The years of assessment which will be considered are the first year of opening of the full development, which is anticipated to be the year 2019 and fifteen years after this which will be the year 2034.

The trip rates used to predict traffic generation by the development have been ascertained from the trip generation database GENERATE, which is based on data from the West Midlands. The distribution of this development traffic onto the local highway network has been ascertained from a network model developed by the Joint Data Team (jdt), Mott MacDonald.

As agreed with Wolverhampton City Council, the level of assessment which has been undertaken at this stage is at an appropriate level of detail to support an outline planning application. The percentage increase in traffic, due to the development, on the road links identified above have been ascertained in order to identify any potential impacts on the road links and junctions. Where potential impacts are identified, further detailed assessment will be required when the development proposals are progressed. In accordance with the IHT “*Guidelines for Traffic Impact Assessment*” it is not possible to provide any hard and fast rules as to what constitutes a significant traffic impact. The Guidelines therefore recommend that, a TIA should normally be produced where one or other of the following thresholds are exceeded:

- traffic to and from the development exceeds 10% of the existing two-way traffic flow on the **adjoining highway**,
- traffic to and from the development exceeds 5% of the existing two-way traffic flow on the **adjoining highway**, where traffic congestion exists or will exist within the assessment period or in other sensitive locations.

As traffic problems are normally greatest at peak hours, it is suggested that these thresholds should normally be applied to these specific periods. However it may also be appropriate to consider other time periods when the traffic generated by the development may peak. Due to the nature of the Bilston Urban Village it is felt that the morning (0800-0900) and evening peak (1700-1800) hours will also represent the development peak hours and these have therefore been considered in the assessment.

2. Existing Conditions

2.1 Location

The site is located to the south of the town of Bilston which is situated four kilometres south east of Wolverhampton City Centre in the West Midlands Region. The proposed site is bounded on its northern edge by the A463 BCR, its eastern edge by the Midland Metro Line One, its southern edge by the Bradley arm of the Birmingham Canal and on its western edge by Broad Lanes. The location of the proposed site, its relationship to the existing local road network and the existing public transport facilities are shown on **Figure 2.1**. The existing rights of way, adopted and unadopted roads are also shown on **Figure 2.2 (masterplan drawing number SK/02/03)**, which is enclosed for information.

2.2 Access to the Site

The current access to the site and road links adjacent to the proposed site area are not clearly defined and can be summarised as comprising the following;

- Brook Street which forms a circuitous route from the Oxford Street roundabout via Bath Street and Bristol Street to the A463 BCR;
- Bankfield Road which currently forms a north-south through route for pedestrians and cyclists only, as each of its ends are blocked off to motor vehicular traffic;
- Dudley Street forms a north-south route through the site; and
- Northcott Road is a dead end leading into the site.

The overall existing highway network is considered and described in more detail in paragraph 2.3.

The proposed access into the site will be from several locations utilising both existing and new road links. This combination provides links onto the surrounding highway network in all directions. The road links to be provided are shown on **Figure 2.3 (masterplan drawing number SK/02/09)** and can be summarised as follows:

- A new road is proposed to pass in an east-west orientation through the site which will link directly to the Oxford Street roundabout via Brook Street at its eastern end and to Broad Lanes at its western end.
- A second new link onto Broad Lanes adjacent to the through route connection.
- A link onto the BCR between the Coseley Road and Oxford Street roundabouts will be formed utilising the existing Bankfield Road.
- A link onto Loxdale Street will be formed utilising the existing Northcott Road.

-
- A link onto Highfields Road will be formed utilising the southern end of the existing Dudley Street.
 - A new link onto Highfields Road on the section between Broad Lanes and the Canal.

These proposed links onto the surrounding highway network have formed the main basis for the scope of this assessment.

2.3 Highway Network

The **A463 BCR** is a standard dual carriageway road which continues east from Bilston as the A454 to join the M6 motorway junction 10 in the east to the A4123(T) Birmingham New Road in the west. For the majority of its length it is subject to a 50mph speed limit. The section between the Oxford Street roundabout and the Coseley Road roundabout is subject to a 40mph speed limit and has shared cyclist and pedestrian routes between the two junctions. There are toucan crossings for cyclist and pedestrian users on some approaches to these junctions. A signal controlled pedestrian crossing is located on this section providing a crossing point between the Bilston Indoor and Outdoor Markets and Morrisons Supermarket. There is also a pedestrian overbridge located on this section forming a link between The Bilston High School and Stonefield Road which leads onto Bilston High Street. Footpaths are generally present along the whole length of the BCR in the vicinity of the Urban Village development although they are usually on one side of the road only.

The **A41 Oxford Street** between the Oxford Street roundabout and its junction with Loxdale Street is a single carriageway road and forms a main route for bus services in the area. There are footpaths along both sides of the road.

The **B4163 Loxdale Street - Salop Street - Highfields Road** link is single carriageway road generally passing through residential areas. It has a reasonable alignment and footpaths along both sides of the road. At the Ash Street junction, Highfields Road continues in a westerly direction to join Broad Lanes and the B4163 continues as Ash Street in a southerly direction, Ash Street has priority at this junction. Highfields Road continues through residential development, served by several accesses on both sides of the road, until it crosses the canal on an overbridge. West of the canal until reaching Broad Lanes there are fields on both sides of the road and a large pond, referred to locally as Ladymoor Pool, to the south. At the priority junction with Broad Lanes, traffic on Broad Lanes has the priority and traffic on Highfields Road must give way. As Highfield Road crosses the canal on an overbridge the vertical alignment is quite severe.

Broad Lanes is a standard single carriageway subject to a 30mph speed limit, with good alignment and footpaths along both sides of the road. The junction which it forms with Withy Road gives access for large vehicles into an industrial estate area. Broad Lanes continues south into Ladymoor Road. There is a weak bridge at the transition between Ladymoor Road and Anchor Road which is subject to a weight limit of 17 tonnes maximum gross weight and there is also a height restriction of 16 feet under the railway at this location. This railway bridge over the railway line at Ladymoor Road/Anchor Road is not on the current Wolverhampton City Council bridge strengthening works programme.

The **A41 Oxford Street/A463 BCR/Brook Street junction** is a five arm roundabout. The A463 BCR to the west of the junction is a dual carriageway road which widens to three lanes

upon entry to the roundabout. Oxford Street to the north of the junction is a single carriageway road which widens to two lanes at the entry to the roundabout. The A463 BCR to the east of the junction is a dual carriageway road which widens to three lanes upon entry to the roundabout. Oxford Street to the south east of the junction is a single carriageway road which widens to three lanes at the entry to the roundabout. Brook Street to the south west of the junction is a single carriageway road which does not have any widening at its entry to the roundabout and remains a single lane entry.

The **Coseley Road/A463 BCR/Broad Lanes junction** is a four arm roundabout. Coseley Road to the north of the junction is a dual carriageway link between the Coseley Road roundabout and the Millfields Road roundabout which widens to three lanes upon entry to the roundabout. The A463 BCR to the north east of the junction is a dual carriageway road which widens to three lanes upon entry to the roundabout. Broad Lanes to the south of the junction is a single carriageway road which widens to three lanes upon entry to the roundabout. The A463 BCR to the south west of the junction is a dual carriageway road which widens to three lanes upon entry to the roundabout. Traffic signals are present on this roundabout at the BCR east entry arm and on the corresponding circulating arm. These traffic lights are present only to allow fire engines to gain priority access onto the junction from the Fire Station which is located on the Broad Lanes arm of the junction. These signals only operate when fire engines have to leave the station.

The **Loxdale Street/A41 Oxford Street/Vulcan Road junction** is a crossroads junction which is traffic signal controlled.

2.4 Existing Traffic Flow

Jdt, Mott MacDonald produced a model of the current local highway network for 2000 end of year which was taken from the Regional Traffic Model of the West Midlands built in 1991. Where relevant, new nodes were inserted and zone connectors to the zone to the west of the proposed Urban Village were modified to take account of the new developments at Spring Vale and the new housing development off Millfields Road. Bilston High Street was removed from the Regional Traffic Model network as it is now pedestrianised. The single node representing the two roundabouts at Millfields Road/Coseley Road/Bilston High Street and the BCR/Coseley Road was split into two separate nodes.

As the AM peak hour 2000 matrix was derived by globally factoring the base year Regional Traffic Model (1991) matrix to 2000, as well as links to them the trips generated by any recently completed developments in the area had to be accounted for when building the Bilston Urban Village base 2000 year end network model. The developments considered in detail were:

- Housing development of Millfields Road
- Spring Vale housing development
- Morrisons supermarket development

The likely trips generated from these developments, were derived using trip rates from the jdt GENERATE database and were distributed based on the existing trip distributions in the model for the Bilston area zone which has a mix of residential and employment trips.

In addition to this, when the model assignment flows of the 2000 network were compared with observed values this indicated that global factoring of the base (1991) matrix to 2000 had underestimated the trips emanating from developments fronting the BCR and Black Country Spine Road. Therefore, zones adjacent to these routes which have been redeveloped, were factored by 10%.

The resultant assignment of the trip matrix with the above revisions showed an improvement on the existing 2000 AM peak model run when comparing assigned flows to observed flows around the area and on the BCR and Black Country Spine Road. However, several links still showed a poor comparison to observed flows. To develop the best possible trip matrix a technique, known as matrix estimation, was undertaken using observed traffic count data to modify the trip matrix further such that assigned flows would more closely correlate to those observed. This process produced satisfactory assigned flows on links in the area when compared to observed values.

A PM peak hour matrix was produced by transposing the final AM peak matrix and factoring it based on the difference in AM and PM flows at the sites used in the 25 point traffic census of the West Midlands. Again, the correspondence between observed and assigned flows was considered satisfactory.

The model produces link flows only. To give a more accurate representation of the individual turning movements at particular junctions and how the proposed development generated traffic may affect these, the turning proportions at junctions have been calculated where this data was available from the existing traffic count information. No assumptions have been made with regard to turning proportions at junctions where existing traffic count information was not available.

The 2000 year end base model network AM and PM peak hour flows are shown on **Figures 2.4** and **2.5** and the turning proportions calculated from the available existing traffic counts in the area are shown on **Figures 2.6** and **2.7**.

The flows on the links which are to be considered in the assessment are detailed in **Table 2.1**.

Table 2.1 2000 Year End Existing Traffic Flows AM and PM Peak Hour Total Vehicles

Road Link	AM Peak Hour			PM Peak Hour		
	Into Junction	Out of Junction	Two-way Traffic	Into Junction	Out of Junction	Two-way Traffic
Broad Lanes, south of Coseley Road roundabout	608	541	1,149	518	625	1,143
A463 BCR, west of Coseley Road roundabout	1,334	805	2,139	884	1,404	2,288
Coseley Road, north of Coseley Road roundabout	917	1,131	2,048	1,192	976	2,168
A463 BCR, east of Coseley Road roundabout	1,556	1,938	3,494	2,007	1,598	3,605

Road Link	AM Peak Hour			PM Peak Hour		
	Into Junction	Out of Junction	Two-way Traffic	Into Junction	Out of Junction	Two-way Traffic
A463 BCR, west of Oxford Street roundabout	1,938	1,556	3,494	1,598	2,007	3,605
A41 Oxford Street north of the Oxford Street roundabout	462	688	1,150	690	465	1,155
A463 BCR, east of Oxford Street roundabout	1,274	1,009	2,283	1,092	1,321	2,413
A41 Oxford Street, south of Oxford Street roundabout	709	929	1,638	923	718	1,641
A41 Oxford Street, north of Loxdale Street	929	709	1,638	718	923	1,641
Vulcan Road, east of Oxford Street	288	259	547	268	298	566
Oxford Street, south of Loxdale Street	918	1,003	1,921	1,000	924	1,924
Loxdale Street, west of Oxford Street (A41)	578	539	1,117	558	618	1,176
Highfields Road, east of Broad Lanes	251	249	500	265	259	524
Ladymoor Road, south of Broad Lanes	407	452	859	434	451	885
Broad Lanes, north of Highfields Road	541	608	1,149	625	518	1,143

Source: jdt, Mott MacDonald 2000 year end base network

The turning proportions have been calculated from the existing traffic counts, where information was available and are shown on **Figures 2.6** and **2.7**. The following comments, detailed in **Tables 2.2.** and **2.3.** can be made with regard to the movements of traffic at these junctions in the peak periods.

Table 2.2 Turning Proportions during the AM Peak Hour

Junction	Approach Arm/Road Link	Comment
Coseley Road/BCR roundabout	Broad Lanes, south of Coseley Road roundabout	There is an almost even split of traffic from this link going either north onto Coseley Road or east onto the BCR. A very small proportion of traffic turns west onto the BCR.
	A463 BCR, west of Coseley Road roundabout	Almost 80% of traffic on this link continues east on the BCR east, with 20% turning north onto Coseley Road. A very small amount of traffic goes south on Broad Lanes.

Junction	Approach Arm/Road Link	Comment
	Coseley Road, north of Coseley Road roundabout	Approximately 75% of traffic turns east onto the BCR east, with 16% going south on Broad Lanes and 10% going west onto the BCR west.
	A463 BCR, east of Coseley Road roundabout	Approximately 54% of traffic turns north onto Coseley Road, with 32% going west onto the BCR west and 12% going south onto Broad Lanes.
Dudley Street/BCR priority junction	A463 BCR, west of Dudley Street	Approximately 85% of traffic continues straight along the BCR.
	Dudley Street	Right turn banned from this road
	A463 BCR, east of Dudley Street	Approximately 93% of traffic continues straight along the BCR.
Oxford Street/BCR roundabout	A463 BCR, west of Oxford Street roundabout	Approximately 53% of traffic continues east onto the BCR, 27% turns south onto Oxford Street and 20% north onto Oxford Street.
	A41 Oxford Street north of the Oxford Street roundabout	Approximately 53% continues to the south onto Oxford Street, 32% turns east onto the BCR and 15% turns west onto Oxford Street.
	A463 BCR, east of Oxford Street roundabout	The large majority of traffic (83%) continues west onto the BCR and the majority of the remainder turns north onto Oxford Street.
	A41 Oxford Street, south of Oxford Street roundabout	Approximately 47% of traffic turns east onto the BCR, the remaining traffic is split almost evenly between Oxford Street to the north and the BCR to the west.
	Brook Street	Traffic is split from this road almost evenly between the other four arms of the roundabout, with slightly more (38%) turning towards the BCR east.
Oxford Street/Vulcan Road/Loxdale Street signal controlled crossroads	A41 Oxford Street, north of Loxdale Street	The majority of traffic (91%) continues south on Oxford Road.
	Vulcan Road, east of Oxford Street	Approximately 59% of traffic continues west onto Loxdale Street, 35% turns south onto Oxford Street and 7% turns north onto Oxford Street.
	Oxford Street, south of Loxdale Street	The majority of traffic (76%) continues north on Oxford Road.
	Loxdale Street, west of Oxford Street (A41)	Approximately 65% of traffic continues east onto Vulcan Road, 24% turns south onto Oxford Street and 11% turns north onto Oxford Street.
Northcott Road/Loxdale Street priority junction	Loxdale Street east of Northcott Road	The majority of traffic (97%) continues west on Loxdale Street.
	Northcott Road	Approximately 67% of traffic turns east onto Loxdale Street and 33% west onto Loxdale Street.
	Loxdale Street west of Northcott Road	The majority of traffic (98%) continues east on Loxdale Street.
Dudley Street/Highfields Road priority junction	Highfields Road east of Dudley Street	Approximately 69% of traffic continues west on Highfields Road and 31% turns north onto Dudley Street.
	Dudley Street	The majority of traffic (89%) turns east onto Highfields Road.

Junction	Approach Arm/Road Link	Comment
	Highfields Road west of Dudley Street	The majority of traffic (91%) continues east on Highfields Road.

Source: Turning Proportions calculated by Entec from Existing Traffic Counts provided by Wolverhampton City Council

Note: % may not sum due to rounding

Table 2.3 Turning Proportions during the PM Peak Hour

Junction	Approach Arm/Road Link	Comment
Coseley Road/BCR roundabout	Broad Lanes, south of Coseley Road roundabout	Approximately 53% of traffic from this link goes north onto Coseley Road, 36% travels east onto the BCR and 11% of traffic turns west onto the BCR.
	A463 BCR, west of Coseley Road roundabout	Almost 67% of traffic on this link continues east on the BCR east, with 30% turning north onto Coseley Road. A very small amount of traffic goes south on Broad Lanes.
	Coseley Road, north of Coseley Road roundabout	Approximately 60% of traffic turns east onto the BCR east, with 24% going south on Broad Lanes and 16% going west onto the BCR west.
	A463 BCR east, of Coseley Road roundabout	Approximately 46% of traffic turns north onto Coseley Road, with 36% going west onto the BCR west and 15% going south onto Broad Lanes.
Dudley Street/BCR priority junction	A463 BCR, west of Dudley Street	Approximately 86% of traffic continues straight along the BCR.
	Dudley Street	Right turn banned from this road
	A463 BCR, east of Dudley Street	Approximately 96% of traffic continues straight along the BCR.
Oxford Street/BCR roundabout	A463 BCR, west of Oxford Street roundabout	Approximately 50% of traffic continues east onto the BCR, 25% turns south onto Oxford Street and 22% north onto Oxford Street.
	A41 Oxford Street north of the Oxford Street roundabout	Approximately 17% continues to the south onto Oxford Street, 15% turns east onto the BCR and 69% turns west onto Oxford Street.
	A463 BCR, east of Oxford Street roundabout	The large majority of traffic (79%) continues west onto the BCR and the majority of the remainder turns north onto Oxford Street.
	A41 Oxford Street, south of Oxford Street roundabout	Approximately 58% of traffic continues north onto Oxford Street, 32% turns west onto the BCR and 10% of traffic turns east onto the BCR.
	Brook Street	Traffic is split from this road almost evenly between the other four arms of the roundabout, with the majority (55%) turning towards Oxford Street north.
Oxford Street/Vulcan Road/Loxdale Street signal controlled crossroads	A41 Oxford Street, north of Loxdale Street	The majority of traffic (87%) continues south on Oxford Road.

Junction	Approach Arm/Road Link	Comment
	Vulcan Road, east of Oxford Street	Approximately 63% of traffic continues west onto Loxdale Street, 23% turns south onto Oxford Street and 14% turns north onto Oxford Street.
	Oxford Street, south of Loxdale Street	The majority of traffic (83%) continues north on Oxford Road.
	Loxdale Street, west of Oxford Street (A41)	Approximately 73% of traffic continues east onto Vulcan Road, 14% turns south onto Oxford Street and 12% turns north onto Oxford Street.
Northcott Road/Loxdale Street priority junction	Loxdale Street east of Northcott Road	The majority of traffic (96%) continues west on Loxdale Street.
	Northcott Road	Approximately 65% of traffic turns east onto Loxdale Street and 35% west onto Loxdale Street.
	Loxdale Street west of Northcott Road	The majority of traffic (96%) continues east on Loxdale Street.
Dudley Street/Highfields Road priority junction	Highfields Road east of Dudley Street	Approximately 81% of traffic continues west on Highfields Road and 19% turns north onto Dudley Street.
	Dudley Street	The majority of traffic (77%) turns east onto Highfields Road.
	Highfields Road west of Dudley Street	The majority of traffic (90%) continues east on Highfields Road.

Source: Turning Proportions calculated by Entec from Existing Traffic Counts provided by Wolverhampton City Council

Note: % may not sum due to rounding

2.5 Current Transport Policies

2.5.1 West Midlands Local Transport Plan 2000

The West Midlands Local Transport Plan 2000 sets out what needs to be happen in order for a thriving, sustainable and safe community to develop. Its priority is to make the city and local centres both attractive and economically stable to those living and working in the area and also a place where businesses can develop and grow. Extensive consultation with business, transport, environmental and health representatives as well as the general public were undertaken for the Local Transport Plan.

The Local Transport Plans vision for the West Midlands can be summarised as follows;

- a thriving, sustainable and vibrant community where people want to live and where businesses can develop and grow;
- town, city and local centres will be attractive and vibrant. High quality public transport will be accessible and efficient and walking and cycling will be the norm;
- air will be cleaner and traffic will be less congested;
- a safer community where there will be fewer accidents and people will feel less at risk and more secure; and

- everyone will be able to have a better quality of life which is not dependent on the availability of a car.

The present situation in the West Midlands shows that its Gross Domestic Product (GDP) is well below national and European averages, it's suffering from ongoing decentralisation from the cities of both residents and employment, and social polarisation which have all contributed to the current transport problems. The Local Transport Plan Partners intend to lessen and eliminate these negative factors by encouraging economic growth.

In response to the Government's Transport White Paper of 1998, the Local Transport Plan has made the following objectives;

Objective A: To ensure that the transport system underpins the economic revitalisation of the West Midlands Metropolitan area. The desired outcome will be an urban area which is more attractive to people and investors alike, specifically in relation to its centres and brownfield sites. The safeguarding and enhancement of the urban area needs to come first, in order to provide for progress on social inclusion and environmental sustainability.

Objective B: To ensure that transport contributes towards social inclusion by increasing accessibility for everyone. This includes those who cannot afford a car, those who cannot use a car, those who have mobility problems and those who choose not to have a car.

Objective C: To move towards a more sustainable pattern of development and growth. This involves providing alternatives to the motor car, encouraging linked trips, locating activities in the right place and providing for sustainable goods distribution.

Objective D: To improve safety and health for all.

Objective E: To integrate all forms of transport with each other, with other land-uses and with other policies and priorities. The desired outcome is that the transport system will be efficient and deliver "seamless journeys".

Economic Revitalisation: West Midlands Local Transport Plan recognises the role of economic revitalisation to this area. An integrated turn up and go network will increase public transport use to centres to increase their vitality and viability, and improve access to "brownfield sites" and employment areas. The strategy will encourage transfer of car trips to public transport and improve the efficiency of the highway network to move people and goods.

Accessibility and Parking: The provision of parking places at a commercial site is probably the largest determinant of modal choice, hence parking policy is fundamental to the development of a balanced transport strategy. Whilst the free provision of parking places can encourage high car use with resulting congestion, a very restrictive parking regime can adversely affect the economic vitality of commercial developments. Therefore, the policy of Authorities has been to restrict the long stay parking spaces for commuters but to accept a reasonable provision for visitors, especially shoppers. In order to improve social inclusion and accessibility, the site must become accessible for non-car users. As set out in PPG13, the use of maximum parking standards should lead to lower parking provision and a greater use of public transport.

