West Midlands
Key Route Network
Birmingham Cross City
Figure 1

West Midlands Key Route Network

Key Route Network

- Birmingham A38, A38(M), A40, A441, A4400, A4540, A5127, B4138, B4144, B4145, B4148, B4154
- Birmingham Outer Circle A4030, A4040, B4145, B4146
- Birmingham to Stafford A34
- Black Country Route A4549, A463, A4644
- Black Country to Birmingham A41
- Coventry to Birmingham A45, A4114(N), B4106
- East of Coventry A428, A4082, A4060, B4082
- East of Walsall A4548, B4151, B4152
- Kingswinford to Halesowen A461, A4101
- Lichfield to Wednesbury A465, A4658
- North and South Coventry A4082, A4110, A4113
- Northfield to Wolverhampton A4123, B4122
- Pensnett to Oldbury A465, A4034, A4100, B4179
- Sedgley to Birmingham A457, A4030, A4031, A4034, A4092, A4252, B4125, B4135
- Solihull to Birmingham A3402, A41, A467, B4145
- Stourbridge to Wednesbury A461, A4036, A4098
- Stourbridge to North of Wolverhampton A449, A460, A491
- UK Central to Brownhills A52
- West Bromwich Route A4031, A4041
- West of Birmingham A456, A458, B4124
- Wednesfield to Wednesbury A462, A4038
- Wolverhampton to Brownhills A4124
- Wolverhampton to Halesowen A459, B4171
- A5, A45, A46, A446, A452

Strategic Road Network

- Operated by Highways England – Motorways – not part of KRN

M6 Toll

- Operated by Highways England – Trunk Roads – not part of KRN

West Midlands Key Route Network (KRN) Map, Version 1.0, August 2017
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The Birmingham Cross City route is a 62 miles/100km section of the West Midlands Key Route Network (KRN) that serves the communities situated:

- Within Birmingham City Centre
- Between Birmingham City Centre and Sutton Coldfield to the North
- Between Birmingham City and South Birmingham towards the Lickey Hills
- Between Birmingham City and Hollywood via Moseley and Kings Heath

The Birmingham Cross City Route is formed of the A38, A38 (M), A47, A435, A441, A435, A441, A453, A4400, A4540, A5127, B4138, B4144, B4145, B4148 and B4154.

It is the key route providing access for the workforce and enabling the import of materials and export of goods to Birmingham City Centre and also major industrial and employment sites within Birmingham via the national Strategic Road Network (SRN). This includes Jaguar Land Rover Plant, Fort Dunlop, Fort Industrial Park, Fort Shopping Park, Gravelly Industrial Park and Cadbury World in Selly Oak.

Within Birmingham City Centre, it serves to provide access to the Birmingham Children's Hospital, Aston University and Birmingham City University. The route also connects to Star City, a large leisure complex off the A47, and provides access to Joseph Chamberlain College on the A435 near the Birmingham Ring Road.

In the north, the route provides access to Sutton Coldfield Town Centre and Good Hope Hospital along the A5127 and intersects and connects to the UK Central to Brownhills, East of Walsall, West Bromwich and Birmingham Outer Circle KRN Routes.

In the south, the route also provides linkage to the Queen Elizabeth Hospital and University of Birmingham campus along the A38 Bristol Road. The route interacts with a number of sites identified by the Greater Birmingham and Solihull LEP as part of the City Centre Enterprise Zone including Paradise Circus, Snowhill, Birmingham Children's Hospital and Masshouse. It also passes Aston Advanced Manufacturing Hub and Science Park and is in close proximity to Witton Food Hub. To the south of the route lies the ITEC Park in Longbridge.

Across the region the route provides a strategic link to Staffordshire and Tamworth in the north and Worcestershire and Redditch in the south. This route has a number of connections to the SRN. These are:

- A38(M) to M6 Junction 6
- A5127 to M6 Junction 6
- A47 to M6 Junction 5
- A38 to M6 (Toll) Junction T3
- A435 to M42 Junction 3
- A441 to M42 Junction 2
- A38 south to M5 Junction 4

The connection to the M6 provides long distance connectivity to the Northwest of England and into Scotland; London via the M1; the Northeast of England via the M42 and the East of England via the A14. The A38 section in Minworth provides access to the M6 Toll and the A38 trunk road towards Burton on Trent and Derby. The M42 connection provides access to London and the Southeast of England via the M40 and to the Southwest of England via the M5.

This route also forms crucial connections with eight other routes on the Key Route Network, these are:

**Birmingham Outer Circle**

- A453 Aldridge Road/A4040 Aston Lane
- A5127 Gravely Hill North/A4040 Reservoir Road
- A38 Tyburn Road/A4040 Bromford Lane
- A47 Heartlands Parkway/A4040 Bromford Lane/Fort Parkway
- A441 Pershore Road/A4040 Fordhouse Lane
- A441 Pershore Road/A4040 Watford Road
- A38 Bristol Road/A4040 Oak Tree Lane
- A435 Alcester Road South/B4146 Addison Road

**Birmingham to Stafford**

- A4540 New John Street West/A34 New Town Row
- A453 Aldridge Road/A34 Birchfield Road
Coventry to Birmingham
- A4540 Watery Lane Middleway/A45 Small Heath Highway

Northfield to Wolverhampton
- A38 Bristol Road South/B4121 Bell Hill

Sedgley to Birmingham
- A4400 Great Charles Queensway/A457 Parade
- A4540 Ladywood Middleway/A457 Summer Hill Road

Solihull to Birmingham
- A4540 Bordesley Middleway/A34 Stratford Road
- A435/A4540/A4167 Haden Circus

UK Central to Brownhills
- A452 Chester Road/A453 College Road
- A452 Chester Road/A5127 Sutton Road
- A452 Chester Road/A38 Kingsbury Road
- A452 Chester Road/A47 Fort Parkway

West of Birmingham
- A4540/A456 Five Ways Roundabout
- A4400 Suffolk Street Queensway/A456 Broad Street

The sections of the route around the City (A4540) and through the City (A38/A38(M)) consist mainly of urban dual carriageways.

North of the City Centre, sections of dual carriageway are located along the A47 between the City Centre and A452 Chester Road, the A38 Tyburn/Kingsbury Road to the M6 Toll and the A453/B4138 between One Stop and Streetly. The remaining sections are single carriageways. The route passes through suburban residential communities and local shopping centres. In most cases properties are well set back from the carriageway with off-street parking and there are Red Route restrictions in place along the A38 Tyburn Road.

South of the City Centre, the A38 section of the route is dual carriageway whilst the A435 and A441 are mainly single carriageway roads that pass through suburban residential communities and local shopping centres with off-street parking and properties set back from the carriageway.
Key Facts

Route Length:
62 miles/100km

Volume of Traffic in 2016:
*965.61 million vehicle kilometres

Main Centres served:
Birmingham, Aston, Erdington, Sutton Coldfield, Selly Oak, Northfield, Kings Heath & Moseley

Coordinating Highway Authority:
West Midlands Combined Authority

Responsible Local Highway Authority:
Birmingham City Council

Number of KSI collisions 2014-2016:
320

*This figure has been calculated using AADT link data. Flows on minor roads such as B roads therefore may not be included.
Congestion, Delay, Reliability

This route represents 16% of the total length of the West Midlands Key Route Network. According to the latest data available from 2016, this route had a minimum annual average daily flow (AADF) of 6,200 vehicles, a maximum of 139,100 with an average of 33,600 AADF.

The route experiences large volumes of traffic, particularly on:

- The A4540 Ring Road (especially the eastern side);
- The A38 through the City between the M6 at Gravelly Hill and Edgbaston;
- The A5127 between Sutton Coldfield and Gravelly Hill;
- The A441 at Stirchley; and
- The A435 at Kings Heath.

The locations of the most significant congestion-related delays (>60 sec/km) are set out in tables 1 and 2.