Development and growth: This will involve providing a convenient and acceptable alternative to the motor car, locating activities in the right places, encouraging one trip to fulfil a variety of purposes and providing for sustainable goods distribution. The desired outcomes are stronger centres, cleaner air, less use of finite resources and a higher quality of both natural and built environment.

Health and safety: Priority for improving the safety of all traffic modes, but also that the full implications for everyone's individual health and well-being is taken into account. Where new works are to be undertaken on the highway, e.g. new developments or improvement schemes, development control powers and safety audits will be used to avoid the introduction of safety problems, and to identify safety improvement opportunities. On the existing highway network, such schemes (the Local Safety Schemes Programmes) involve the use of measures such as improvements to traffic signs, road markings and streetlighting, the provision of anti-skid surfacing, facilities for pedestrians and cyclists, junction improvements and traffic calming measures.

Transport integration: The desired outcome is that the transport system will be efficient and deliver 'seamless' journeys, leading to reduced travel demand and shorter journeys. The West Midlands 20 Year Public Transport Strategy sets out a vision of an integrated, multi-modal turn up and go public transport network. The links on this network are comprised of showcase bus, metro, other rapid transit modes and heavy rail. The West Midlands Local Transport partners seek to locate development so as to maximise use of public transport. This is in line with Planning Policy Guidance Note 13. In particular partners seek to locate:

- Intensive employment in existing centres and other locations well served by public transport;
- Medium/high density housing in high frequency public transport route corridors/existing centres well served by public transport.

2.5.2 Elements of the West Midlands Local Transport Plan - Specific to the Bilston Site

Bridge Strengthening

In the West Midlands Local Transport Plan, the Wolverhampton bridge strengthening programme identifies a bridge in the vicinity of the proposed Urban Village site which may affect routes for large vehicles wishing to gain future access; Hills bridge located in Biddings Lane, which forms part of the link from Ladymoor through to the A4123 Birmingham New Road; is identified in the main programme as Priority 8. Hill Bridge crosses the Birmingham Canal Navigations, is owned by British Waterways and has been assessed as having a 7.5 Tonne weight limit. The bridge carries a local distributor road giving access to an industrial area from the A4124 and carries 11600 vehicles per day of which 220 are HGVs and 80 are buses. The weight limit will cause difficulty for buses serving a nearby Park and Ride station and diversions for HGVs. Therefore the bid includes for contributing to strengthening this bridge in conjunction with British Waterways.

Corridor B, Birmingham-Smethwick-West Bromwich-Oldbury-Dudley-Wednesbury-Bilston-Wolverhampton

Within the West Midlands Local Transport Plan the interaction of broad transport policies on specific schemes and land-use issues are dealt with at the level of transport corridors and centres. These transport corridors have characteristics which include:

- They link main areas and centres of activity to each other and to national transport networks in a way that supports their functions and financial relationships.
- They may contain a number of individual road and rail routes.

- They begin and end at major centres or nodes on the national transport networks, but may also contain centres (nodes along their length). Segments of a corridor may therefore have distinct functions in addition to that of linking its extremes.
- These corridors extend beyond the metropolitan boundaries to serve the journey to work area in the shire counties.
- Transport demand in the strategic corridors is made up of local movements, through movements, movements between activities in the corridor and links to the national network.

Bilston is encompassed in “Corridor B, Birmingham-Smethwick-West Bromwich-Oldbury-Dudley-Wednesbury-Bilston-Wolverhampton”, which is a 20km long corridor. Strategic routes through the corridor include the A41 and A457 which link to the M5 junction 1, the A4123 Wolverhampton Road which links to the M5 junction 2 and A454 Black Country Route which links to the M6 junction 10. These links are vital to allow industry to access markets beyond the West Midlands. Around sixty, mostly radial, bus services operate along the corridor and account for a large proportion of public transport trips. The West Coast Main Line Railway (WCML) runs between Birmingham New Street and Wolverhampton. It is served by a number of InterCity, Regional Express and local services. Jewellery Line services connect Stourbridge and Birmingham. The Midland Metro Line One, which opened in Spring 1999, is operational between the main centres introducing major advances in the quality and performance of public transport in this corridor. Canalside cycleways run throughout the corridor, including parts of the National Cycle Network.

Several achievements are detailed on this corridor, notably for Bilston these include:

- Within Wolverhampton measures have been implemented on the A41 through Bilston. These include route management, the introduction of bus and metro priority on the street running section of the metro, traffic calming of key roads leading on to the main route. Pedestrian crossing facilities to improve access into Bilston Town Centre and Metro stops have been installed. These crossings enable people with disabilities and other vulnerable groups to cross in safety.
- Work continues on the extension of pedestrian priority areas in Bilston Town Centre with provision of rear servicing. Security in the centre has been improved with the provision of CCTV through the “Safer City” initiative.

There are also several issues which need addressing along this corridor, including:

- Economic revitalisation. Centres such as Dudley Road, Handsworth, Cape Hill and Bilston are run down, underused and suffer economically. They have poor pedestrian and parking facilities and main routes bisect the centres causing a degree of nuisance: and
- Accessibility and Social Inclusion. The provision of an appropriate structure to enable access at Arthur Street, Bilston to Metro Line One.

Measures have been identified to address these issues, including:

- Bilston Urban Village is a major regeneration partnership project between Wolverhampton Council, Advantage West Midlands and the private sector. It will regenerate over 40 hectares of derelict and underused land adjacent to Bilston

Town Centre, the Black Country Route and Metro Line One. Providing enhanced accessibility for pedestrians and public transport from this area is a key element of an approach promoting the development of a mix of residential, commercial and leisure uses.

2.5.3 Transport Policy Context

The planning application for the proposed Urban Village will be determined according to the Wolverhampton Unitary Development Plan, Planning Policy Guidance (PPG) Note 13, Transport, published by the DETR in March 2001 and Regional Planning Guidance. In terms of transport, the proposals aim to achieve the guidance in these documents.

The existing Wolverhampton Unitary Development Plan (UDP), adopted in September 1993, is currently under review and it is expected that the first draft version of the plan will be placed on deposit towards the end of 2001. The policies within this plan will form an important part of determining the planning application for the suitability of the Bilston Urban Village development. In the context of the UDP, transportation refers to the mobility of all and includes not only trip making by private car and public transport but also cycling and walking. Good access and personal mobility are fundamental requirements of any regeneration strategy. The Bilston Urban Village seeks to achieve this and the transport objectives outlined in the UDP.

PPG13, Transport, provides guidance on achieving a safe, efficient and integrated transport system to support a strong and prosperous economy. The objectives of this guidance are to integrate planning and transport at the national, regional, strategic and local level to:

- promote more sustainable transport choices for both people and for moving freight;
- promote accessibility to jobs, shopping, leisure facilities and services by public transport, walking and cycling; and
- reduce the need to travel, especially by car.

The proposed Urban Village aims to achieve these objectives by providing a sustainable form and mix of development including employment, residential, leisure, community and retail elements. The Urban Village proposals will link to existing public transport facilities which are good and will provide the opportunity for new and improved services in the area. It will also be designed to prioritise the needs of pedestrians and cyclists and have good integration with existing routes in the area.

2.6 Public Transport

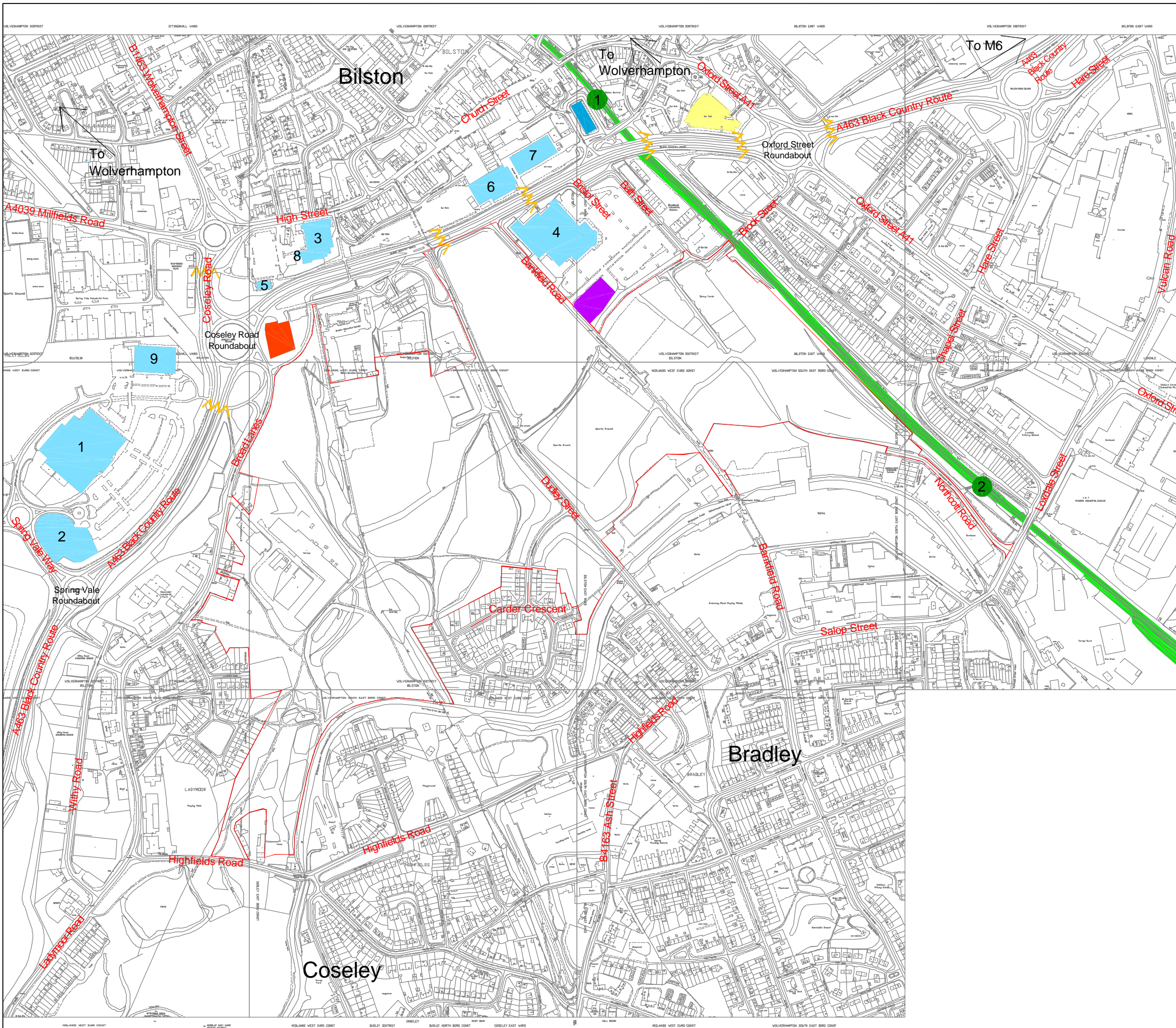
The Bilston area is well served by bus, tram and train; this is discussed in detail in Chapter 10 entitled Public Transport.










2.7 Pedestrians and Cyclists

The BCR has a purpose built combined cycleway and footpath along the majority of its length in the vicinity of the proposed site with traffic signal controlled crossings provided for safe crossing by both pedestrians and cyclists. There are a number of small paths crossing the site and two rights of way which cross the east part of the site in a north-south direction and which

are used regularly by pedestrians and cyclists to travel between Bradley and Bilston centres. These are linked along the original line of the Bilston Brook. There is one other principal pedestrian route that connects the two ends of Bankfield Road.

These existing pedestrian and cycle links and facilities are shown on **Figure 2.1.** and **Figure 2.2 (masterplan drawing number SK/02/03).**



-  Site Boundary
-  Midland Metro Line One
-  Pedestrian / Cyclist Signal Controlled Crossing Point
-  Tram Stop
1 Bilston Central
2 Loxdale Street
-  Bilston Bus Station
-  Fire Station
-  Petrol Filling Station
-  Midland Metro Park and Ride Carpark
-  Retail and Recreation
1 B & Q Warehouse
2 Halfords
3 Co-op
4 Morrisons
5 Macdonalds
6 Indoor Market
7 Outdoor Market
8 Lidl
9 Bingo Hall

Wolverhampton City Council









**Bilston Urban Village
Transport Assessment**

Figure 2.1
**Local Road Network and
Public Transport Facilities**

Based upon the Ordnance Survey mapping with the permission of the Controller of Her Majesty's Stationery Office © Crown copyright 2001 - Licence NO. LA076449. Unauthorised reproduction infringes Crown Copyright and may lead to prosecution or civil proceedings

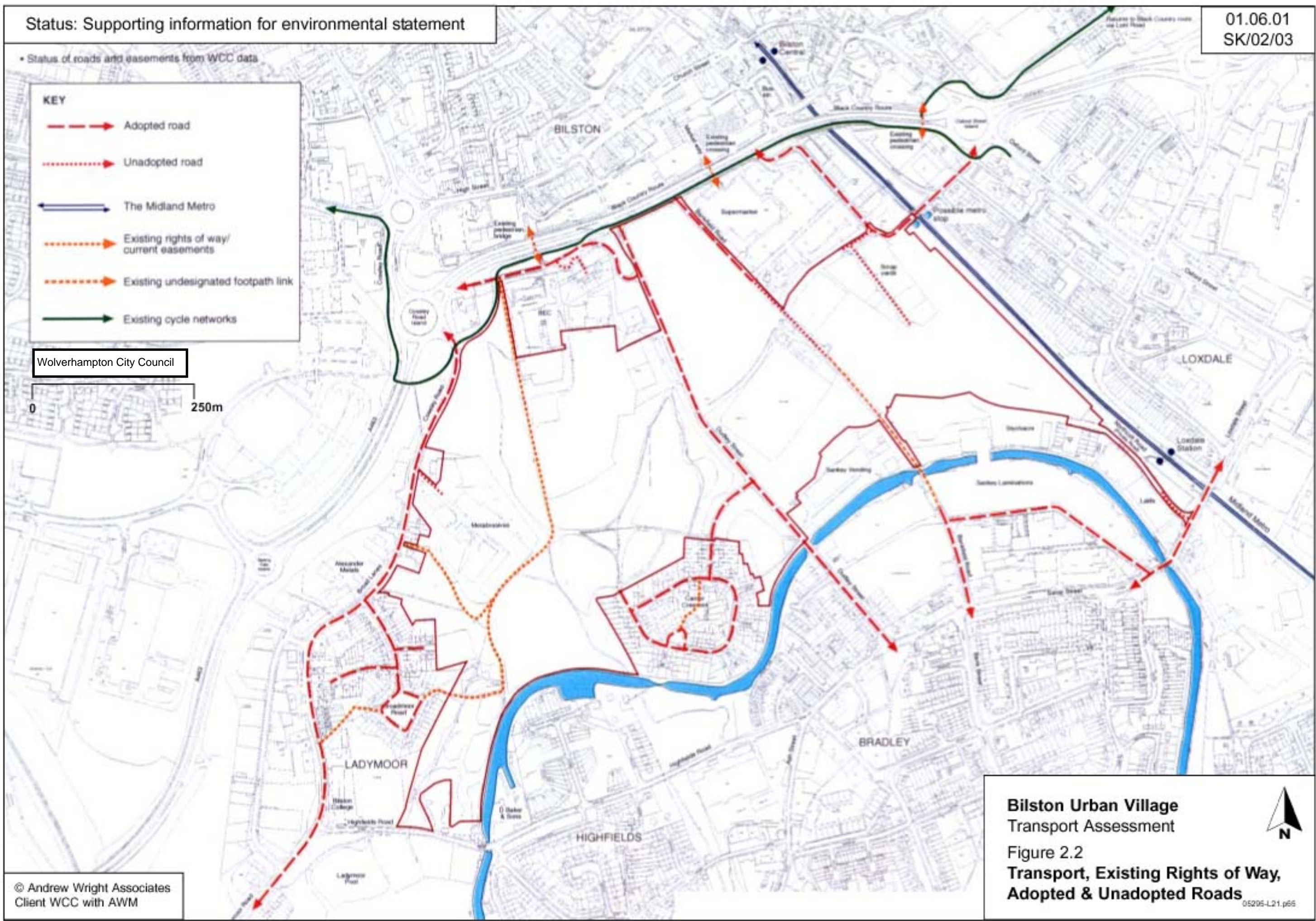
• Status of roads and easements from WCC data

KEY

-  Adopted road
-  Unadopted road
-  The Midland Metro
-  Existing rights of way/
current easements
-  Existing undesignated footpath link
-  Existing cycle networks

Wolverhampton City Council

0 250m



Bilston Urban Village
Transport Assessment

Figure 2.2
**Transport, Existing Rights of Way,
Adopted & Unadopted Roads**

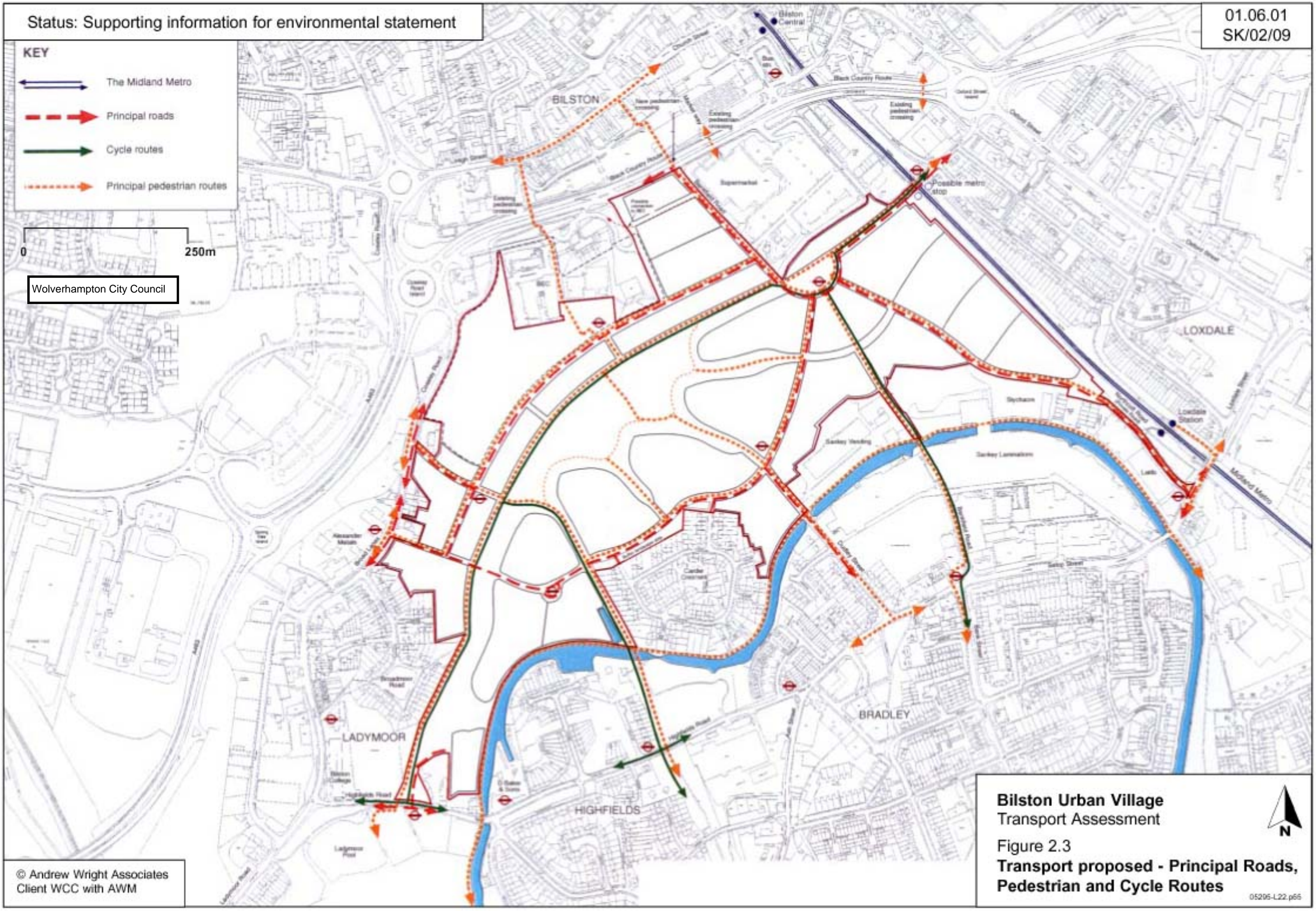


KEY

- The Midland Metro
- Principal roads
- Cycle routes
- Principal pedestrian routes

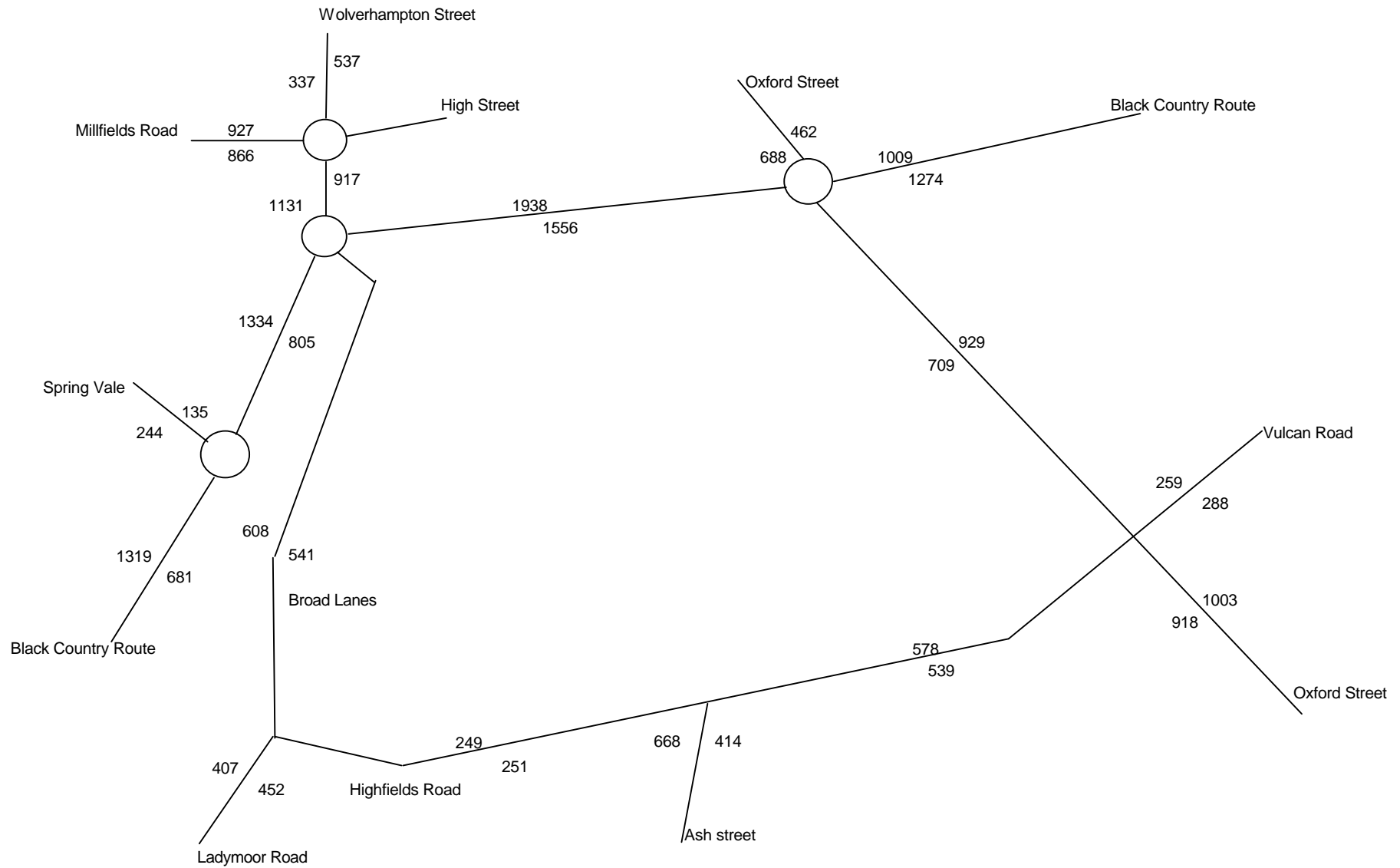
0 250m

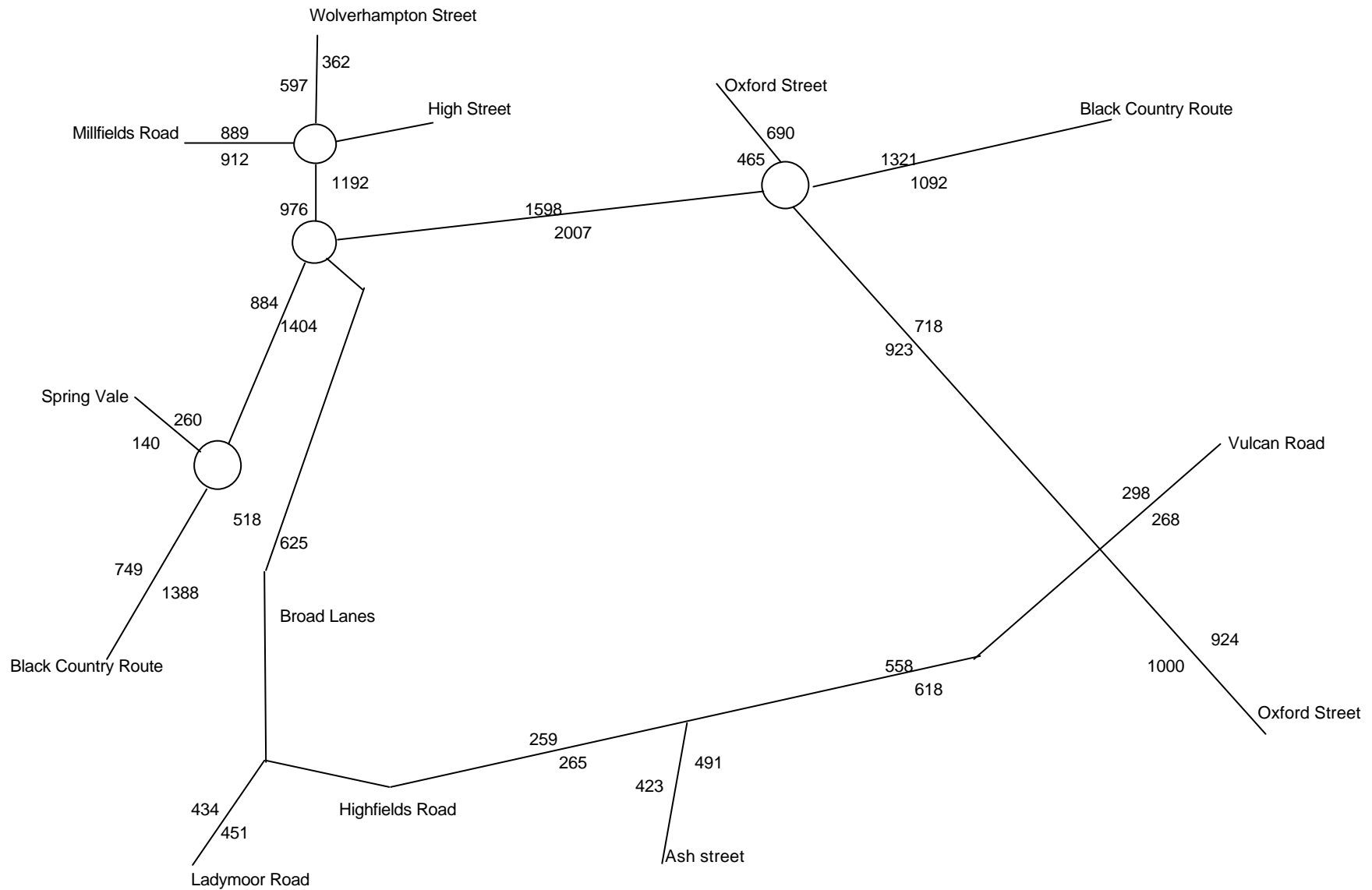
Wolverhampton City Council

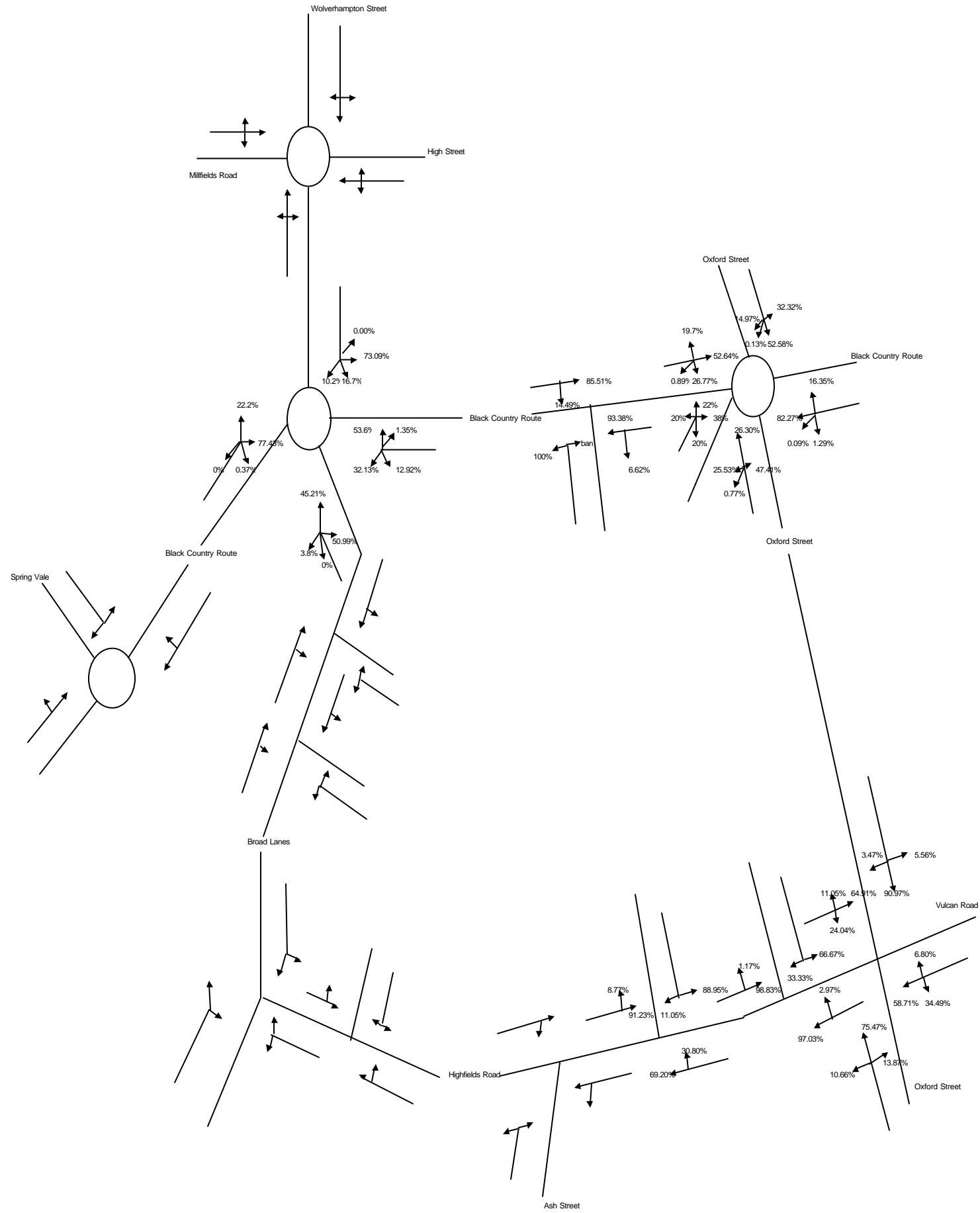


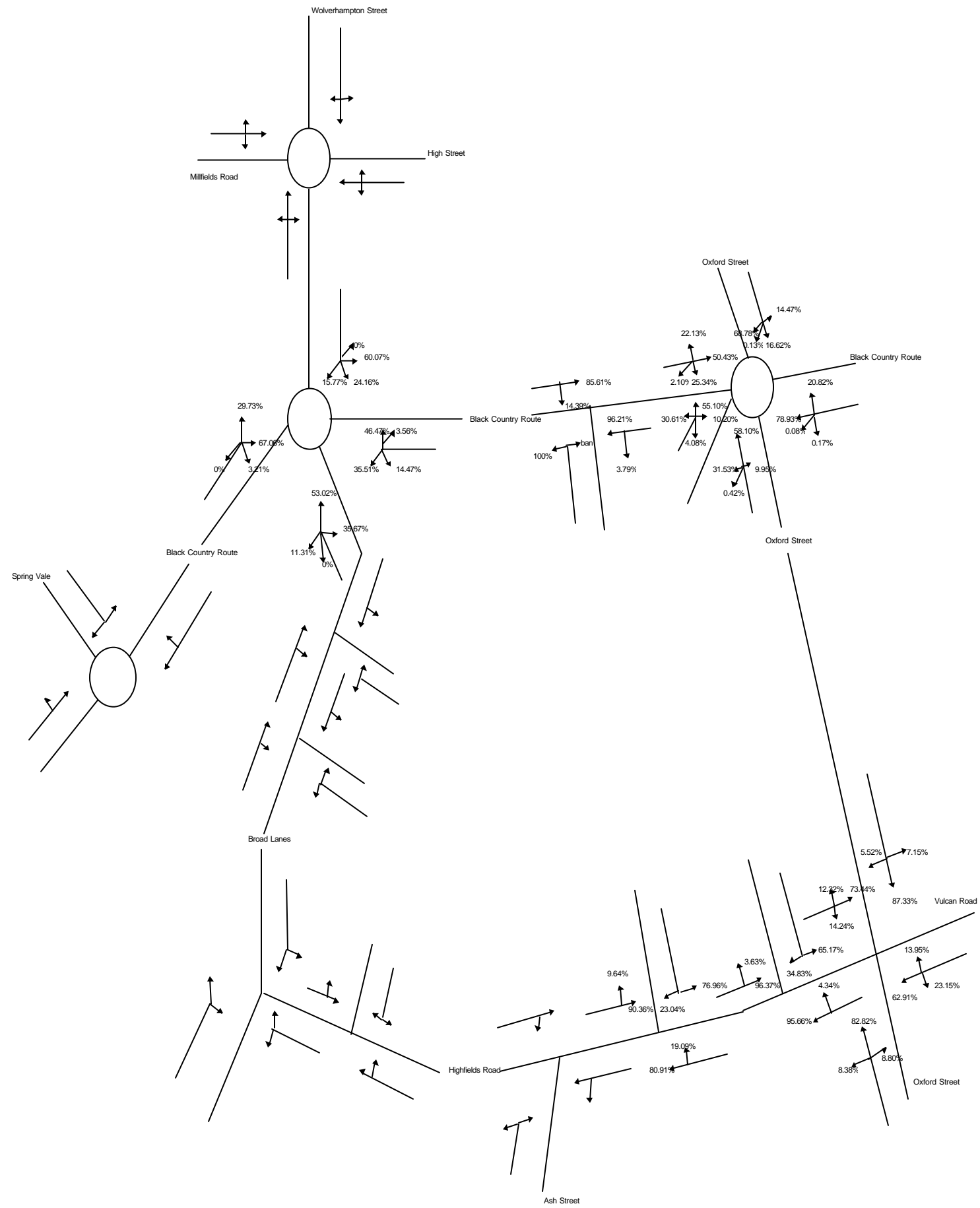
Bilston Urban Village
Transport Assessment
Figure 2.3
**Transport proposed - Principal Roads,
Pedestrian and Cycle Routes**











3. Proposed Development

3.1 Existing Site Description

The site is approximately 37.75 hectares gross site area of which approximately 23.23 hectares will comprise the net developable area. The site is currently an area of derelict land whose previous uses have included landfill sites, coal mining and iron works. Existing uses on land immediately adjacent to the site include:

- Morrisons Supermarket with Petrol Filling Station adjacent to Bankfield and Bristol Street;
- Bradley Branch of the Birmingham Canal;
- Bilston Education Centre;
- Residential areas such as at Carder Crescent, Chapel Street and Broadmoor Close;
- Industrial areas such as at Broad Lanes (Metabrasives, Alexander Metals) and Bankfield Road (Sankeys, Stychacre);
- Fire station at Coseley Road Roundabout;
- Scrap yard at Brook Street; and
- Warehouses and local shops such as at Highfields Road and Northcott Street (Latifs).

3.2 Development Proposals

3.2.1 Remediation and Construction

It is envisaged that remediation works will take place over the 18 month period between December 2003 and August 2005; landscaping works and infrastructure provision will follow on with anticipated completion in November 2006. It is anticipated at this stage that construction of the development will take place in three phases between June 2006 and March 2019. It has been agreed with Wolverhampton City Council that at this outline application stage it is not necessary to consider the traffic generated by each phase of the development separately. Therefore the first year of assessment which will be considered will be the first year of opening of the full development, i.e. 2019.

3.2.2 Built Development

It is proposed that the Urban Village will contain a true mix of uses with individual buildings as well as streets within the development containing different uses. The development will comprise a sustainable form and mix of development uses as discussed and agreed with Wolverhampton City Council and shown in summary in **Table 3.1**. The jdt, Mott MacDonald

“GENERATE” database was used to ascertain the trip rates from the development and the categories used are indicated in the comments column in **Table 3.1** where appropriate.

Table 3.1 Proposed Development

General Land Use	Type of Development Mix	Amount of Development	Comments
Residential	Flat, town house, semi-detached, detached	1,294 units	“housing estate” category used in GENERATE
Employment/Workspace	B1, B2 & B8	38,241 sq. m. GFA	40% will comprise the “Business Park” category and 60% the “Industrial Estate” category in GENERATE
Leisure	Commercial leisure	5,559 sq. m. GFA	60% will comprise the “restaurant” category and 40% the “Bowling Alley” category in GENERATE
Community		4,057 sq. m. GFA	Facilities to serve the local communities of the Urban Village
Retail	A1 & A3	1,100 sq. m. GFA	These will be small units of no greater than 200 sq. m., or small groups of such units up to a max. of 1,100 sq. m. and will serve the Urban Village

Source: Andrew Wright Associates masterplan and Wolverhampton city Council

This mix of development has been used and the types of likely development assumed at this stage to try to represent a realistic but robust trip generation for the proposed Urban Village, even though the exact mix will not be known until the detailed application stage.

The masterplan considered three density scenarios for the development; a conventional low density layout; an intermediate level of development; and a third scenario representing the reasonable upper limit of the site. The third scenario, compact densities have been used to seek to make the best and most efficient use of the land resource in Wolverhampton.

The whole development looks towards mixing uses as far as possible. This mix has been designed to bring both vitality and viability to the urban environment. It will also encourage the shared use of spaces, therefore reducing the need to travel long distances. Development of the site is planned in three phases to ensure that development is not isolated within the site. By progressively sequencing the work it is envisaged that employment opportunities will be quickly provided.

4. Trip Attraction & Generation

4.1 Remediation & Construction

The peak flow of large goods vehicle traffic to and from the proposed site for development during remediation and construction will typically be in connection with any export of surplus spoil from the site and any import of aggregate including road surfacing materials. There is a clear intention to minimise the export of material from the site and to maximise the use of materials available on site. It is likely that most of the site preparation will be undertaken in one main operation to minimise the length of time of disturbance on the site. This will also ensure that the park can be constructed and landscaping planted as soon as possible, to bring about early improvements in the area.

No clear information is available on materials to be removed from the site. There is a statement, contained in the WS Atkins work, that:

- 50,000m³ of unsuitable landfill material including domestic refuse has to be removed from the site; and
- Various other degradable and deleterious materials may need to be removed from the site.

On the assumption that:

- such materials are unlikely to exceed 100,000m³ in total;
- the density is 2 tonnes per m³; and
- the average load for material taken off site is 10m³ per vehicle using 4 axle rigid tipper lorries with a payload of circa 20 tonnes;

the number of movements is likely to be of the order of 20,000 (10,000 movements of empty lorries to the site and 10,000 movements of loaded lorries from the site). The site has direct access to the A463 BCR which is well suited to carrying this type of traffic. It is anticipated that the remediation works will take place over an 18 month period between December 2003 and August 2005. Assuming that the main export of the above material takes place during a 6 month period early in the contract and that work is on a five days per week basis some 154 movements per day can be anticipated. This level of movements is not considered likely to result in significant traffic effects given the road infrastructure available in the area and provided the main route used is the A463 BCR to the A454 Black Country Spine Road and then onto the M6 motorway.

Other construction traffic is likely to occur over a protracted period from August 2005 to March 2019. The principal movements will be inward movements of building materials, notably aggregates. It is considered that any traffic importing aggregate is likely to be intermittent and of lesser volume than the removal of unsuitable material as considered above. Flows of this order are not considered significant. Light vehicle traffic is likely throughout the construction period. Again this is not considered significant given the availability of good access roads.

Once the final densities and mix of development are determined at the detailed planning application stage the effects of the traffic generated by the remediation and construction stages will need to be considered in more detail and mitigation measures incorporated as necessary.

4.2 During Operation

4.2.1 Trip Generation

The anticipated trips generated from the proposed development have been ascertained from the trip generation database GENERATE. This database is managed by jdt, Mott MacDonald and has survey data specifically for the West Midlands in the database. These trip generations were distributed based on existing trip distributions in the model for Bilston area zone. No allowance has been made for retail and community based land uses as it is intended they will be provided for those living and working within the Urban Village. This has been agreed with Wolverhampton City Council on the assumption that the local retail facilities provided are accommodated within units of no greater than 200 sq.m. gross floor space, or small groups up to a maximum of 1,100 sq.m. as stated in the Masterplan and in accordance with the Wolverhampton Unitary Development Plan, Policy S6 Local shops. A summary of these trips is shown in **Table 4.1**.

Table 4.1 jdt, Mott MacDonald Trip Generations from the GENERATE database

Development Type	AM Peak Hour (0800-0900)			PM Peak Hour (1700-1800)		
	Arrivals	Departures	2-way Total	Arrivals	Departures	2-way Total
Housing Estate	162	545	707	469	213	682
Business Park	73	29	102	21	62	83
Industrial Estate	162	63	225	50	157	207
Pubs/Restaurants	-	-	-	128	59	187
Bowling Alley	-	-	-	14	12	26
Totals	397	637	1,034	682	503	1,185

Source: jdt, Mott MacDonald

4.2.2 Modal Choice

The trip rates used in the assessment do not take into account anyone choosing to use public transport, or other sustainable forms and therefore represent a worst case scenario of 100% of people living and working in the Urban Village using a private vehicle as their only means of transport. This has enabled the road network in the vicinity of the proposed Urban Village to be assessed using the highest levels of traffic it is ever likely to generate. This would be very unlikely to happen as it is intended to provide bus stops at several locations throughout the Urban Village. The Midland Metro runs along the eastern boundary of the site with local stops located at Bilston Central and Loxdale Street. It is proposed that each dwelling within the Urban Village will be within 2-3 minutes walk of public transport.

5. Trip Distribution

5.1 Assignment of the Development Generated Traffic

A do-something network was produced to represent the road network and anticipated situation when the Urban Village is complete. The base network was taken and enhanced, which included coding in the proposed road network and a left in/left out only turn for the access on to the BCR between the two roundabout junctions. The 27 sites within the proposed Urban Village were split between nine new zones. The do-something network is shown on **Figure 5.1**.

The trip generations were derived from the jdt GENERATE database and were again distributed based on existing trip distributions in the model for Bilston area zone. The precise mix of 'industrial estate' and 'business park' development for each site was not known; Therefore, the average trip rate for the two land use types combined with a weighting of 60% 'industrial estate' trips and 40% 'business park' trips have been used for all sites with employment. As agreed with Wolverhampton City Council and discussed earlier in this report, no allowance has been made for retail and community based land uses as it is intended these will be provided for those living and working on the village.