<table>
<thead>
<tr>
<th>Road</th>
<th>Location</th>
<th>Direction</th>
</tr>
</thead>
<tbody>
<tr>
<td>A38</td>
<td>Oxleys Lane to Minworth Island</td>
<td>Inbound to City</td>
</tr>
<tr>
<td>A38</td>
<td>Maybrook Road to Tyburn House Island</td>
<td>Inbound to City</td>
</tr>
<tr>
<td>A38</td>
<td>B4148 Tyburn Road to Jarvis Way</td>
<td>Inbound to City</td>
</tr>
<tr>
<td>A38(M)/A38</td>
<td>M6 Gravelly Hill Interchange to B4100 Old Snow Hill</td>
<td>Inbound to City</td>
</tr>
<tr>
<td>A38</td>
<td>A4040 Harborne Lane to A4540 Middleway</td>
<td>Inbound to City</td>
</tr>
<tr>
<td>A38</td>
<td>Pebble Mill Road to B384 Bristol Road, Selly Oak</td>
<td>Outbound from City</td>
</tr>
<tr>
<td>A38</td>
<td>Frankley Beeches Road to Bell Hill, Northfield</td>
<td>Inbound to City</td>
</tr>
<tr>
<td>A38</td>
<td>B4120 Lickey Road to Tessall Lane, Longbridge</td>
<td>Inbound to City</td>
</tr>
<tr>
<td>A5127</td>
<td>A38 Tyburn Road, Gravelly Hill to A453 Tamworth Road, Sutton Coldfield</td>
<td>Both</td>
</tr>
<tr>
<td>A5127</td>
<td>A454 Four Oaks to A453 Tamworth Road, Sutton Coldfield</td>
<td>Inbound to City</td>
</tr>
<tr>
<td>A453/B4138</td>
<td>B4149 Kings Road to A34 Perry Barr</td>
<td>Inbound to City</td>
</tr>
<tr>
<td>A441</td>
<td>Selly Wick Road to Edward Road, Edgbaston</td>
<td>Inbound to City</td>
</tr>
<tr>
<td>A441</td>
<td>A4540 Middleway to Edward Road, Edgbaston</td>
<td>Outbound from City</td>
</tr>
<tr>
<td>A441</td>
<td>Selly Park Road to Lifford Lane, Stirchley</td>
<td>Outbound from City</td>
</tr>
<tr>
<td>A441</td>
<td>Masshouse Lane, Kings Norton to Selly Park Road, Stirchley</td>
<td>Inbound to City</td>
</tr>
<tr>
<td>A4540</td>
<td>Ryland Road to Five Ways Island</td>
<td>Clockwise</td>
</tr>
<tr>
<td>A4540</td>
<td>Icknield Port Road to Five Ways Island</td>
<td>Anticlockwise</td>
</tr>
</tbody>
</table>
Peak hour journey time on the sections of the route experiencing the highest delays has been found to be 150% higher than (i.e. 2½ times) the equivalent free flow time, which is based on the average journey time between 22:00 – 06:00.

A particular impact of the congestion is to create problems with access to the Queen Elizabeth Hospital, the Good Hope Hospital, the Universities of Birmingham and Aston and the Jaguar Land Rover plant at Castle Bromwich, which relies on just-in-time deliveries.

There also is adverse impact on access to major tourist, leisure and retail destinations within the City Centre such as the Symphony Hall, Football Grounds, the Barclaycard Arena and the Bull Ring Shopping Centre as well as to the New Street, Snow Hill and Moor Street Railway Stations.

<table>
<thead>
<tr>
<th>Road</th>
<th>Location</th>
<th>Direction</th>
</tr>
</thead>
<tbody>
<tr>
<td>A4540</td>
<td>Carver Street to A457 Summer Hill Road</td>
<td>Anticlockwise</td>
</tr>
<tr>
<td>A4540</td>
<td>New John Street to Heaton Street</td>
<td>Anticlockwise</td>
</tr>
<tr>
<td>A4540</td>
<td>Hospital Street to Dartmouth Circus</td>
<td>Clockwise</td>
</tr>
<tr>
<td>A4540</td>
<td>A34 New Town Row to Summer Lane</td>
<td>Anticlockwise</td>
</tr>
<tr>
<td>A4540</td>
<td>Dartmouth Circus to A47 Neachells Parkway</td>
<td>Clockwise</td>
</tr>
<tr>
<td>A4540</td>
<td>A34 Stratford Road to Dartmouth Circus</td>
<td>Anticlockwise</td>
</tr>
<tr>
<td>A435</td>
<td>B4146 Addison Road, Kings Heath, to A4540 Middleway</td>
<td>Inbound to City</td>
</tr>
<tr>
<td>A435</td>
<td>Moseley Road to Brighton Road, Sparkbrook</td>
<td>Outbound from City</td>
</tr>
<tr>
<td>A435</td>
<td>Queensbridge Road, Wakes Green, to Howards Road, Kings Heath</td>
<td>Outbound from City</td>
</tr>
<tr>
<td>A435</td>
<td>Broad Lane to Sladepool Farm Road, Druids Heath</td>
<td>Outbound from City</td>
</tr>
<tr>
<td>A435</td>
<td>Maypole Island to Warstock Road, Druids Heath</td>
<td>Inbound to City</td>
</tr>
<tr>
<td>A47</td>
<td>Wingfoot Way to A4040 Bromford Lane, Fort</td>
<td>Inbound to City</td>
</tr>
</tbody>
</table>
Average Speeds

The average speed for this route in the peak hours is between 10-20 mph throughout its busiest sections. The areas approaching Birmingham City Centre, Edgbaston, Kings Heath, Selly Oak, Aston, Erdington and Wylde Green are particularly slow during the morning and evening peaks and speed can be as low as less than 10 mph. The areas in which speeds are less than 10 mph on average in the peak hours are:

- A5127 on either side of Sutton Coldfield Town Centre
- A5127 near Erdington Six Ways Island
- Inner Ring Road (Birmingham City Centre)
- Kings Heath High Street (A435)
- A38 near the University of Birmingham
- A441 Pershore Road around Stirchley

Table 2: PM Peak Congestion-Related Delays

<table>
<thead>
<tr>
<th>Road</th>
<th>Location</th>
<th>Direction</th>
</tr>
</thead>
<tbody>
<tr>
<td>A38(M)/A38</td>
<td>Paradise Circus to M6 Gravelly Hill Interchange</td>
<td>Outbound from City</td>
</tr>
<tr>
<td>A38</td>
<td>A4040 Bromford Lane to A5127 Gravelly Hill</td>
<td>Inbound to City</td>
</tr>
<tr>
<td>A38</td>
<td>B4148 Tyburn Road to A452 Chester Road</td>
<td>Outbound from City</td>
</tr>
<tr>
<td>A38</td>
<td>Priory Road to Paradise Circus</td>
<td>Inbound to City</td>
</tr>
<tr>
<td>A38</td>
<td>Paradise Circus to A4040 Harborne Lane</td>
<td>Outbound from City</td>
</tr>
<tr>
<td>A38</td>
<td>A4040 Harborne Lane to Edgbaston Park Road</td>
<td>Inbound to City</td>
</tr>
<tr>
<td>A38</td>
<td>Bell Hill to Frankley Beeches Road, Northfield</td>
<td>Outbound from City</td>
</tr>
<tr>
<td>A38</td>
<td>B4120 Lickey Road to Tessall Lane, Longbridge</td>
<td>Inbound to City</td>
</tr>
<tr>
<td>A38</td>
<td>Cliff Rock Road to Park Way, Longbridge</td>
<td>Outbound from City</td>
</tr>
<tr>
<td>A5127</td>
<td>A38 Tyburn Road, Gravelly Hill to A453 Tamworth Road, Sutton Coldfield</td>
<td>Outbound from City</td>
</tr>
<tr>
<td>A5127</td>
<td>A454 Four Oaks Road to Jockey Road, Sutton Coldfield</td>
<td>Inbound to City</td>
</tr>
<tr>
<td>A453</td>
<td>Wellhead Lane to Aldridge Road, Perry Barr</td>
<td>Both</td>
</tr>
<tr>
<td>A441</td>
<td>A4540 Middleway to Priory Road, Edgbaston</td>
<td>Outbound from City</td>
</tr>
<tr>
<td>A441</td>
<td>Selly Wick Road, Selly Park to A4040 Fordhouse Lane, Cotteridge</td>
<td>Outbound from City</td>
</tr>
<tr>
<td>A441</td>
<td>Bourneville Lane to Selly Park Road, Stirchley</td>
<td>Inbound to City</td>
</tr>
<tr>
<td>A4540</td>
<td>Great King Street North to A435 Haden Circus</td>
<td>Both</td>
</tr>
<tr>
<td>A4540</td>
<td>A38 Bristol Road to B4126 Icknield Port Road</td>
<td>Clockwise</td>
</tr>
<tr>
<td>A4540</td>
<td>Cope Street to Five Ways Island</td>
<td>Anticlockwise</td>
</tr>
<tr>
<td>Road</td>
<td>Location</td>
<td>Direction</td>
</tr>
<tr>
<td>----------</td>
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</tr>
<tr>
<td>A4540</td>
<td>Cope Street to A457 Summer Hill Road</td>
<td>Clockwise</td>
</tr>
<tr>
<td>A4540</td>
<td>Pitsford Street to A457 Summer Hill Road</td>
<td>Anticlockwise</td>
</tr>
<tr>
<td>A4540</td>
<td>Hospital Street to Dartmouth Circus</td>
<td>Clockwise</td>
</tr>
<tr>
<td>A4540</td>
<td>Dartmouth Circus to Summer Lane</td>
<td>Anticlockwise</td>
</tr>
<tr>
<td>A4540</td>
<td>A34 Stratford Road to Dartmouth Circus</td>
<td>Anticlockwise</td>
</tr>
<tr>
<td>A4540</td>
<td>A38 Bristol Street to Haden Circus</td>
<td>Anticlockwise</td>
</tr>
<tr>
<td>A4540</td>
<td>Garrison Lane to A45 Small Heath Highway</td>
<td>Clockwise</td>
</tr>
<tr>
<td>A4540</td>
<td>A34 Stratford Road to Haden Circus</td>
<td>Clockwise</td>
</tr>
<tr>
<td>A435</td>
<td>Haden Circus to Moseley Road, Sparkbrook</td>
<td>Outbound from City</td>
</tr>
<tr>
<td>A435</td>
<td>Moseley Road to Balsall Heath Road, Sparkbrook</td>
<td>Inbound to City</td>
</tr>
<tr>
<td>A435</td>
<td>Park Hill to B4127 Salisbury Road, Moseley</td>
<td>Outbound from City</td>
</tr>
<tr>
<td>A435</td>
<td>Queensbridge Road, Wake Green to Taylor Road, Alcester Lane's End</td>
<td>Both</td>
</tr>
<tr>
<td>A435</td>
<td>Warstock Road to Maypole Island, Druids Heath</td>
<td>Both</td>
</tr>
<tr>
<td>A47</td>
<td>B4137 Cuckoo Road to A452 Chester Road</td>
<td>Outbound from City</td>
</tr>
</tbody>
</table>
Junction Capacity Issues