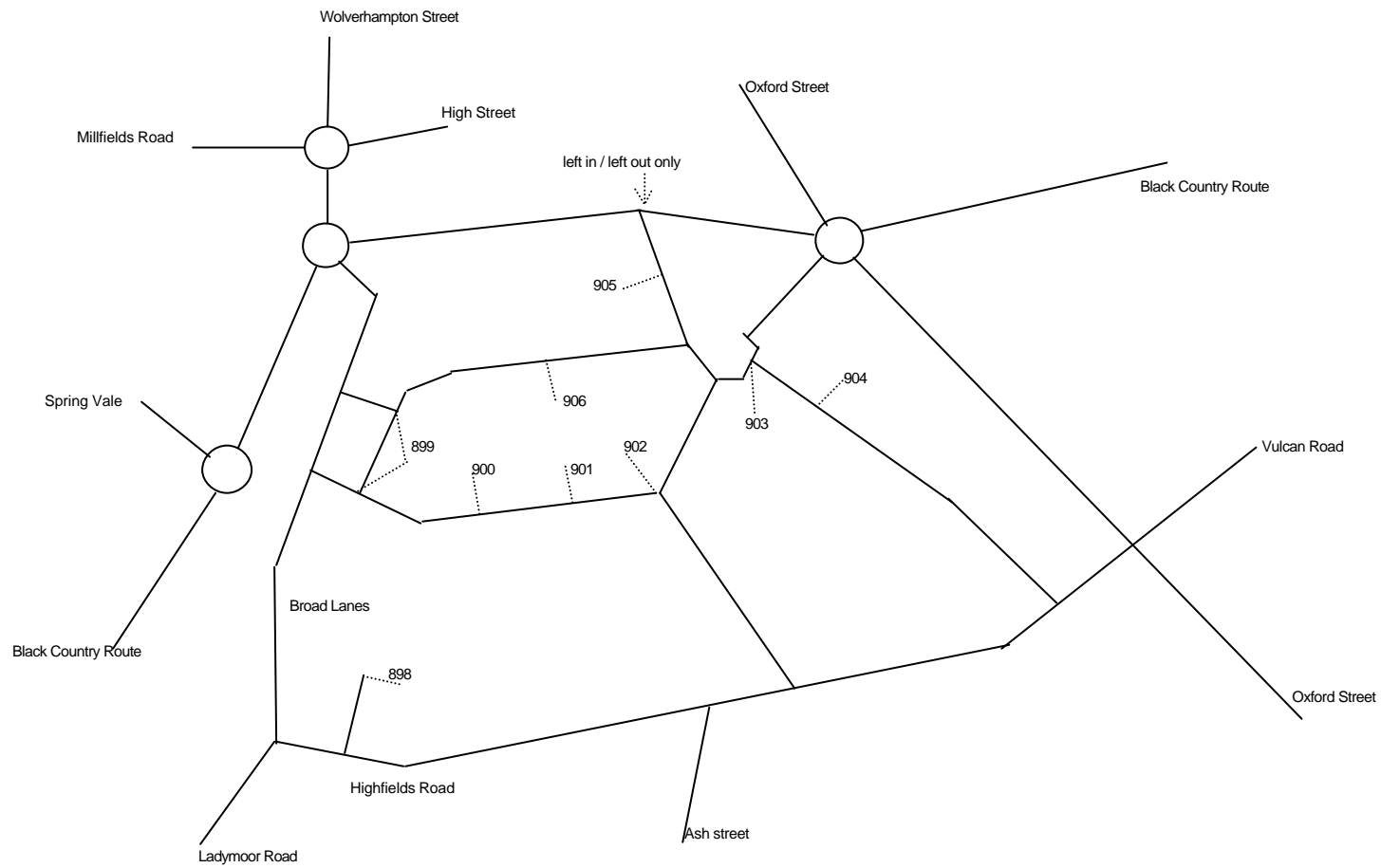
The development only flows were then assigned to the do-something networks and thus provide predictions including the turning flows from the access points of the proposed village on to the network and also at key junctions surrounding the site. Predicted flows have been provided for:

- 2019 do something network for both AM and PM peak hours; and
- 2034 do something network for both AM and PM peak hours.

These development only traffic flows on the do-something network are shown on **Figures 5.2 to 5.5**.

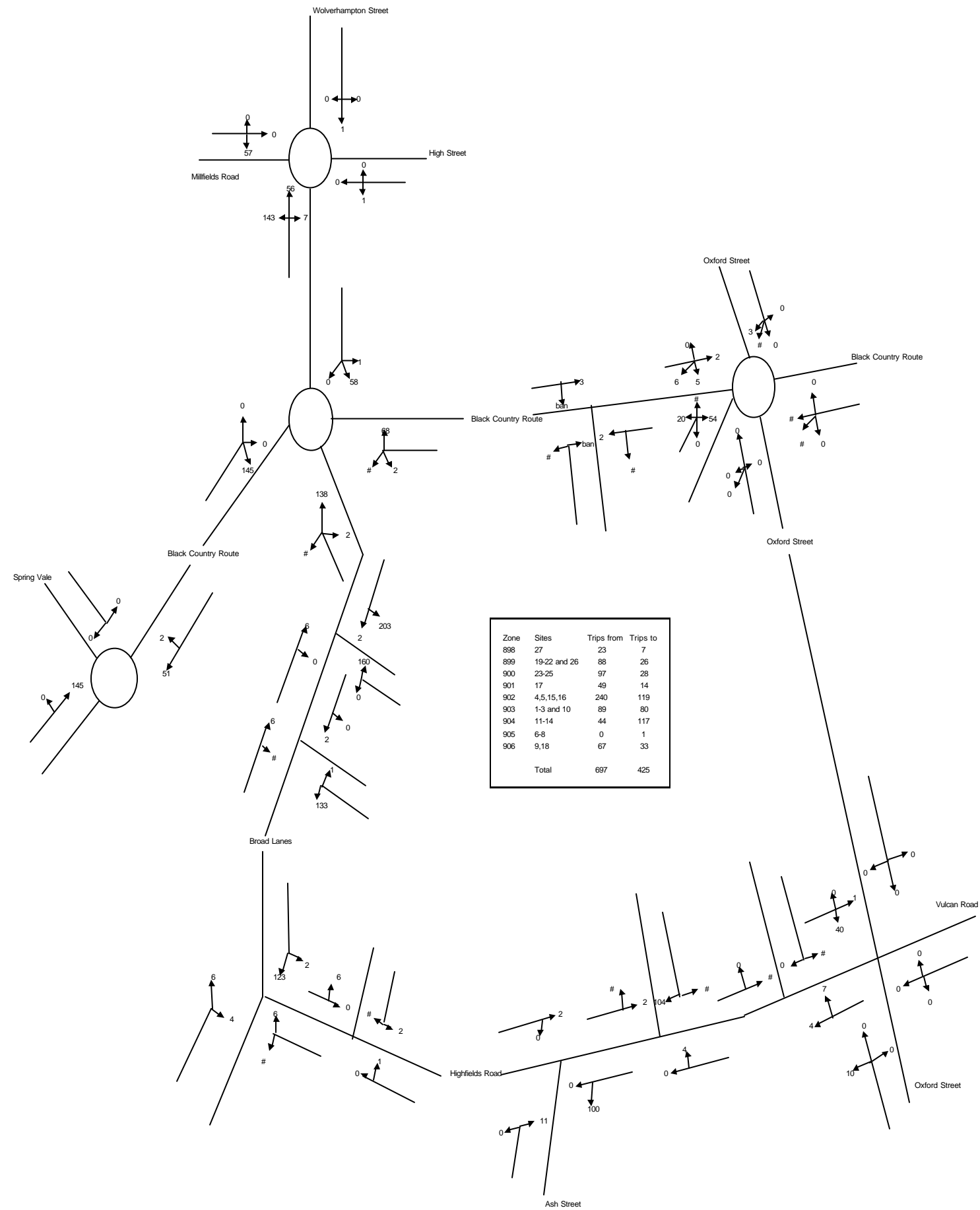
Bilston Urban Village - Model Tests

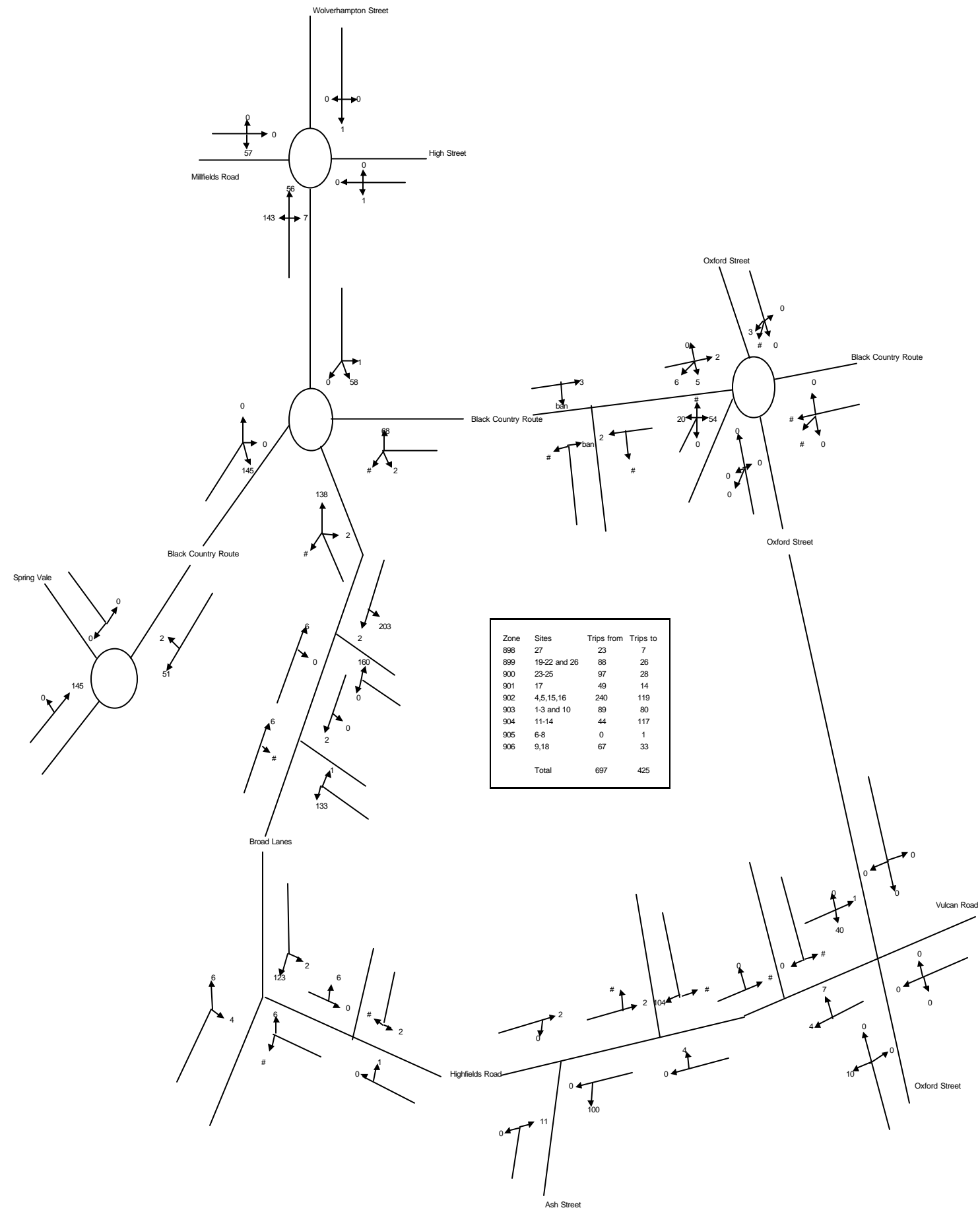
Do-Something network

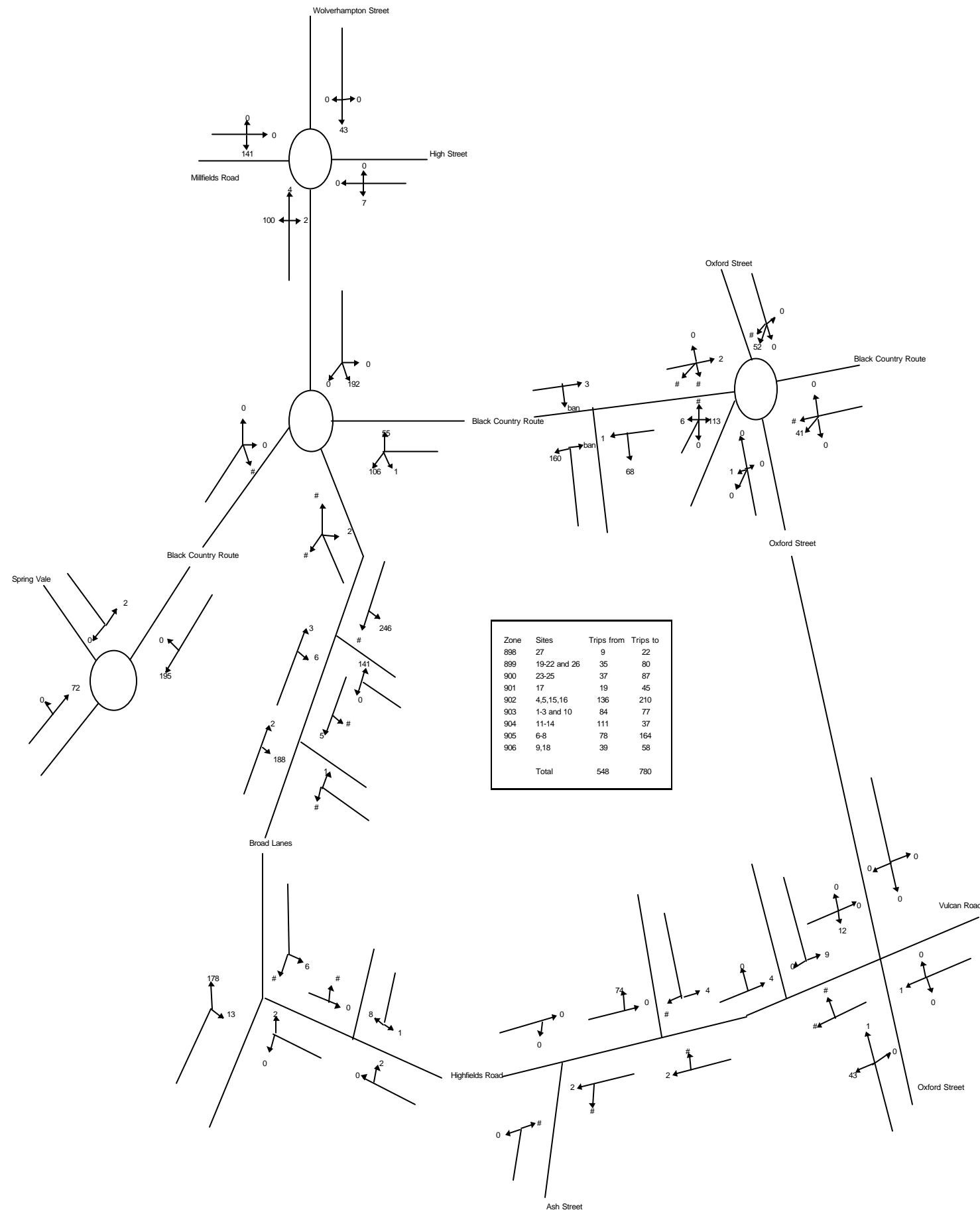


Zone	Sites
898	27
899	19-22 and 26
900	23-25
901	17
902	4,5,15,16
903	1-3 and 10
904	11-14
905	6-8
906	9,18

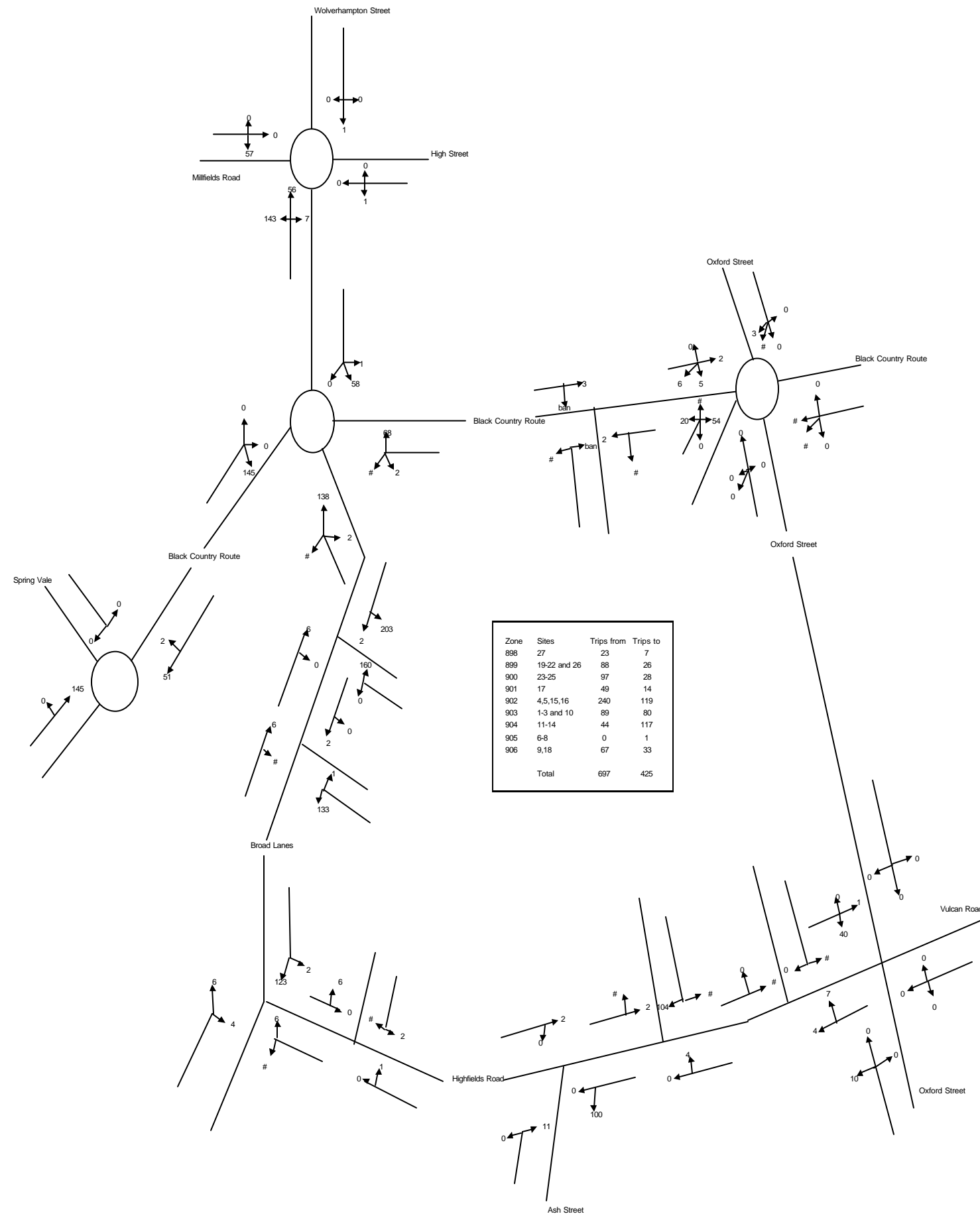


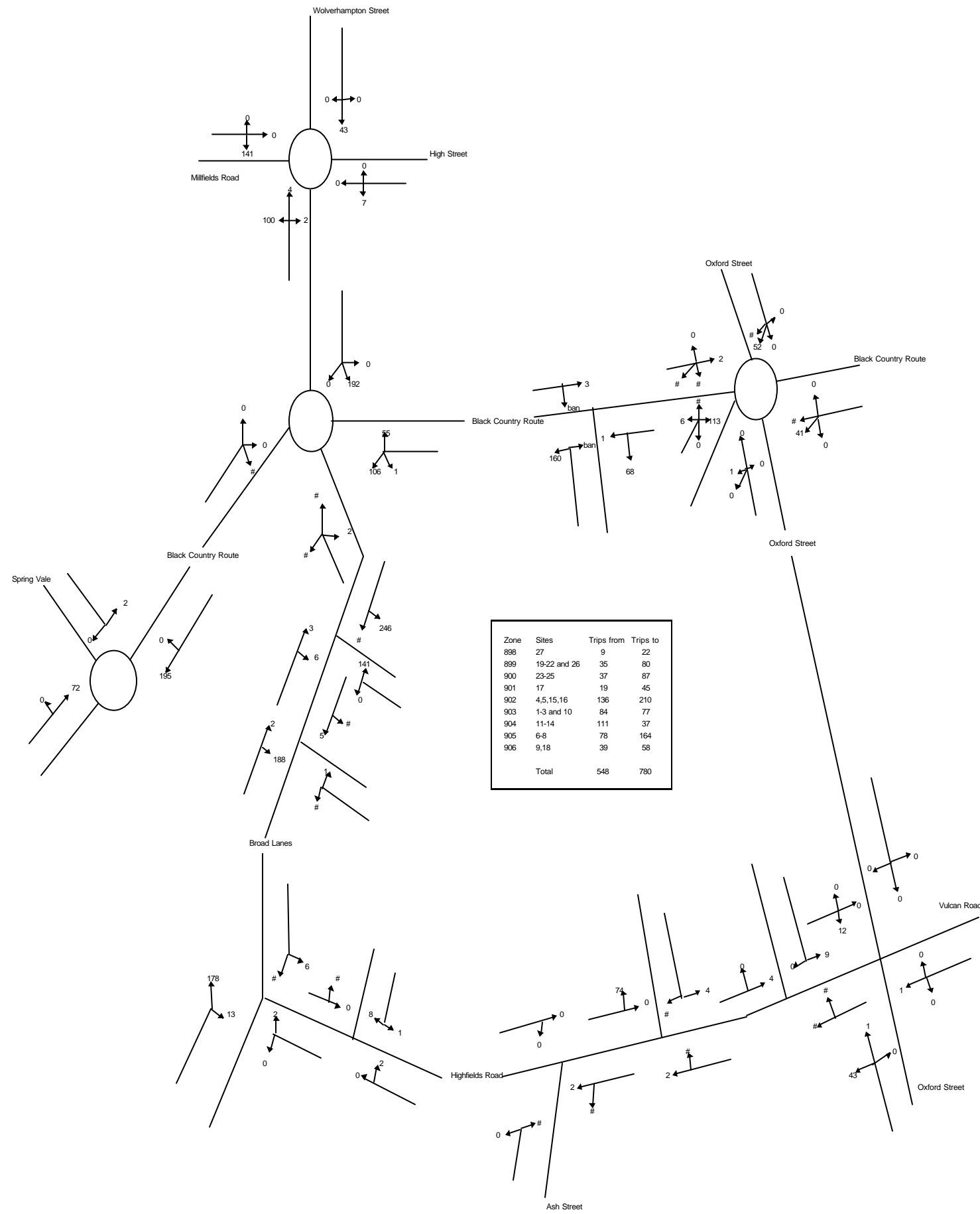






Zone	Sites	Trips from	Trips to
898	27	9	22
899	19-22 and 26	35	80
900	23-25	37	87
901	17	19	45
902	4,5,15,16	136	210
903	1-3 and 10	84	77
904	11-14	111	37
905	6-8	78	164
906	9,18	39	58
Total		548	780