There are several junctions along the route where the evidence suggests that there are capacity issues restricting the free flow of traffic in peak hours; these are:

- A4540 New John Street/Great King Street North
- A4540 New John Street/A34 New Town Row
- A4540 Newtown Middleway/A38(M) Aston Expressway
- A4540 Lawley Middleway/A47 Nechells Parkway
- A4540 Lawley Middleway/B4132 Vauxhall Road
- A4540 Lawley Middleway/Garrison Lane
- A4540 Watery Lane Middleway/A45 Small Heath Highway
- A4540 Bordesley Middleway/A34 Stratford Road
- A4540 Highgate Middleway/A435 Haden Way
- A4540 Belgrave Middleway/A441 Pershore Road
- A4540 Belgrave Middleway/A38 Bristol Street
- A4540 Islington Row Middleway/A456 Hagley Road
- A4540 Ladywood Middleway/ A457 Spring Hill
- A38 Bristol Road/ A384 Bristol Road
- A38 Aston Webb Boulevard/ A4040 Harborne Lane
- A38 Sir Herbert Austin Way/B4121 Bell Hill
- A435 Alcester Road South/B4122 Vicarage Road
- A435 Alcester Road South/Maypole Lane
- A441 Pershore Road/Umberslade Road
- A441 Pershore Road/A4040 Fordhouse Lane
- A441 Pershore Road/A4040 Watford Road
- A441 Pershore Road/B4121 Middleton Hall Road
- A41 Soho Road/B4144 Villa Road
- A34 High Street/Victoria Road
- A38(M) Aston Expressway/Victoria Road/B4132 Waterlinks Boulevard, Park Circus
- A38 Tyburn Road/A5127 Lichfield Road
- A38 Tyburn Road/Bromford Lane
- A5127 Gravelly Hill North/A4040 Reservoir Road
- A47 Heartlands Parkway/A4040 Bromford Lane
- A47 Fort Parkway/A452 Chester Road
- A47 Fort Parkway/A452 Chester Road
- A38 Kingsbury Road/A452 Chester Road
- B4148 Tyburn Road/A452 Chester Road
- A5127 Sutton Road/A452 Chester Road
- A4041 Queslett Road East/A452 Chester Road
- A5127 Birmingham Road/Queen Street
- A5127 Victoria Road/Mill Street
West Midlands
Key Route Network
Birmingham Cross City

Key

Roads
- The Route
- Strategic Road Network operated by Highways England
- M6 Toll operated by Midland Expressway Ltd.

Environment, Flows and Junction Capacity
- Flooding area
- Congestion area
- Junction capacity issue

Route Safety
- KSI hotspot zone – high number of serious or fatal incidents

Key Considerations
- Housing development area
- Named site of strategic importance
- District and local centres

Figure 3 – 1 of 3
West Midlands
Key Route Network
Birmingham Cross City

Key

Roads
- The Route

Environment, Flows and Junction Capacity
- Flooding area
- Congestion area
- Junction capacity issue

Route Safety
- KSI hotspot zone – high number of serious or fatal incidents

Key Considerations
- Housing development area
- Named site of strategic importance
- District and local centres
West Midlands
Key Route Network
Birmingham Cross City

Figure 3 – 3 of 3

Key

Roads
- The Route

Environment, Flows and Junction Capacity
- Flooding area
- Congestion area
- Junction capacity issue

Route Safety
- KSI hotspot zone – high number of serious or fatal incidents

Key Considerations
- Housing development area
- Named site of strategic importance
- District and local centres
Improving Road Safety is critical to the overall vision of the West Midlands Strategic Transport Plan – Movement for Growth. The development of a new West Midlands Road Safety Strategy and Action Plan will make reference to the current West Midlands forecasts to achieve a 40% reduction in fatalities and serious injury casualties by 2020, from the 2015 baseline.