6. Assessment Years

6.1 Opening Year and Future Year

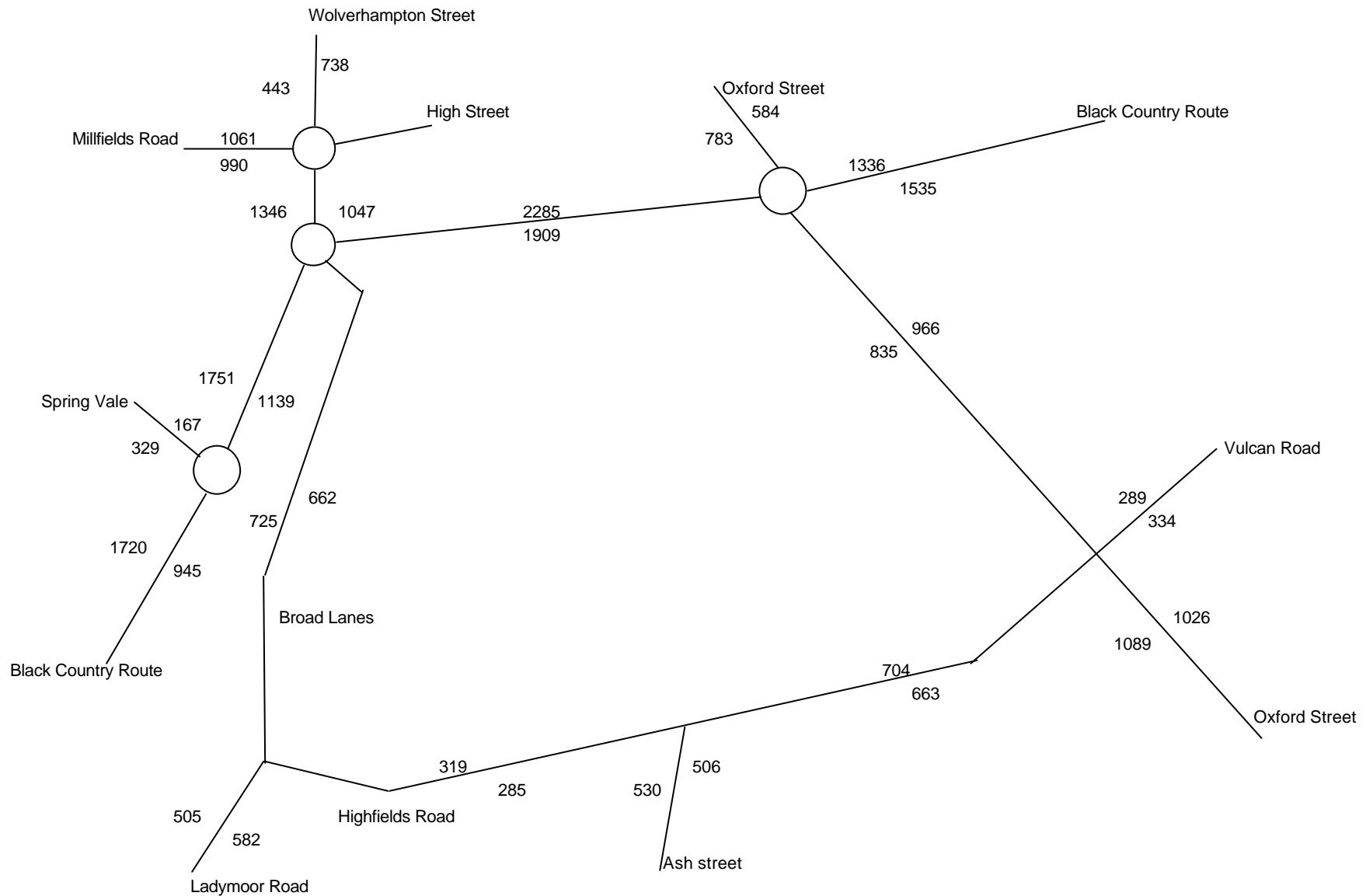
The years of assessment considered in the TA are the first year of opening of the full development, which is anticipated to be the year 2019, and fifteen years after this, which will be the year 2034.

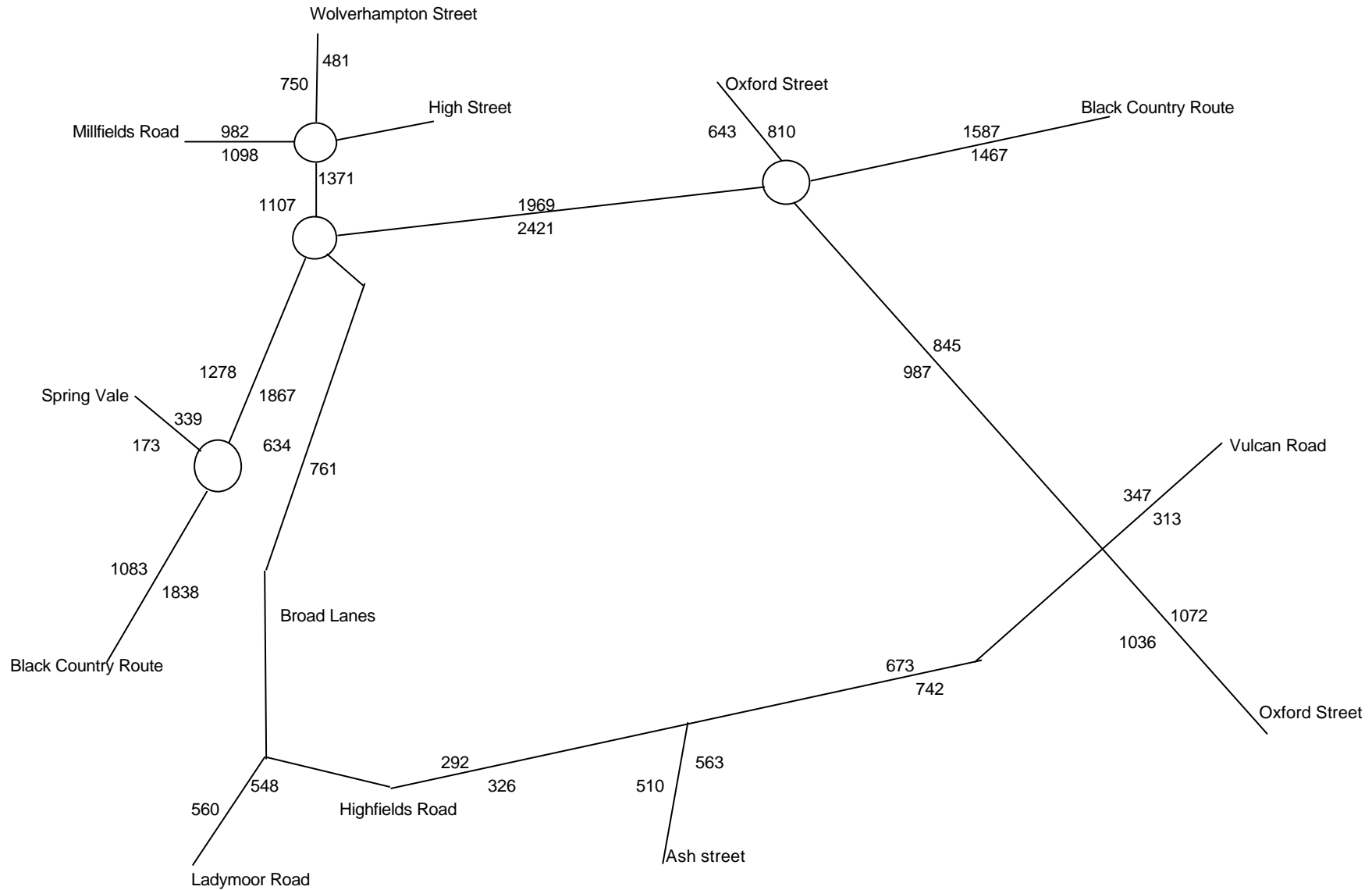
Although it is likely that the development will be built in three phases, it was felt that at this stage it would be more beneficial to assess the road links with the level of traffic anticipated for the full development. This would enable the road links to be tested with the highest levels of anticipated traffic likely to occur. It was considered that this would provide a robust assessment at this stage and would indicate areas where further detailed assessment will be needed at the detailed application stage.

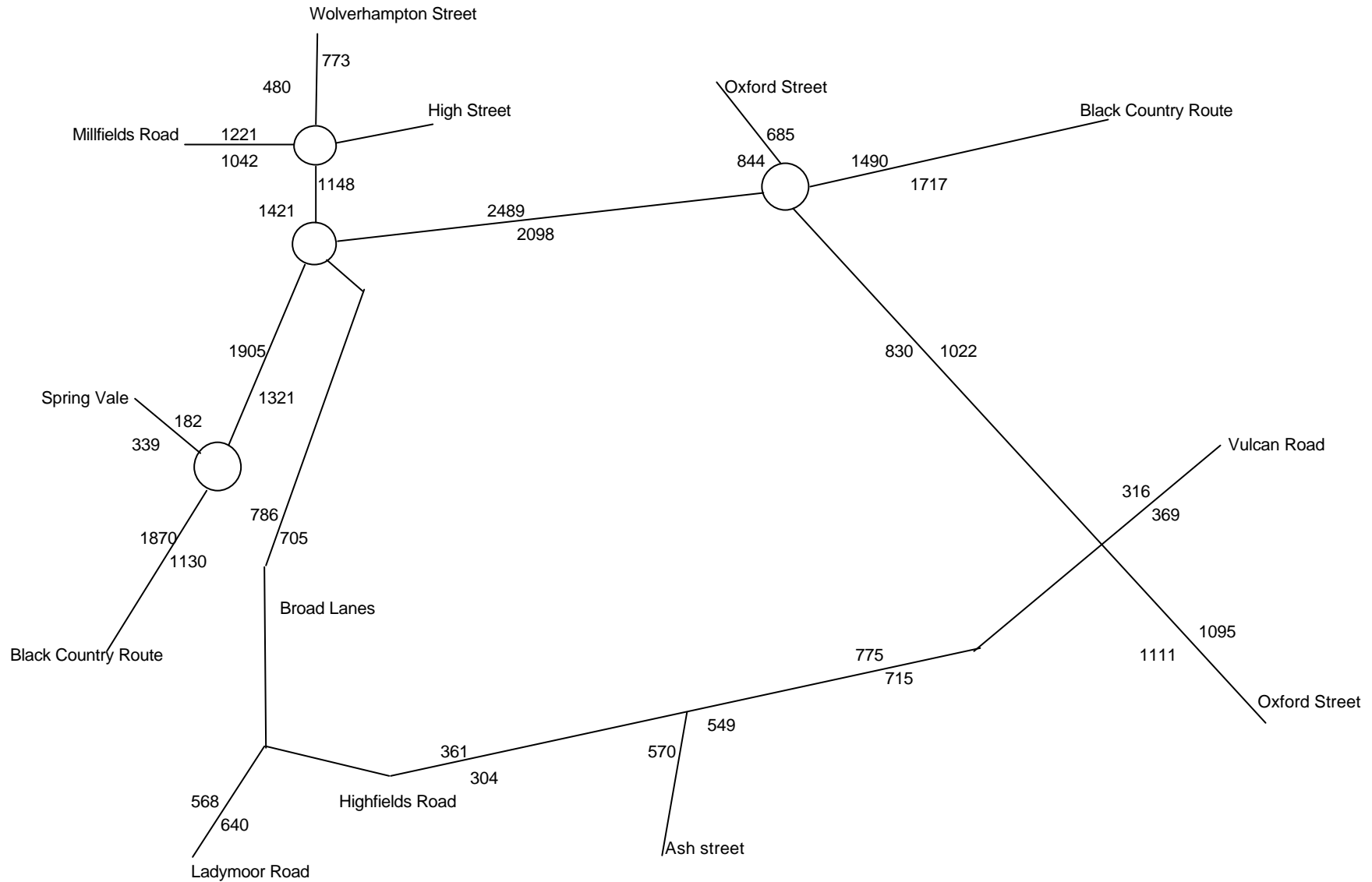
6.2 Traffic Growth

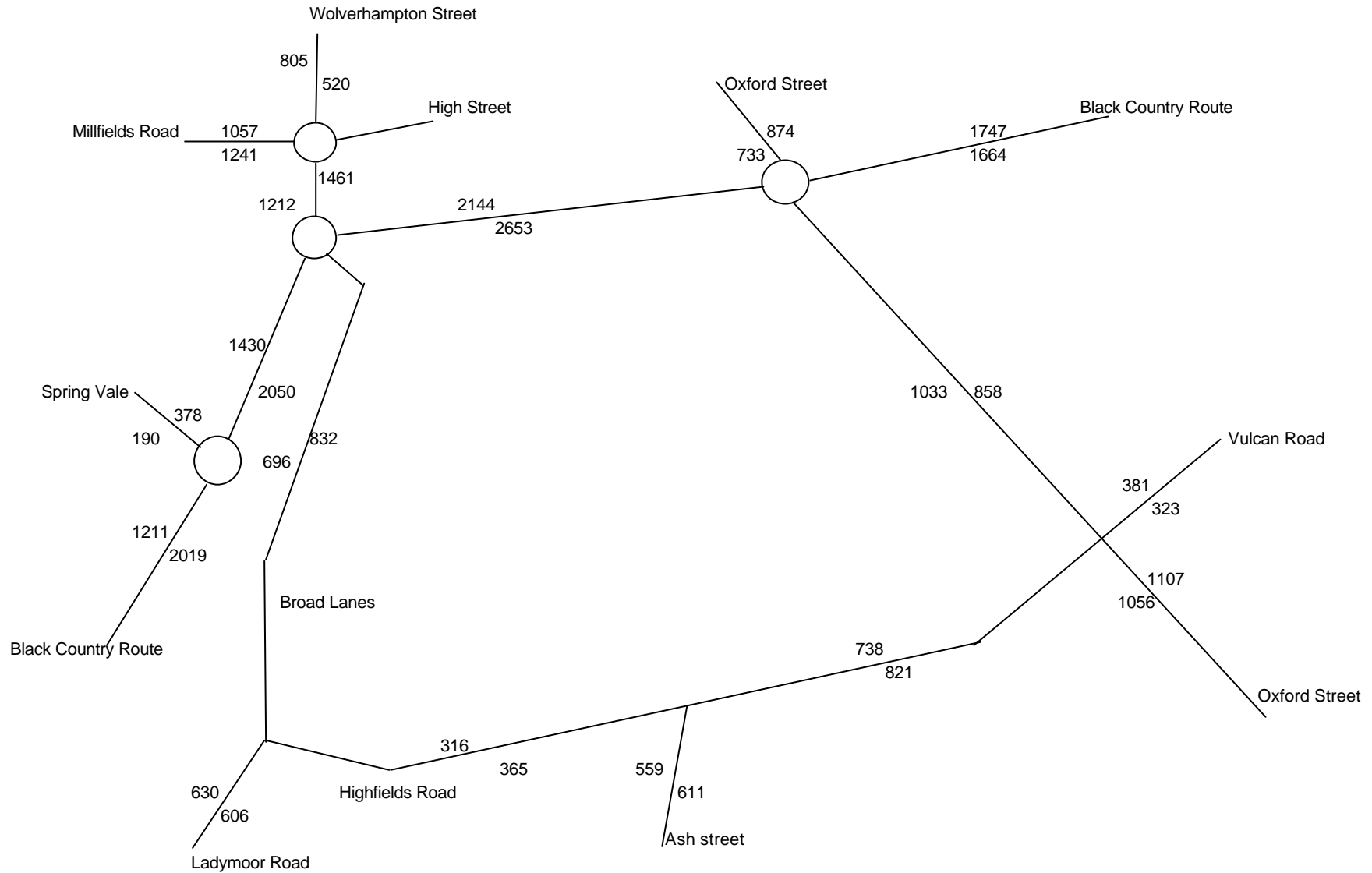
Levels of traffic are anticipated to grow in the foreseeable future. Therefore the traffic flows to be used in the assessment require growing from the year 2001 (2000 end base matrices) to the years 2019 and 2034. Following discussions with Wolverhampton City Council it was determined that the most appropriate and robust factors to be used to growth the base year traffic flows were the average of the high and low growth factors taken from the DETR programme TEMPRO version 3.1, for the District of Wolverhampton in the West Midlands. The factors used were 1.2315 from 2001 to 2019 and 1.0905 from 2019 to 2034. The resulting do-nothing matrices are shown on **Figures 6.1. to 6.4.**

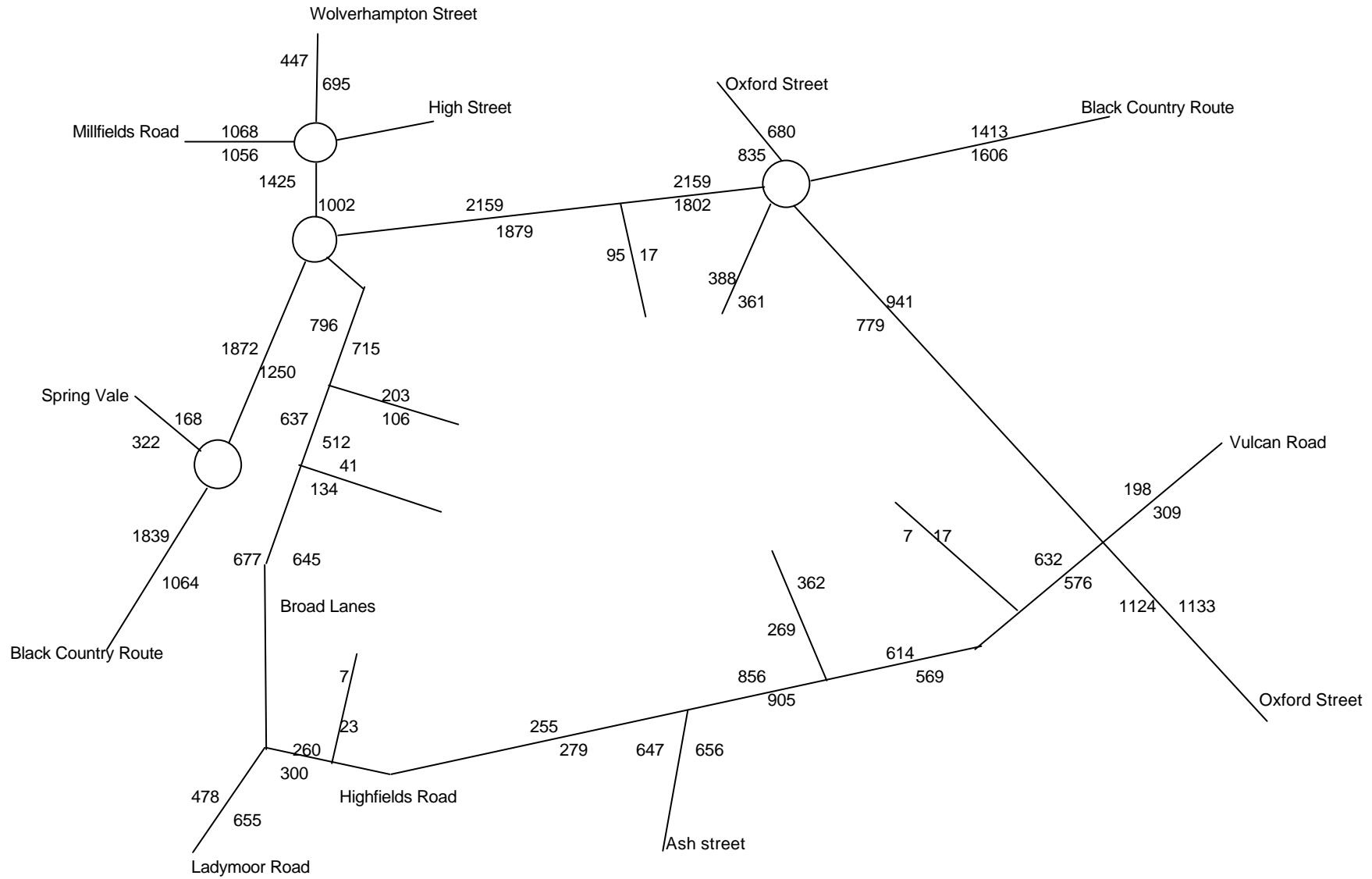
These factors from TEMPRO allow for new developments. However in the case of the development generated trips, car ownership growth over the period needed to be allowed for in the Urban Village. From the NRTF (1997) this value is 14% for the year 2001 to 2019. After this was applied to the development trips, all other trips in the matrix were factored by 1.2279 in the AM peak such that the total number of trips in the 2019 matrix were greater than the 2000 (end) matrix by a factor of 1.2315. A similar procedure was applied for the PM peak and for the period 2019 to 2034. The 2034 matrix was greater than the 2019 matrix by a factor of 1.0905 with car ownership growth of 3%. The resulting do-something matrices for the years 2019 and 2034, both for the AM and PM peak hours with both the background traffic and development generated traffic flows growthed accordingly, are shown on **Figures 6.5. to 6.8.**