During the 2016 calendar year, we noted the following key statistics on this route:

**Collisions**
- 701 collisions, involving 1,319 vehicles
- Main contributory factor: Failed to look properly (pedestrian) (22% of all collisions)
  - The Killed and Seriously Injured (KSI) ratio for this group is one of the highest for this route at 23% with 33% of all fatalities being attributed to this group.
- Main contributory factors
  - Poor turn or manoeuvre (6% of all collisions)
  - Careless or Reckless or In a hurry (Driver) (5%)
  - Failed to judge other persons path or speed (5%)

**Casualties**
- Total casualties: 913
- Killed and Seriously Injured: 135
  - (15% of all casualties, up 6% when compared to 2015 figure of 104)
    - Killed: 11 (1% of all casualties, up by 0.5%)
    - Seriously injured: 124 (14% of all casualties, up/down by 6%)
- Slight: 778 (85% of all casualties)

**Casualty Types**
We noted the following key statistics in relation to casualties falling into specific groups:
- Pedestrians: 168 (an increase of 0.04% compared to 2015)
- Powered Two wheel vehicles: 102 (an increase of 1% compared to 2015)
- Pedal cyclists: 71 (an increase of 2% compared to 2015)
- Car occupants: 572 (a reduction of 2% compared to 2015)
ROAD SAFETY

KSI Clusters

On the A5127 there is a large KSI cluster, which includes a fatal collision, between Erdington Roundabout at the A4040 and the roundabout at the A38 Tyburn Rd. This section is mainly single urban carriageway in a built-up residential area. There are also a couple of KSI clusters on the A5127 either side of Sutton Coldfield in the vicinity of the A452 and Four Oaks. These sections are mainly single urban carriageway in a built-up residential/high street environment.

The other main KSI cluster on the route, which also has a fatal collision, is on the B4144 between the A34 and the A41. This section is mainly single urban carriageway in a built-up residential/high street environment.

A KSI cluster also exists in the vicinity of the A38/B4148, this section is mainly urban dual carriageway in a built-up residential area. On the A435 there is a KSI cluster between Moseley Road and Tindal Street. This area is a built-up high street environment.
Cycling

There are proposals for the introduction of a cycleway along the A38 between Selly Oak and the City Centre and from the City Centre to Perry Barr on the A34.

The National Cycle Network Route 5 runs parallel to the A441/Pershore Road. There are no provisions for cycling around the Ring Road in Birmingham. There is an off road shared use route along the A47 to Castle Vale and there are no provisions for cycling along the B4140 between A34 and Lichfield Road and A5127.

The northern section of the A38 has no provision and this section of the route has been identified for significant development in housing in the upcoming years. There are shared use traffic free routes in the southern section between Chester Road and Minworth Island. There is a canal towpath that runs parallel between Spaghetti Junction to the Birmingham boundary.

There are no formal provisions for cycling from the junction with the Ring Road to the boundary. The road has several sites were movement for active travel is challenging due to busy high streets and parking.

Along Kingstanding Road/B4138 there are no formal provisions for cycling.
With the exception of some sections of the A435 beyond Maypole, this route is well served by a number of high frequency bus services operating every 7/8 - 30 minutes. These services provide access to Birmingham City Centre, Sutton Coldfield Town Centre, Erdington and Northfield District Centres, Queen Elizabeth Hospital, Birmingham City Hospital, University of Birmingham, Aston University, Birmingham City University, leisure destinations (including Star City, Cadbury World, Aston Villa Football Club, and Warwickshire County Cricket Club), employment sites and the surrounding communities.

There are long sections of bus lanes throughout the Alcester Road Corridor, introduced in the bus showcase programme. There are bus lanes on the A5127 Lichfield Road between Dartmouth Circus and Salford Circus, and inbound on the A38 Bristol Road at Lodge Hill Road. Bus lanes on the A38 Tyburn Road have been suspended.

The average bus speed along this route is 12mph (data taken from the X4 bus route).

The average total number of daily bus trips is 137,242.

Three bus routes to the north of the route are within the core network and two bus corridors to the south. To the north, one corridor is identified for Sprint investment in the HS2 Connectivity Package (Birmingham – Walmley – Sutton Coldfield) and two for City Link service.
investment (A5127 Birmingham – Erdington – Sutton Coldfield and Birmingham Castle Vale – Minworth – Peddimore – Langley – Sutton Coldfield). To the south a Sprint Corridor is identified to Frankley via the Bristol Road.