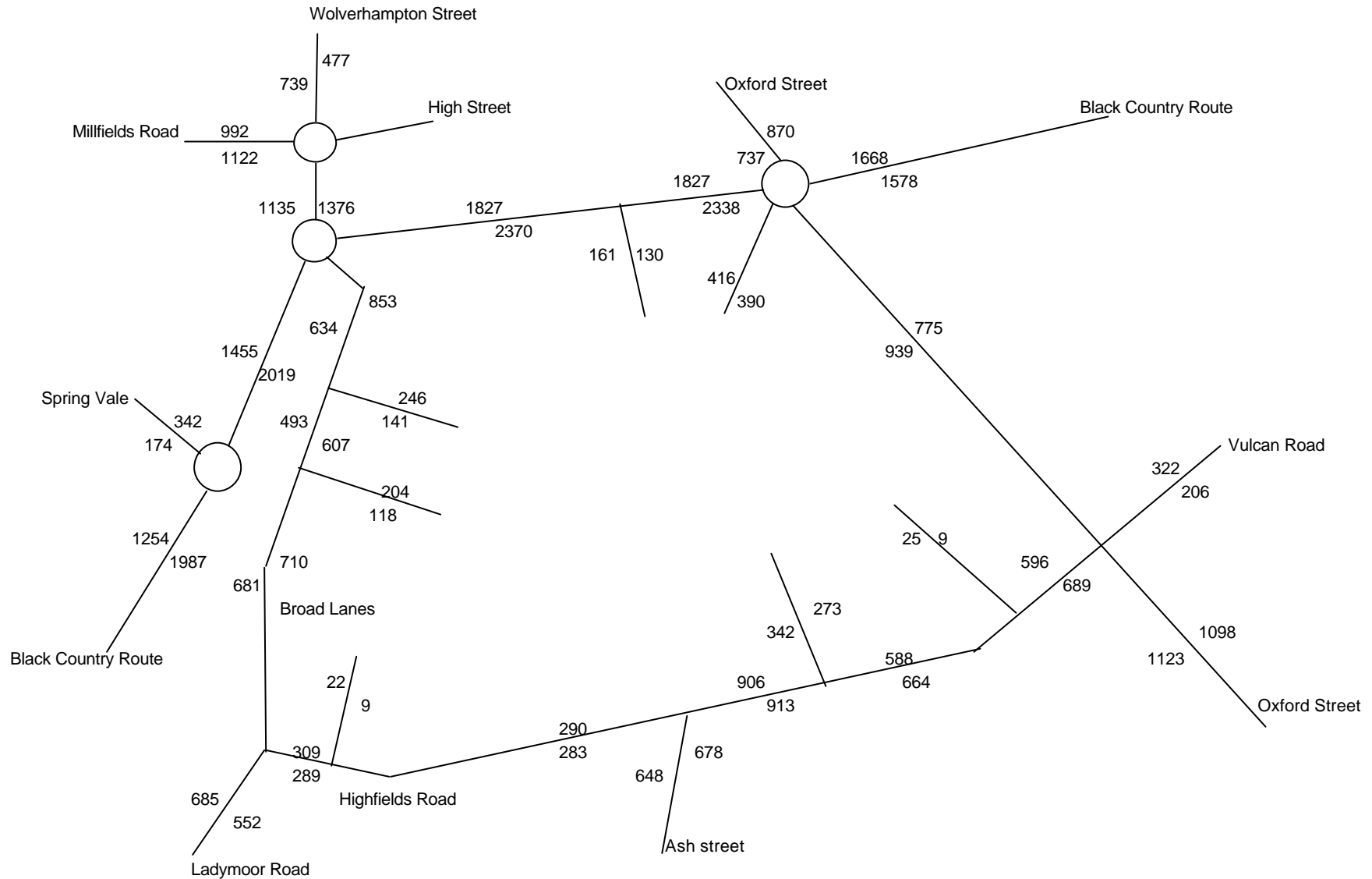


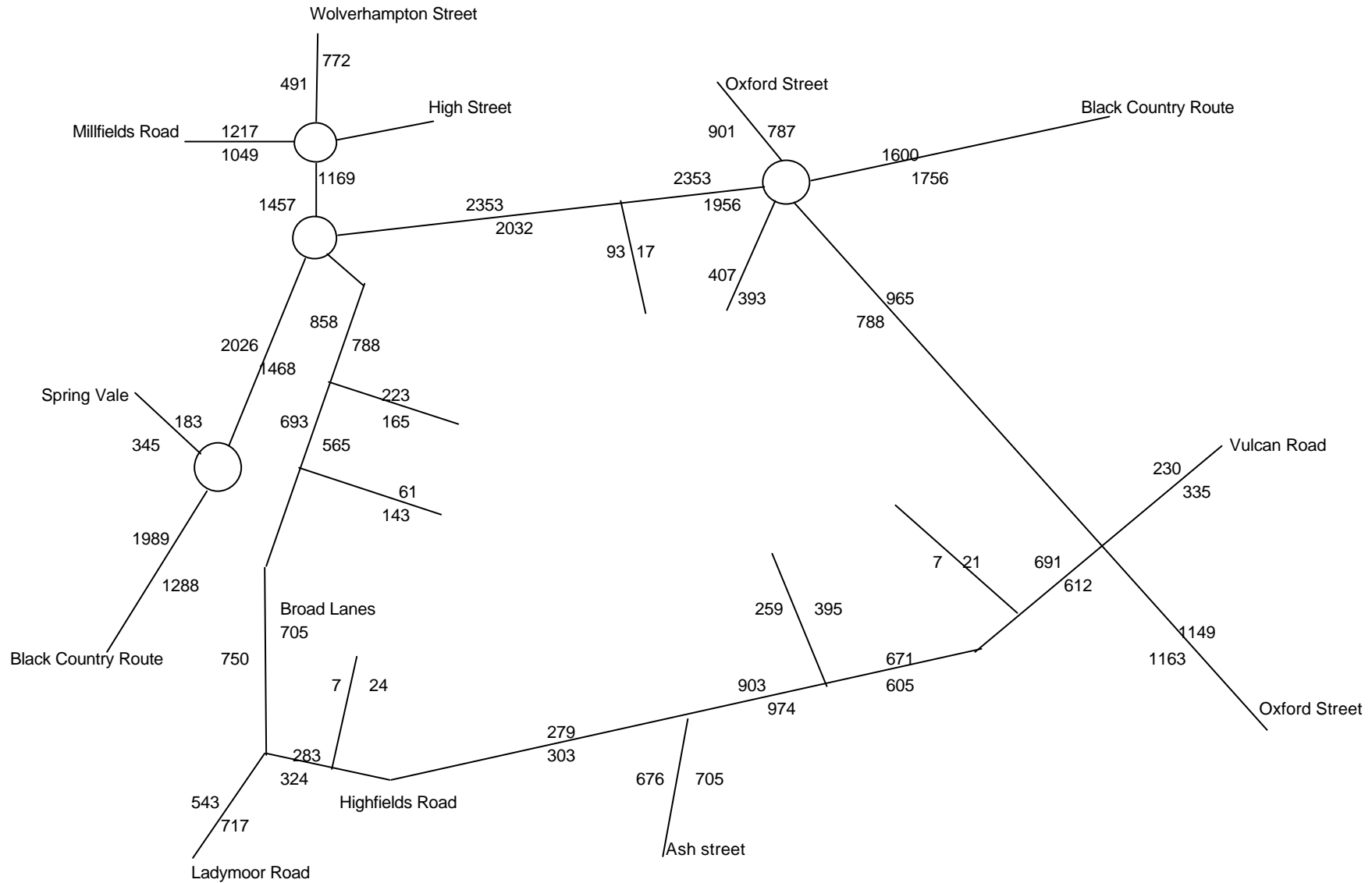


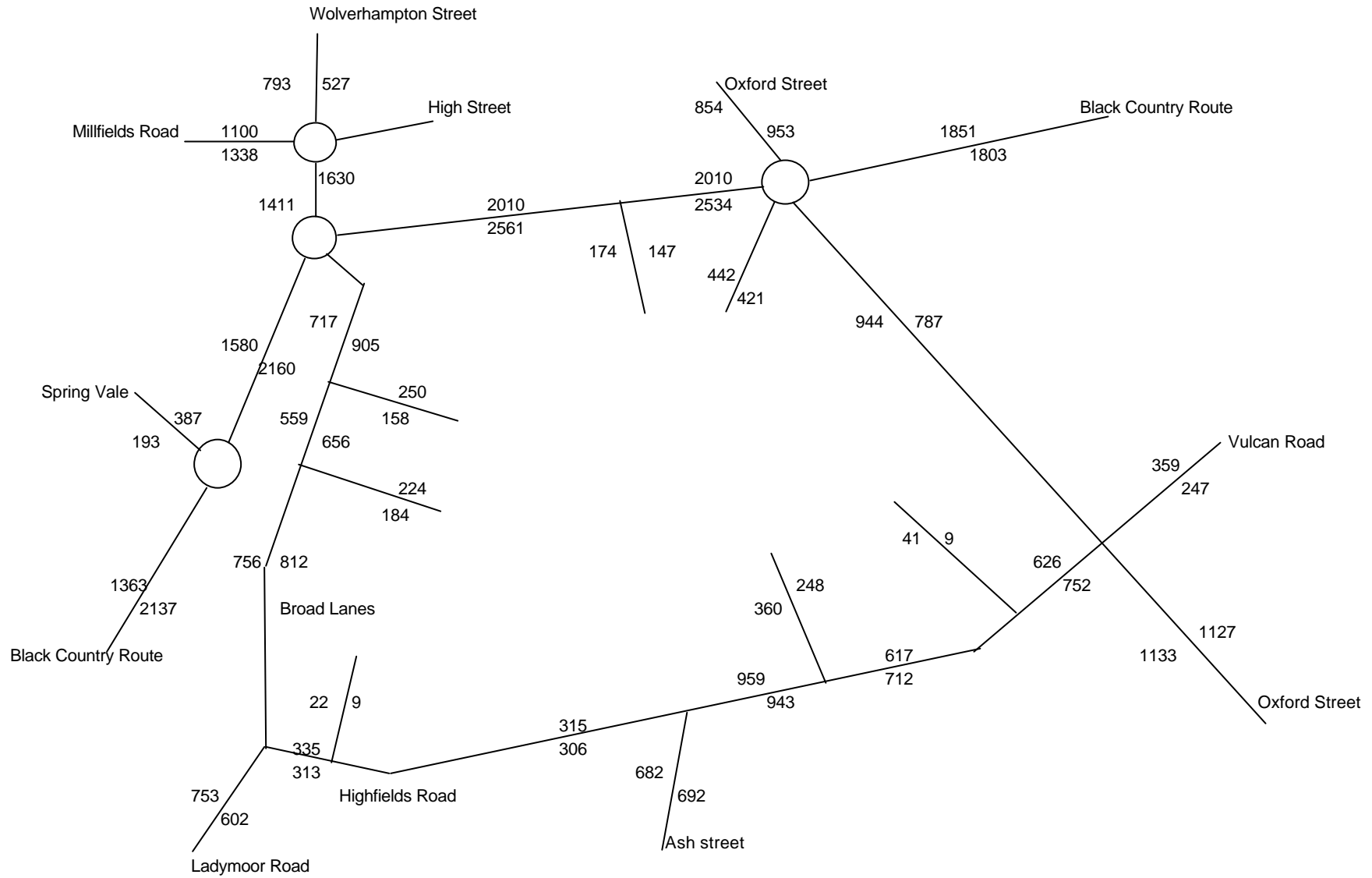












7. Highway Impact

7.1 Methodology

In order to ascertain the impact which the proposed development will have on the surrounding highway network the do-nothing future year networks for the AM and PM peak hours need to be compared to the do-something future year networks for the AM and PM peak hours with the development generated traffic. Do-nothing is the anticipated situation without the development and do-something is the anticipated situation with the development. It was agreed with Wolverhampton City Council this was the most appropriate approach to take at this stage with regard to ascertaining the links which would be affected. As this TA has been produced at the outline application stage of the development any of the anticipated impacts highlighted will require further detailed consideration in the later, more detailed stages of the planning and development process. As stated in the IHT guidelines, a TIA should normally be produced where one or other of the following thresholds are exceeded:

- traffic to and from the development exceeds 10% of the existing two-way traffic flow on the **adjoining highway**
- traffic to and from the development exceeds 5% of the existing two-way traffic flow on the **adjoining highway**, where traffic congestion exists or will exist within the assessment period or in other sensitive locations

The following assessment is essentially a broad scoping study which aims to provide the required guidance for future assessment when the development proposals are taken forward.

Reference will also be made to Volume 5 of the “*Design Manual for Roads and Bridges, TA79/99 Traffic Capacity of Urban Roads.*”

Further comments will be made with regard to the operation of the junctions affected by the increase in traffic due to the Urban Village proposals.

7.2 Highway Impact

The following **Tables 7.1 to 7.4** set out the comparison between the do-nothing network and the do-something network with development generated traffic, AM and PM peak hour traffic flows. The percentage changes in traffic flows on the relevant links are also shown on **Figure 7.1 to 7.4**.

Table 7.1 Year 2019 AM Peak Hour Comparison of Do-Nothing and Do-Something With Development Traffic Flows

Road Link	Do-Nothing Traffic Flows			Do-Something, With Development Traffic Flows			% Change in Two-Way Traffic Flows
	Into Junction	Out of Junction	Two-way Traffic	Into Junction	Out of Junction	Two-way Traffic	
Broad Lanes, south of Coseley Road roundabout	725	622	1387	796	715	1511	8.94% increase
A463 BCR, west of Coseley Road roundabout	1751	1139	2890	1872	1250	3122	8.03% increase
Coseley Road, north of Coseley Road roundabout	1047	1346	2393	1002	1425	2427	1.42% increase
A463 BCR, east of Coseley Road roundabout	1909	2285	4149	1879	2159	4038	3.86% decrease
A463 BCR, west of Oxford Street roundabout	2285	1909	4149	2159	1802	3961	5.88% decrease
A41 Oxford Street north of the Oxford Street roundabout	584	783	1367	680	835	1515	10.82% increase
A463 BCR, east of Oxford Street roundabout	1535	1336	2871	1606	1413	3019	5.15% increase
A41 Oxford Street, south of Oxford Street roundabout	835	966	1801	779	941	1720	4.71% decrease
A41 Oxford Street, north of Loxdale Street	966	835	1801	941	779	1720	4.71% decrease
Vulcan Road, east of Oxford Street	334	289	623	309	198	507	22.88% decrease
Oxford Street, south of Loxdale Street	1089	1026	2115	1124	1133	2257	6.71% increase
Loxdale Street, west of Oxford Street (A41)	704	663	1367	632	576	1208	13.16% decrease
Salop Street between Northcott Road and Bankfield Road			1367			1183	15.55% decrease
Highfields Road between Bankfield Road and Ash Street			1367			1761	28.82% increase
Highfields Road, east of Broad Lanes	285	319	604	300	260	560	7.86% decrease
Ladymoor Road, south of Broad Lanes	505	582	1087	478	655	1133	4.23% increase
Broad Lanes, north of Highfields Road	662	725	1387	645	677	1322	4.92% decrease

Table 7.2 Year 2019 PM Peak Hour Comparison of Do-Nothing and Do-Something With Development Traffic Flows

Road Link	Do-Nothing Traffic Flows			Do-Something, With Development Traffic Flows			% Change in Two-Way Traffic Flows
	Into Junction	Out of Junction	Two-way Traffic	Into Junction	Out of Junction	Two-way Traffic	
Broad Lanes, south of Coseley Road roundabout	634	761	1395	634	853	1487	6.59% increase
A463 BCR, west of Coseley Road roundabout	1278	1867	3145	1455	2019	3474	10.46% increase
Coseley Road, north of Coseley Road roundabout	1371	1107	2478	1376	1135	2511	1.33% increase
A463 BCR, east of Coseley Road roundabout	2421	1969	4390	2370	1827	4197	4.59% decrease
A463 BCR, west of Oxford Street roundabout	1969	2421	4390	1827	2338	4165	5.40% decrease
A41 Oxford Street north of the Oxford Street roundabout	810	643	1453	870	737	1607	10.60% increase
A463 BCR, east of Oxford Street roundabout	1467	1587	3054	1578	1668	3246	6.29% increase
A41 Oxford Street, south of Oxford Street roundabout	987	845	1832	939	775	1714	6.88% decrease
A41 Oxford Street, north of Loxdale Street	845	987	1832	775	939	1714	6.88% decrease
Vulcan Road, east of Oxford Street	313	347	660	206	322	528	25.00% decrease
Oxford Street, south of Loxdale Street	1036	1072	2108	1123	1098	2221	5.36% increase
Loxdale Street, west of Oxford Street (A41)	673	742	1415	596	689	1285	10.12% decrease
Salop Street between Northcott Road and Bankfield Road			1415			1252	13.02% decrease
Highfields Road between Bankfield Road and Ash Street			1415			1819	28.55% increase
Highfields Road, east of Broad Lanes	326	292	618	289	309	598	3.34% decrease
Ladymoor Road, south of Broad Lanes	560	548	1108	685	552	1237	11.64% increase
Broad Lanes, north of Highfields Road	761	634	1395	710	681	1391	0.29% decrease

Table 7.3 Year 2034 AM Peak Hour Comparison of Do-Nothing and Do-Something With Development Traffic Flows

Road Link	Do-Nothing Traffic Flows			Do-Something, With Development Traffic Flows			% Change in Two-Way Traffic Flows
	Into Junction	Out of Junction	Two-way Traffic	Into Junction	Out of Junction	Two-way Traffic	
Broad Lanes, south of Coseley Road roundabout	786	705	1491	858	788	1646	10.40% increase
A463 BCR, west of Coseley Road roundabout	1905	1321	3226	2026	1468	3494	8.30% increase
Coseley Road, north of Coseley Road roundabout	1148	1421	2569	1169	1457	2626	2.22% increase
A463 BCR, east of Coseley Road roundabout	2098	2489	4587	2032	2353	4385	4.61% decrease
A463 BCR, west of Oxford Street roundabout	2489	2098	4587	2353	1956	4309	6.45% decrease
A41 Oxford Street north of the Oxford Street roundabout	685	844	1529	787	901	1688	10.39% increase
A463 BCR, east of Oxford Street roundabout	1717	1490	3207	1756	1600	3356	4.65% increase
A41 Oxford Street, south of Oxford Street roundabout	830	1022	1852	788	965	1753	5.65% decrease
A41 Oxford Street, north of Loxdale Street	1022	830	1852	965	788	1753	5.65% decrease
Vulcan Road, east of Oxford Street	369	316	685	335	230	565	21.24% decrease
Oxford Street, south of Loxdale Street	1111	1095	2206	1163	1149	2312	4.81% increase
Loxdale Street, west of Oxford Street (A41)	775	715	1490	691	612	1303	14.35% decrease
Salop Street between Northcott Road and Bankfield Road			1490			1276	16.77% decrease
Highfields Road between Bankfield Road and Ash Street			1490			1877	25.97% increase
Highfields Road, east of Broad Lanes	304	361	665	324	283	607	9.56% decrease
Ladymoor Road, south of Broad Lanes	568	640	1208	543	717	1260	4.3% increase
Broad Lanes, north of Highfields Road	705	786	1491	705	750	1455	2.47% decrease

Table 7.4 Year 2034 PM Peak Hour Comparison of Do-Nothing and Do-Something With Development Traffic Flows

Road Link	Do-Nothing Traffic Flows			Do-Something, With Development Traffic Flows			% Change in Two-Way Traffic Flows
	Into Junction	Out of Junction	Two-way Traffic	Into Junction	Out of Junction	Two-way Traffic	
Broad Lanes, south of Coseley Road roundabout	696	832	1528	717	905	1622	6.15% increase
A463 BCR, west of Coseley Road roundabout	1430	2050	3480	1580	2160	3740	7.47% increase
Coseley Road, north of Coseley Road roundabout	1461	1212	2673	1630	1411	3041	13.78% increase
A463 BCR, east of Coseley Road roundabout	2653	2144	4797	2561	2010	4571	4.94% decrease
A463 BCR, west of Oxford Street roundabout	2653	2144	4797	2010	2534	4544	5.57% decrease
A41 Oxford Street north of the Oxford Street roundabout	874	733	1607	953	854	1807	12.45% increase
A463 BCR, east of Oxford Street roundabout	1664	1747	3411	1803	1851	3654	7.12% increase
A41 Oxford Street, south of Oxford Street roundabout	1033	858	1891	944	787	1731	9.24% decrease
A41 Oxford Street, north of Loxdale Street	858	1033	1891	787	944	1731	9.24% decrease
Vulcan Road, east of Oxford Street	323	381	704	247	359	606	16.17% decrease
Oxford Street, south of Loxdale Street	1056	1107	2163	1133	1127	2260	4.48% increase
Loxdale Street, west of Oxford Street (A41)	738	821	1559	626	752	1378	13.13% decrease
Salop Street between Northcott Road and Bankfield Road			1559			1329	17.31% decrease
Highfields Road between Bankfield Road and Ash Street			1559			1902	22.00% increase
Highfields Road, east of Broad Lanes	365	316	681	313	335	648	5.09% decrease
Ladymoor Road, south of Broad Lanes	630	606	1236	753	602	1355	9.63% increase
Broad Lanes, north of Highfields Road	832	696	1528	812	756	1568	2.62% increase

Several of the links experience a decrease in traffic, while the remainder experience an increase, this is due to a reassignment of the traffic around the network and is most likely caused by vehicles finding less congested and therefore more attractive routes. The percentage increases in traffic on the links under consideration are summarised in **Table 7.5** below with comments regarding the effects anticipated on the links and the junctions corresponding to these links.