In terms of rail this route is served by the Cross City Line running between Lichfield and Redditch via Four Oaks, Sutton Coldfield, Erdington, Aston, Birmingham New Street, University, Selly Oak, Kings Norton, Northfield and Longbridge, with 6 trains per hour in the peaks. To the north the Walsall branch diverges at Aston to serve Witton and Perry Barr (two trains per hour). To the north east the Birmingham – Tamworth corridor is served half hourly by Cross Country Trains with one local station at Water Orton.

The following stations on this line have park and ride facilities:

- Lichfield City
- Shenstone
- Blake Street
- Four Oaks
- Sutton Coldfield
- Wylde Green
- Chester Road
- Selly Oak
- Kings Norton
- Northfield
- Longbridge
- Alvechurch
- Redditch

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<table>
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<tr>
<th>Road(s) Served</th>
<th>Frequency</th>
<th>Route No.</th>
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<tbody>
<tr>
<td>A47 Birmingham - Duddeston - Saltley</td>
<td>Every 30 mins</td>
<td>70</td>
</tr>
<tr>
<td>A47 Fort Shopping - Castle Bromwich</td>
<td>Every 30 mins</td>
<td>966</td>
</tr>
<tr>
<td>A453/B4138 Birmingham - Handsworth Wood - Streetly</td>
<td>Every 20-30 mins</td>
<td>937/937A</td>
</tr>
<tr>
<td>A38(M)/A5127 Birmingham - Gravelly Hill - Erdington - Sutton Coldfield - Watford House</td>
<td>Every 20 mins</td>
<td>110</td>
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<tr>
<td>A38 University of Birmingham - Weoley Park Road</td>
<td>Every 20 mins</td>
<td>X64</td>
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<tr>
<td>A453/B4138 Birmingham - Handsworth Wood - Streetly</td>
<td>Every 15-30 mins</td>
<td>935</td>
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<tr>
<td>A453/B4138 Birmingham - Handsworth Wood - Old Oscott</td>
<td>Every 30 mins</td>
<td>934</td>
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<tr>
<td>A453/B4138 Birmingham - Handsworth Wood - Old Oscott</td>
<td>Every 15-30 mins</td>
<td>936</td>
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<tr>
<td>A38 Birmingham - Selly Oak - Rednal - Rubery</td>
<td>Every 30 mins</td>
<td>144</td>
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<tr>
<td>A441 Birmingham - Edgbaston</td>
<td>Every 60 mins</td>
<td>146</td>
</tr>
<tr>
<td>A38 Birmingham - Edgbaston - Cotteridge - Hawkesley</td>
<td>Every 60 mins</td>
<td>146</td>
</tr>
<tr>
<td>A47 Fort Dunlop - Minworth</td>
<td>Every 30 mins</td>
<td>38</td>
</tr>
<tr>
<td>A435 Highgate - Moseley - Kings Heath - Maypole</td>
<td>Every 60 mins</td>
<td>150</td>
</tr>
<tr>
<td>A47 Birmingham - Duddeston - Fort Dunlop</td>
<td>Peak only</td>
<td>FD</td>
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*All daily averages have been obtained by analysing 15 days data (Mon-Fri) during the month of March 2017.
The Cross City Line has recently received investment to increase the frequency to Redditch and ongoing investment in electrification infrastructure will extend services from Longbridge to the new station at Bromsgrove.

The corridor has a rail freight line running between Kings Norton and the Lawley Street Freight Terminal and the Derby Lines. There are plans to develop passenger services on this (Camp Hill) line with new stations at Hazelwell, Kings Heath, Moseley, Fort Parkway, Castle Bromwich and Kingsbury and new chord lines at Bordesley to access new platforms at Birmingham Moor Street Station. This scheme – part of the Midlands Rail Hub - has secured development funding through Midlands Connect.

There are no plans to introduce Midland Metro routes on this route.
The AADF data for 2016 has been used to analyse HGV flows on each respective route. The average number of Heavy Goods Vehicles using the route on a daily basis was 1,187, which represents 4% of all vehicular traffic. On the Birmingham Cross City Route, the northern section of the A38 Minworth and Birmingham City Centre experiences in excess of 1,000 HGV flows per day, as does the Eastern section of the ring road (A4540). It is evident that this Cross City Route plays an integral role in transporting goods between Birmingham City Centre and the M6 Toll which has a nationally significant role in the movement of freight. There are few through flows from the north to the south of the city.