Table 7.5 Road Links which will experience an Increase in Traffic due to the Development Generated Traffic Flows

Road Link	2019 AM Peak	2019 PM Peak	2034 AM Peak	2034 PM Peak	Comments
Broad Lanes, south of Coseley Road roundabout	Between 5% and 10%	Between 5% and 10%	Over 5% and 10%	Between 5% and 10%	In the AM peak hour the majority of development traffic is predicted to travel north onto Coseley road, or arrive from the BCR west, it is not anticipated that vehicles will suffer large delays as the predominant movement of existing traffic at this junction is travelling from the BCR west to east. Broad Lanes may need to be considered in further detail as the increase in the year 2034 does go marginally over the 10% threshold.
A463 BCR, west of Coseley Road roundabout	Between 5% and 10%	Over 5% and 10%	Between 5% and 10%	Between 5% and 10%	In the PM peak the development traffic is predicted to travel south from Coseley Road to Broad Lanes and from the BCR east to west. The existing flows around the junction are more evenly distributed than during the AM peak hour, it is not anticipated that there will be significant problems. Coseley Road may need to be considered in further detail as the increase in the year 2034 does go marginally over the 10% threshold.
Coseley Road, north of Coseley Road roundabout	Under 5% and 10%	Under 5% and 10%	Under 5% and 10%	Over 5% and 10%	In all four scenarios tested, three out of the four arms of the Coseley Road roundabout show increases in traffic due to the development. This junction will require further assessment to test its capacity to accommodate this predicted increase in traffic. Widening of entry arms at this junction may provide some additional capacity, however as this is already a large junction, signalisation may be more appropriate and should be considered as an option.
A41 Oxford Street north of the Oxford Street roundabout	Over 5% and 10%	Over 5% and 10%	Over 5% and 10%	Over 5% and 10%	In all four scenarios there is predicted to be an increase in traffic on Oxford Street to the north of Oxford Street roundabout of greater than 10%. There is also predicted to be an increase in traffic on the BCR to the east of the Oxford Street roundabout. There will be an increase in traffic on Brook Street also due to the fact that this will become one of the access points into the proposed development. Oxford Street will require further assessment due to the increases in traffic predicted. Vehicles to and from Oxford Street may find pulling out onto the roundabout difficult due to the heavy straight on movement between the BCR east/west. It may be possible to add extra lanes to the Oxford Street entry onto this junction which would increase the capacity of this arm. The assessment also predicted that there will be a decrease in traffic on the BCR to the west of Oxford Street roundabout and on Oxford Street to the south of the Oxford Street roundabout. Due to these predicted increases and decreases in flows around the junction further assessment of the whole junction is recommended. Signalisation of this roundabout may be required to cope with the uneven distribution of traffic flows and turning proportions around this junction.
A463 BCR, east of Oxford Street roundabout	Between 5% and 10%	Between 5% and 10%	Under 5% and 10%	Between 5% and 10%	
Oxford Street, south of Loxdale Street	Between 5% and 10%	Over 5% and 10%	Under 5% and 10%	Under 5% and 10%	Oxford Street may require further consideration. The development traffic on this link is predicted to turn left into the site and to a lesser extent turn right out of Loxdale Street onto Oxford Street. As this link is part of a traffic signal controlled junction it may be possible to alter the phasing of the signals to accommodate this change in flows around these links.

Road Link	2019 AM Peak	2019 PM Peak	2034 AM Peak	2034 PM Peak	Comments
Highfields Road between Bankfield Road and Ash Street	Over 5% and 10%	Over 5% and 10%	Over 5% and 10%	Over 5% and 10%	In the opening year of development (2019), this link is showing a significant increase in traffic due to the development of 28% which indicates that there will most likely be significant impacts resulting from the development, which need to be addressed in order to improve the environment for residents, pedestrians and cyclists. It is a local road and will require further assessment to increase the capacity of the road or discourage and divert traffic from using this as a main thoroughfare to gain access to and from the site. Traffic should be encouraged towards the BCR which is a dual carriageway road which on the majority of links does not show any significant increases in traffic due to the development and could therefore accommodate additional traffic.
Ladymoor Road, south of Broad Lanes	Under 5% and 10%	Over 5% and 10%	Under 5% and 10%	Under 5% and 10%	It is predicted that a significant amount of traffic will find this an attractive route to gain access to the development in the peak hour, which may be due to the number of new access points proposed onto Broad Lanes as part of the development. Although the increase in traffic is not as significant as on Highfields Road, these links should be considered further to increase the capacity of the road or discourage traffic from using this as a main thoroughfare to gain access to and from the site. Traffic should be encouraged towards the BCR which is a dual carriageway road which on the majority of links does not show any significant increases in traffic due to the development and could therefore accommodate additional traffic.
Broad Lanes, north of Highfields Road	Decrease	Decrease	Decrease	Under 5% and 10%	

7.3 Link Analysis

The impact of the increase in the background traffic flows and the addition of the proposed development traffic flows on the highway links can be assessed using the Department of Transport Design Manual for Roads and Bridges, Volume 5 TA79/99 “Traffic Capacity of Urban Roads”.

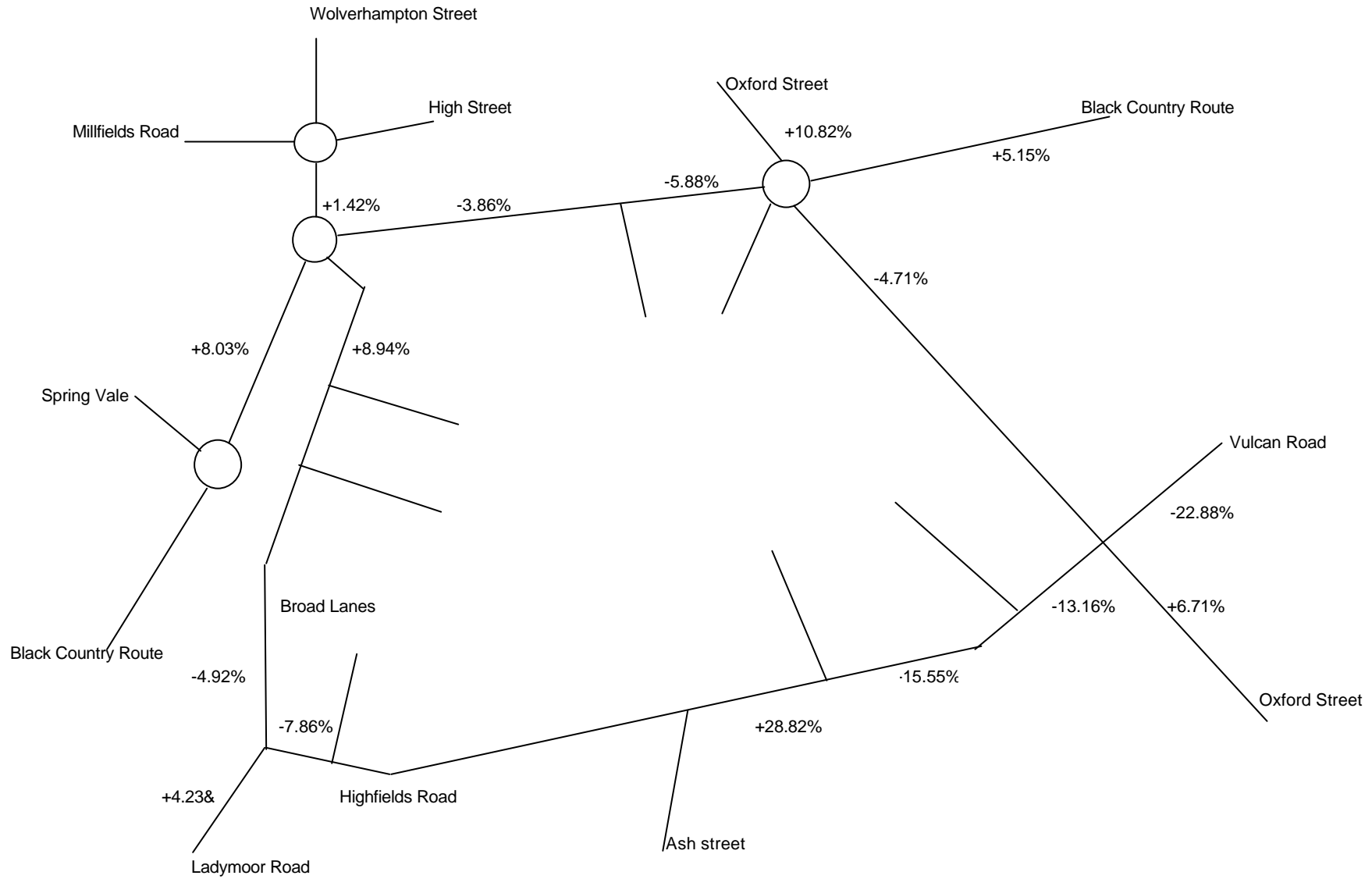
7.3.1 Single-carriageway

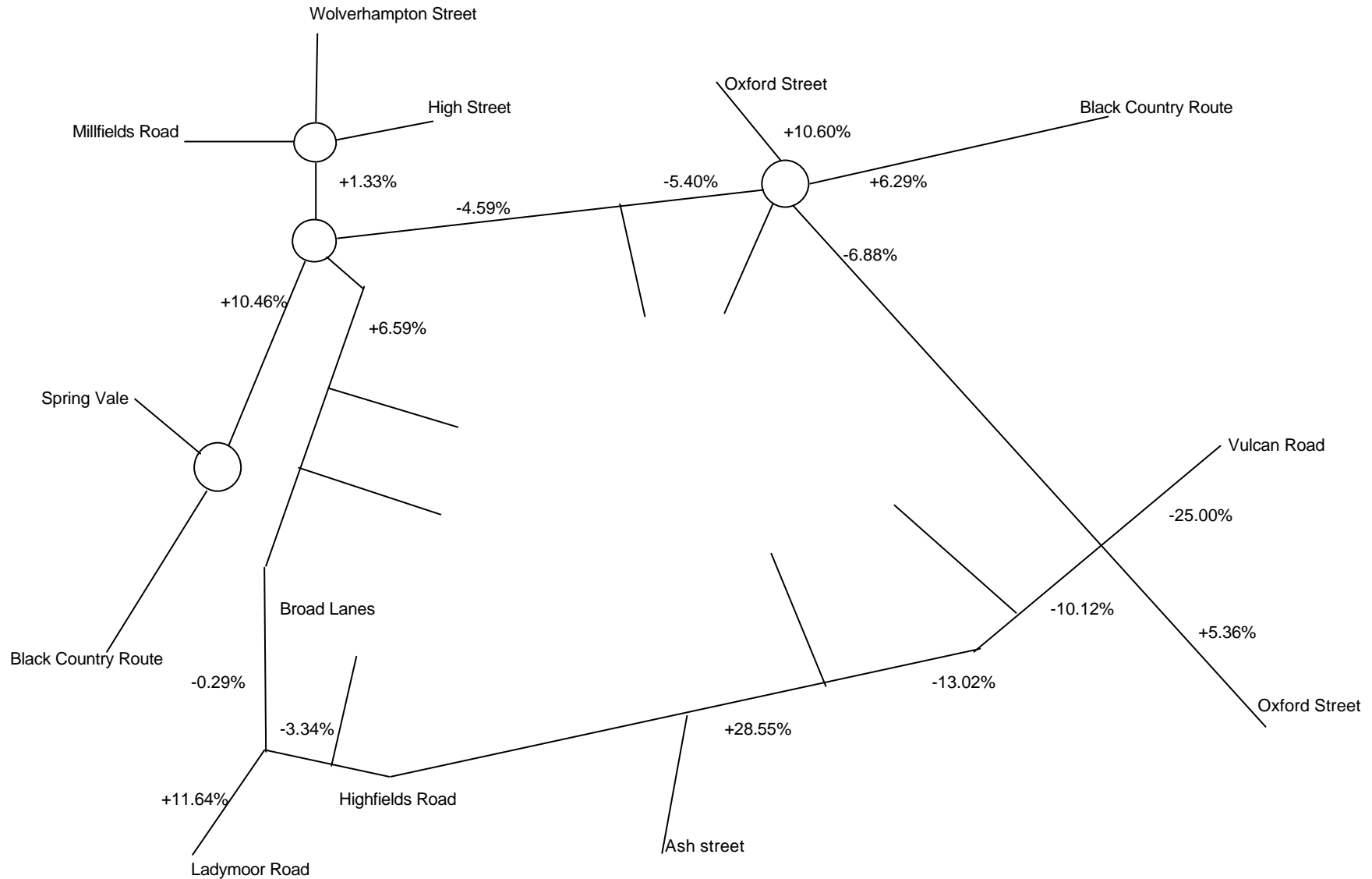
With the exception of the BCR and the section of Coseley Road (north of the Coseley Road/BCR roundabout), the roads considered in this assessment can be defined by the category UAP3 as described in Table 1 of TA79/99. Flows for single carriageways are based upon a 60/40 directional split in the flow. The one-way flows shown in Table 2 represent the busiest flow 60% figure. From Table 2 in TA79/99 the one-way hourly flow in each direction to be used in the assessment for a 7.3 m wide 2 lane two-way single carriageway road of category UAP3 is 1300 vehicles per hour. It can be seen from the flows in column seven of **Tables 7.1** to **7.4** that each link within the study area is operating below the capacities set out in TA79/99, even for the worst case future year of 2034 with the development traffic flows.

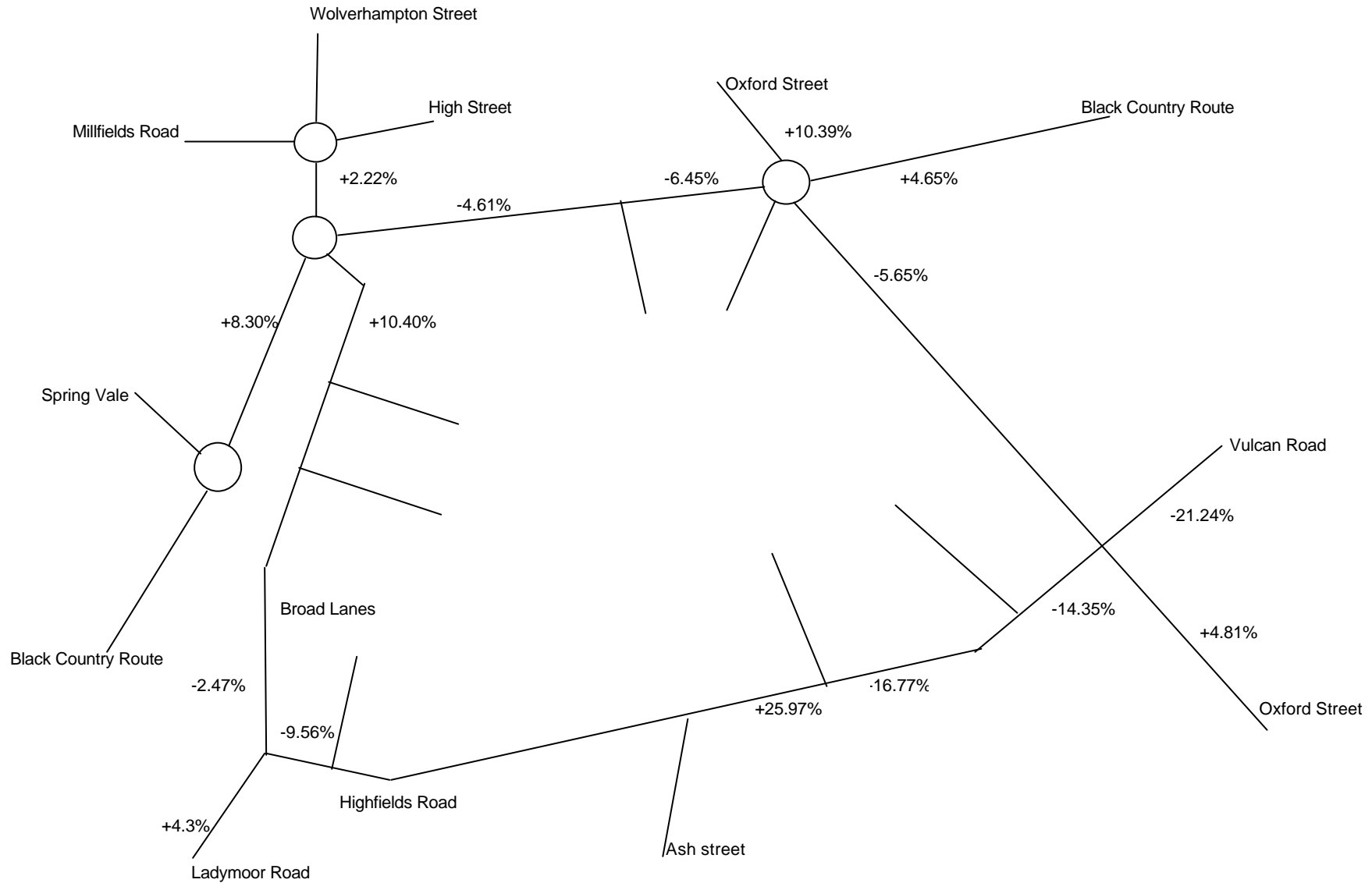
7.3.2 Dual-carriageway Link Analysis

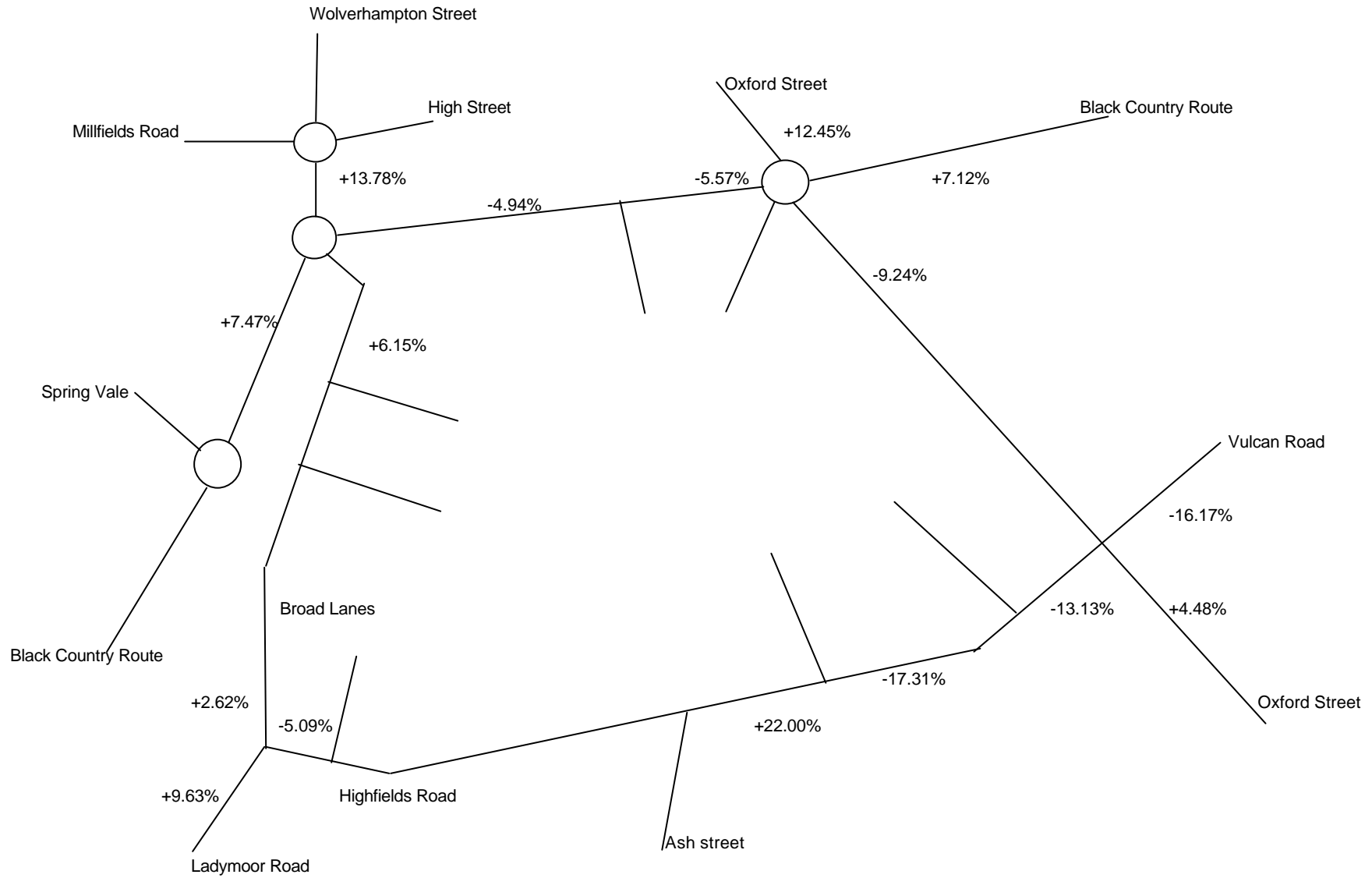
The BCR in the vicinity of the proposed Urban Village and Coseley Road (north of the Coseley Road/BCR roundabout) can be defined by the category UAP1 as described in Table 1 of

TA79/99. From Table 2 in TA79/99 the one-way hourly flow in each direction to be used in the assessment for a 7.3 m wide 2 lanes in each direction dual carriageway road of category UAP1 is 3600 vehicles per hour. It can be seen from the flows in column seven of **Tables 7.1 to 7.4** that each link within the study area is operating below the capacities set out in TA79/99, even for the worst case future year of 2034 with the development traffic flows.









8. Environmental Impact

8.1 Environmental Statement

An Environmental Statement (ES) was also undertaken as part of the outline planning application submission for the proposed Bilston Urban Village.

The methodology was based on guidance given in the document “*Guidelines for the Environmental Assessment of Road Traffic*”, published by the Institute of Environmental Management and Assessment (IEMA), formerly the Institute of Environmental Assessment. The methodology includes two rules of thumb whereby assessment is undertaken only on:

1. Highway links where traffic flows will increase by more than 30% (or the number of large goods vehicles will increase by more than 30%),
2. Any specifically sensitive areas where traffic flows have increased by 10% or more.

The ES concluded that the predicted changes in traffic flow was lower in the opening year of the full development (2019) than the threshold on all roads except the following:

- Ladymoor Road,
- Ash Street,
- Highfields Road East.

These roads are attractive for traffic from the southern part of the development that wishes to travel to the south and south west of the development area.

It was recommended that consideration be given to traffic management measures on:

- Ladymoor Road,
- Ash Street,
- Highfields Road East.

These roads are attractive for traffic from the southern part of the development that wishes to travel to the south and south west of the development area. They are not well suited for carrying volumes of traffic in excess of 1,000 vehicles per hour and it appears that they are likely to become something of a rat run for vehicles from the southern part of the development that have destinations served by, for example, the A4123 Birmingham New Road.

Traffic management measures could include:

- speed reduction measures such as road narrowing,
- better facilities to enable pedestrians to cross.

Such measures may have the effect of encouraging through traffic to divert to other routes such as the A463 BCR.

9. Internal Layout

9.1 Masterplan

Andrew Wright Associates provided the illustrative material to support the outline planning application work for the proposed Bilston Urban Village Development. The proposed areas for development total some 24 Ha (nett) of land. A further 3.4 Ha provides for principal road and pedestrian corridors within the site and total of 11.09 Ha is open space.

9.2 Parking Provision

The compact densities proposed would rely on parking ratios of no more than 1 per apartment and 1.5 per dwelling, including visitor parking. For the employment areas the maximum parking standards which have been assumed are 1 space per 30 sqm for the B1 types, 1 space per 50 sqm for the B2 types and 1 space per 300 sqm for the B8 types. This low level of car parking will help to limit the number of car borne trips and encourage the use of other modes of travel.

PPG13, Transport, paragraph 49, recognises that the availability of car parking has a major influence on the means of transport people choose for their journeys. Some studies suggest that levels of parking can be more significant than levels of public transport provision in determining means of travel (particularly for the journey to work) even for locations very well served by public transport. Reducing the amount of car parking in new development is essential, as part of a package of planning and transport measures, to promote sustainable travel choices. At the same time, the amount of good quality cycle parking in developments should be increased to promote more cycle use. PPG 13 states that convenient, safe and secure cycle parking is required in development at least at levels consistent with the cycle strategy in the Local Transport Plan. PPG13 recommends maximum car parking standards for a range of major developments. The Urban Village proposals would not exceed the maximum levels of car parking in PPG13 and it is more likely that the levels acceptable to Wolverhampton City Council will be lower and more rigorous. The levels of parking indicated in the TA and masterplan reflect these objectives.

9.3 Pedestrians and Cyclists

The Urban Village has been designed to prioritise the needs of pedestrians and cyclists. New routes will be provided within the site and integrated with the existing network of cycle paths, footpaths and rights of way. Proposed road links will be designed with cyclists in mind to promote low speeds. Pedestrian linkages across the site are going to be very much improved. Three principal pedestrian routes will traverse the site in a north-south direction, and in addition to the main spine routes east-west, a new pedestrian boulevard runs east-west within the park from Brook Street all the way to Ladymoor pool. The canal footpath (towpath) will be properly lit and be re-landscaped to a high quality. Smaller local footpaths also reinforce local linkages to the Park from all areas. Special emphasis will be placed upon ensuring that the existing

residential developments in the area at Carder Crescent and Broad Lanes will have easy and direct access to the new park. The new pedestrian and cycle network will be designed to meet the requirements of wheelchair users, and will be linked to the new and existing bus stops and the proposed new metro stop.

10. Public Transport

10.1 Existing Services in the Bilston Area

10.1.1 Forms of Public Transport

The Bilston area is well served by public transport particularly by bus and tram. The nearest railway station is situated at Coseley some 2.2 kilometres distance away from the centre of Bilston, which caters for local train services; for longer journeys by rail the station at Wolverhampton is the nearest.

10.1.2 Bus

Bilston has an existing bus station which is situated on the same section of the BCR as the proposed Urban Village. The bus station is located to the north of this section of the BCR, adjacent to Bilston market and it is proposed to locate the Urban Village to the south of this section. Several services operate from Bilston bus station and along the A41 Oxford Street, which is convenient for the Urban Village; other services run along nearby road links in the area, namely the BCR, Broad Lanes and Dudley Street. **Table 10.** shows a summary of bus services which are convenient for the Urban Village development. There may also be opportunities to divert existing services, increase the frequency of existing services or add additional services when the proposed Urban Village development is in place.

Table 10.1 Summary of Bus Services in the Bilston Area

Route Number/ Operator	Route Description	Local Stops for Bilston and Proposed Urban Village	Frequency in Minutes									
			Monday to Friday			Saturday			Sunday			
			Peaks	Daytime	Evenings	Early	Daytime	Evenings	Early	Daytime	Evenings	
5/CHA	Bilston and Walsall via Willenhall	Bilston Bus Station	Limited	30	-	-	-	30	-	-	-	-
6/CHA	Bilston and Walsall via Darlaston	Bilston Bus Station, Oxford Street	Limited	20	-	-	-	20	-	-	-	-
78/TWM	Bilston and Birmingham via Wednesbury and Hateley Heath	Bilston Bus Station, Oxford Street	20	20	Limited	Limited	20	Limited	-	-	-	-
262/TWM	Bilston and Dudley via Princes End and Tipton	Bilston Bus Station, Oxford Street	60	60	-	60	60	-	-	-	-	-
263/TWM	Bilston and Dudley via Ocker Hill, Princes End and Tipton	Bilston Bus Station, Oxford Street	60	60	-	Limited	60	-	-	-	-	-
270/TMH	Bilston and Dudley via Wallbrook and Tipton	Bilston Bus Station, Oxford Street, Loxdale Street	60	60	-	Limited	30	-	-	-	-	-
270/MCT	Bilston and Dudley via Wallbrook and Tipton	Bilston Bus Station, Oxford Street, Loxdale Street	60	Limited	Limited	-	-	-	-	-	-	-
303/TWM	Bilston and County Bridge via Willenhall	Bilston Bus Station	-	Limited	-	-	-	-	-	-	-	-

Route Number/ Operator	Route Description	Local Stops for Bilston and Proposed Urban Village	Frequency in Minutes								
			Monday to Friday			Saturday			Sunday		
			Peaks	Daytime	Evenings	Early	Daytime	Evenings	Early	Daytime	Evenings
334/TWM	Bilston and Walsall via Darlaston and Pleck	Bilston Bus Station	30	30	-	30	30	-	-	-	-
339/TWM	Bilston and Walsall via Darlaston and Pleck	Bilston Bus Station, Oxford Street	30	30	-	limited	30	-	-	-	-
401/PET	Bilston and West Bromwich via Ocker Hill	Bilston Bus Station, Oxford Street, Loxdale Street	30	30	-	30	30	-	-	-	-
401/TWM	Bilston and West Bromwich via Great Bridge	Bilston Bus Station, Oxford Street, Loxdale Street	30	30	60	30	30	60	60	60	60
401/TWM	Bilston and Walsall via Great Bridge and West Bromwich	Bilston Bus Station, Oxford Street, Loxdale Street	Limited	-	Limited	Limited	-	Limited	-	-	-
680/PET	Bilston and Moxley via Bradley	Bilston Bus Station, Dudley Street	-	30	-	-	30	-	-	-	-
77/BAN	Wolverhampton and Rocket Pool via Bilston	Bilston Bus Station, Oxford Street, Loxdale Street (certain journeys only)	Limited	Limited	-	-	Limited	-	-	-	-
223/TWM	Willenhall and Dudley via Bilston and Woodcross	Bilston Bus Station	-	60	-	-	60	-	-	-	-
224/TWM	Willenhall and Dudley via Woodcross, Bilston and Sedgley	Bilston Bus Station	Limited	60	-	-	60	-	-	-	-

Route Number/ Operator	Route Description	Local Stops for Bilston and Proposed Urban Village	Frequency in Minutes								
			Monday to Friday			Saturday			Sunday		
			Peaks	Daytime	Evenings	Early	Daytime	Evenings	Early	Daytime	Evenings
525/TWM	Wolverhampton and Bilston via Bushbury Hill	Bilston Bus Station, Oxford Street, Loxdale Street	-	-	60	-	-	60	Limited	60	60
525/TWM	Wolverhampton and Dudley via Bushbury Hill and Bilston	Bilston Bus Station, Oxford Street, Loxdale Street	30	30	-	30	30	-	-	-	-
526/TWM	Wolverhampton and Stowlawn via Bilston	Bilston Bus Station	60	60	-	Limited	60	-	-	-	-
526/MCT	Wolverhampton and Stowlawn via Bilston	Bilston Bus Station	-	-	60	-	-	60	-	60	60
526/TWM	Bilston and Stowlawn	Bilston Bus Station	20	20	-	20	20	-	-	-	-
527/TWM	Wolverhampton Circular via Goldthorn Park, Bilston and Ashmore Park	Bilston Bus Station	30	30	-	30	30	-	-	-	-
528/TWM	Wolverhampton Circular via Ashmore Park, Bilston and Goldthorn Park	Bilston Bus Station	30	30	-	30	30	-	-	-	-
530/BAN	Wolverhampton and Rocket Pool via Bilston and Lower Bradley	Bilston Bus Station, Oxford Street	30	30	-	30	30	-	-	-	-
530/TWM	Wolverhampton and Rocket Pool via Bilston and Lower Bradley	Bilston Bus Station, Oxford Street	30	30	-	30	30	-	Limited	60	60

Route Number/ Operator	Route Description	Local Stops for Bilston and Proposed Urban Village	Frequency in Minutes								
			Monday to Friday			Saturday			Sunday		
			Peaks	Daytime	Evenings	Early	Daytime	Evenings	Early	Daytime	Evenings
531/TWM	Wolverhampton and Rocket Pool via Bilston	Bilston Bus Station, Oxford Street, Loxdale Street	30	30	-	30	30	-	-	-	-
544/TWM	Wolverhampton and Dudley via Bilston	Bilston Bus Station, Oxford Street, Loxdale Street	30	30	-	30	30	-	-	-	-
544/PET	Bilston and Dudley via Wallbrook	Bilston Bus Station, Oxford Street, Loxdale Street	-	-	60	-	-	60	-	60	60
545/BAN	Wolverhampton and Bilston via Moseley	Bilston Bus Station, Broad Lanes	Limited	30	-	Limited	30	-	-	-	-
545/TWM	Wolverhampton and Merry Hill Centre via Moseley, Bilston and Sedgley	Bilston Bus Station, Broad Lanes	Limited	60	-	Limited	60	-	Limited	-	-
545/TWM	Wolverhampton and Dudley via Moseley, Bilston and Sedgley	Bilston Bus Station, Broad Lanes	-	-	60	-	-	60	-	60	60
546/TWM	Wolverhampton and Sedgley via Bilston and Coseley	Bilston Bus Station, Broad Lanes	60	60	-	60	60	-	-	-	-
572/ZAK	Wolverhampton Circular via Bilston, Willenhall and Wednesfield	Bilston Bus Station	-	60	-	-	60	-	-	-	-

Route Number/ Operator	Route Description	Local Stops for Bilston and Proposed Urban Village	Frequency in Minutes								
			Monday to Friday			Saturday			Sunday		
			Peaks	Daytime	Evenings	Early	Daytime	Evenings	Early	Daytime	Evenings
573/ZAK	Wolverhampton Circular via Wednesfield, Willenhall and Bilston	Bilston Bus Station	-	60	-	-	60	-	-	-	-
79/TWM	Wolverhampton and Birmingham via Hill Top and West Bromwich	Oxford Street	10	10	20	10	10	20	20	20	20
79/ZAK	Wolverhampton and West Bromwich via Wednesbury	Oxford Street	Limited	-	-	Limited	Limited	-	-	-	-
79/PET	Wolverhampton and West Bromwich via Wednesbury	Oxford Street	-	-	-	-	-	-	Limited	-	-
903 (night service)/ TWM	Wolverhampton Circular via Bilston, Princes End and Sedgley	Oxford Street, Loxdale Street (one-way service only)	-	-	-	Limited	-	-	Limited	-	-
224/TWM	Willenhall and Dudley via Bilston, Woodcross and Sedgley	BCR, west of Coseley Road Roundabout	Limited	60	-	-	60	-	-	-	-

1. Centro's complete Public Transport Map and Guide for Wolverhampton, July 2000 Edition
2. Operator Codes relevant to the above Table, BAN-Banga Travel, CHA-Chase Bus Service, MCT-Midland Choice Travel, PET-Pete's Travel, TMH-Travel Merry Hill, TWM-Travel West Midlands, ZAK-Zaks Bus and Coach Service.
3. Time Periods - Monday to Friday, Peaks generally the service provided between 0730 & 0930 and between 1530 & 1800, Daytime 0930 & 1530, Evening 1800 and end of service. Saturday, Early service before 0900, Daytime service between 0900 & 1800, Evening period between 1800 and end of service. Sunday, Early service before 1100, Daytime service between 1100 & 1800, Evening period between 1800 and end of service

10.1.3 Train

Local train services within the West Midlands are operated by Central Trains Limited on behalf of Centro. The nearest stations to Bilston are Wolverhampton and Coseley. Wolverhampton station has easy access facilities for disabled users and car parking available, although it should be noted that this is not Centro Free car parking. Coseley station has easy access facilities for disabled users and Centro Free car parking for all rail users with additional car parking available in Havacre Lane which is part funded by the European Union. The parking available at Coseley appeared to be very well used. **Table 10.2.** shows a summary of rail services which serve both Coseley and Wolverhampton stations.

Table 10.2 Summary of Rail Services at Stations near to Bilston

Services	Local Stations to Bilston	Some of the Other Stations Served	Service Operated By	Approx. Weekday Frequency	Approx. Saturday Frequency	Approx. Sunday Frequency
Coventry-Birmingham New St.-Wolverhampton (local trains only)	Coseley, Wolverhampton	Canley, Berkswell, Birmingham International, Smethwick (Rolfe Street & Galton Bridge), Sandwell & Dudley	Central Trains Limited	Every half hour from 0630-1930 then hourly until 0019	Every half hour from 0630-1930 then hourly until 0019	Hourly from 0800-2230
Coventry-Birmingham New St.-Wolverhampton	Wolverhampton	Birmingham International, Smethwick Galton Bridge, Sandwell & Dudley	Virgin Trains	Every half hour (or at least hourly) from 0800-0043	Every half hour (or at least hourly) from 0800-0043	At least hourly from 0900-0131

This information has been extracted from the Winter 2000/2001 Train Times leaflet produced by Centro which is valid from 24 September 2000 to 19 May 2001 which covers the Wolverhampton, Birmingham and Coventry route.

10.1.4 Tram

The Midland Metro Line One forms the eastern boundary of the proposed Urban Village site and operates between Wolverhampton and Birmingham Snow Hill via Bilston, Wednesbury West Bromwich, Handsworth and The Jewellery Quarter. The most convenient stops on this line for the Urban Village are the Loxdale Street and Bilston Central stops. The Loxdale Street stop is convenient for Bradley and Princes End and the Bilston Central stop convenient for the Shopping Centre, Market and Bus Station. The Bilston Central stop is signposted from the BCR as being a Park and Ride facility and is accessed from the BCR by turning onto Oxford Street north and then taking the first left turn into the car park which has spaces for approximately 150 vehicles.

The Midland Metro operates a 6-7 minute frequency service on Mondays to Saturdays (not Bank Holiday Mondays) from 0630 to 1900 hours and then every 10 minutes from 1900 to 2330 hours. On Sundays and Bank Holiday Mondays a 10 minute frequency service operates from 0800 to 2300 hours.

10.2 Future Provision and Modal Shift

PPG13, Transport, states that: “A key planning objective is to ensure that jobs, shopping, leisure and services are highly accessible by public transport, walking and cycling.” The masterplan layout and proposals put forward aim to achieve this objective.

Public transport to the site will be radically improved and it is proposed that each dwelling within the Urban Village is within 2-3 minutes walk of public transport. It is intended to investigate the possibility of a new Metro stop at Brook Street, however this is close to the existing station in Bilston and may prove uneconomic. New linkages across the site would enable local bus routes to serve the site and would aid with more direct links between Bilston and Bradley.

Initial discussions took place with Centro who are the West Midlands Passenger Transport Executive. Centro were encouraged by the measures indicated to enhance public transport accessibility in the area and emphasised that the Urban Village needs to be well served and provide complementary measures to demonstrate how the developments will be served by a choice of transport modes. The West Midlands Passenger Transport Authority/Centro 20 Year Public Transport Strategy sets out a vision for a high quality, integrated public transport system for the West Midlands. The strategy also includes a set of network accessibility standards, to provide good levels of access to new developments. Further consultations will be required, as more detailed plans are produced, to ensure that these requirements are met. In summary the applicable section of the PTA/Centro 20 Year Public Transport Strategy states that:

- Significant employment developments should be located within a maximum of 400 metres of the Midland Metro stops;
- All medium/high density (50 dwellings per hectare) residential development should be located within 700 metres of the Midland Metro stops; and
- Developments should be within 400 metres of a local network stop (bus) and service frequency should be at least 30 minutes, Mondays to Saturdays.

Further consultations will also be required with Centro and the bus operators with regard to the details of the proposed new Metro Stop, bus interchange facilities, the bus infrastructure specifications and the road layout. To ensure that the complies with the PTA/Centro 20 Year Public Transport Strategy, the proposed public transport initiatives and measures will need to be secured through a developer contribution in the form of a Section 106 obligation or other formal agreement.

The trips estimated to be generated by the proposed development do not take into account any modal shift towards people using public transport and therefore consider a worst case scenario in terms of private vehicular trips. The West Midlands Local Transport Plan identifies a 26% modal split for public transport in the Wolverhampton area which should be a realistic target to set for the Urban Village and appropriate initiatives and measures incorporate in the final design to encourage residents and employees to use sustainable transport modes.

11. Summary

This Transport Assessment has been carried out as part of the outline planning application to consider the effects of a proposed Urban Village adjacent to the town of Bilston in the West Midlands. It is considered that the approach which has been taken when carrying out this work forms a robust scoping assessment for the further studies which will be required at the more detailed stages of the planning and development process. The following factors have been taken into account when carrying out the TA to ensure that the traffic flows considered in the assessment have formed a “worst case scenario”:

- the first year of assessment which has been considered is the year 2019, which is the first year of opening of the full development;
- the second year of assessment which has been considered is the year 2034, which is fifteen years after the opening year of the full development;
- the development generated traffic flows have been calculated using trip rates taken from the jdt, Mott MacDonald GENERATE database which is based in information in the West Midlands
- the mix of development uses chosen from the GENERATE database when calculating the trip rates were uses which were considered to be both realistic and robust for the proposed development;
- the proposed Urban Village will be of a mix and form which is sustainable;
- new and improved public transport, pedestrian and cyclist facilities will be provided;
- low levels of car parking will be provided; and
- no account has been taken of any modal shift away from people using the private car when calculating the number of trips generated by the proposed development.

At this stage it was not considered necessary to carry out a full TA, involving detailed junction modelling, for the development and it was agreed with Wolverhampton City Council that it would be sufficient to identify the road links which would require further detailed assessment. At this stage, the operational capacity of the individual junctions which may require further consideration have not been assessed. Those junctions which will require further consideration, in the future detailed stages of the development, have been identified based upon the impacts on the road links serving them. As is stated in the IHT guidelines, a TIA should normally be produced where one or other of the following thresholds are exceeded:

- traffic to and from the development exceeds 10% of the existing two-way traffic flow on the **adjoining highway**
- traffic to and from the development exceeds 5% of the existing two-way traffic flow on the **adjoining highway**, where traffic congestion exists or will exist within the assessment period or in other sensitive locations

The road links which have been identified in this assessment as requiring further consideration are:

- Broad Lanes, south of Coseley Road roundabout;
- A463 BCR, west of Coseley Road roundabout;
- Coseley Road, north of Coseley Road roundabout;
- A41 Oxford Street north of the Oxford Street roundabout;
- A463 BCR, east of Oxford Street roundabout;
- Oxford Street, south of Loxdale Street;
- Highfields Road between Bankfield Road and Ash Street;
- Ladymoor Road, south of Broad Lanes; and
- Broad Lanes, north of Highfields Road.

It should be recognised that the majority of links identified in the above list and **Table 7.5** are smaller local roads and that the smaller increase and decreases are predominantly on the BCR and more major roads. When considering in more detail therefore the links and junctions potentially affected, traffic should be encouraged to use the BCR more by the introduction of traffic management measures on the smaller local roads to discourage and divert traffic.

It is considered that the junctions which will require further work are identified in **Table 7.5** and summarised as being:

- road links at the Coseley Road roundabout showed increases in traffic due to the development. This junction will require further assessment to test its capacity to accommodate this predicted increase in traffic. Widening of entry arms at this junction may provide some additional capacity, however as this is already a large junction, signalisation may be more appropriate and should be considered as an option.
- road links at the Oxford Street roundabout showed both increases and decreases in traffic due to the development. Due to these predicted increases and decreases in flows around the junction further assessment of the whole junction is recommended. Signalisation of this roundabout may be required to cope with the uneven distribution of traffic flows and turning proportions around this junction.
- Oxford Street to the south of Loxdale Street showed increase in traffic due to the development. As this link is part of a traffic signal controlled junction it may be possible to alter the phasing of the signals to accommodate this change in flows around these links

The proposed access into the site will be from several locations utilising both existing and new road links. The new accesses at Broad Lanes and Highfields road will be required to be designed to the satisfaction of Wolverhampton City Council and to a standard suitable to accommodate the traffic flows anticipated to use them. The existing accesses into the site which will require probable upgrading and their operational capacity testing due to an increase in traffic anticipated to use them are Brook Street, Bankfield Road and Northcott Road. Brook

Street is currently a single carriageway road which does not have any widening at its entry to the Oxford Street roundabout. At present it serves a small residential area, scrapyards and forms an alternative route to Morrisons supermarket. Brook Street will need to be realigned to serve as a major access into the proposed Urban Village and may require widening at the roundabout entry.

The environmental effects of the traffic generated from the proposed Urban Village have been considered in the accompanying Environmental Statement and only briefly summarised in this report. It was recommended in the ES that consideration be given to traffic management measures on Ladymoor Road, Ash Street and Highfields Road East.

In broad terms it is considered that the transport impact of the proposed Urban Village development is considered acceptable and is not envisaged to cause any major impacts on the highway network due to the traffic flows which it has been estimated to generate. A “worst case scenario” has been considered using robust assumptions and given that there are policy objectives to develop a modal shift away from the private car it could be assumed that the actual traffic generation will in fact be much lower than that assessed in this TA.