A large cluster of road haulage companies are located at this north-eastern section of the Birmingham Box; therefore, free flowing conditions are key to the efficient movement of freight, thereby maximising economic benefit.

Two key Enterprise Zones relevant to freight-Witton Food Hub and Aston Advanced Manufacturing Hub are both located along this route. The Holford and Tambridge Industrial estates are located adjacent to the A453 Perry Barr. The A47 section of the route covers many additional sites of importance to freight; Fort Dunlop and Gravelly Industrial Park, the Fort Shopping Park, Heartlands Park, Saltley Business Park and Freightliner Birmingham are a few examples.
Resilience

The route has parallel strategic roads both north and south of the City Centre such as the A47 and A38 between Salford Circus and Castle Vale, A5127 and B4138 between Birmingham and Lichfield, A38 Queensway and A4540 Ring Road, A38 and A441 between the City Centre and Selly Park, and A441 and A435 between Haden Circus and Kings Heath. There is a degree of resilience contained within the Birmingham networks for radial journeys.

However, certain critical sections can cause grid-lock including on the motorway network particularly at Aston and Perry Barr (affecting M6 junctions 6 and 7). The high frequency Cross City Railway Line in the route with station parking provides intermodal network resilience, but not on the west side of Sutton Park.

Diversion Route

Various sections of the A38(M), A38, A47 and A5127 are used either singly or in combination as Emergency Diversion Routes (EDRs) by Highways England when there are planned closures or incidents on the Strategic Road Network. Different sections are used depending on the origin and destination of the diverted traffic.

The sections of the A38(M) between the Gravelly Hill Interchange and Dartmouth Circus are used as an EDR for closures of the M6 northbound within Junction 6; from Junction 6 to Junction 7 and from Junction 7 to Junction 6. In conjunction with the A5127 it is also used for closures of the M6 Slip Roads to Salford Circus.

The A38 between Gravelly Hill and Minworth is used as an EDR for the southbound carriageway of the M6 from Junction 5 to Junction 4a, whilst between Gravelly Hill and Tyburn it is used when there are closures of the M6 northbound slip road to or from the A38(M).

The A38 is also used as an EDR in conjunction with the A47. The route from Gravelly Hill to Duddeston via Tyburn and Meriden is used for closures of M6 from Junction 5 to Junction 6 and from Junction 6 to Junction 5, whilst the route from Gravelly Hill to Minworth via Meriden and Tyburn is used for closures of the M6 from Junction 4a to junction 5.

On its own the A47 between Gravelly Hill and Meriden is used as an EDR when there are closures of the M6 from Junction 4a to Junction 5; from Junction 5 to Junction 4a; from Junction 5 to Junction 6 and Junction 6 to Junction 5. The section of the A47 between Washwood Heath and Meriden is used for closures of the M6 from Junction 6 to Junction 5.

Finally the A5127 between Gravelly Hill and Duddeston is used as an EDR for closures of the M6 Southbound Slip Road to the A38(M).

South and west of Birmingham the KRN is not used as an EDR.
Flooding

Flooding on this route impacts on the overall performance, safety of road users and affects the lives of those living in the vicinity. The evidence gathered indicates that there are several areas on this route that pose a flood risk. These are:

- A5127 on both sides of Sutton Coldfield Town Centre;
- A5127/A452 junction;
- A5127/A4040 junction;
- Salford Circus;
- B4144 junction with the A34;
- A38/A452 junction;
- A441/A4040 junction;
- A441 Stirchley;
- A38 Northfield and;
- Several locations on the A4540.
West Midlands
Key Route Network
Birmingham Cross City

Figure 4 – 2 of 3 KRN 1 – Birmingham Cross City

Key

Roads
- The Route

Asset Location & Conditions (where known & information available)
- CCTV
- Split Cycle Offset Optimisation Technique (SCOOT) locations
- Variable Message Signs (VMS) locations
- Automatic Number Plate Recognition (ANPR) / Journey Time Monitoring System (JTMS) locations
- Traffic Camera locations
- No CCTV
West Midlands Key Route Network
Birmingham Cross City

Figure 4 – 3 of 3
There are inequalities in health between the local authorities within the West Midlands – at local authority level the lowest healthy life expectancy at birth for men is 56.4 years, and the highest is 63.8 years. Amongst women the lowest is 59 years and highest 67.9 years. Similarly there are inequalities in healthy life expectancies within each local authority. Closing this gap in health inequalities and increasing the healthy life expectancy by 2030 is an objective of the WMCA’s Strategic Economic Plan.

The Birmingham Cross City Route runs through several areas of high deprivation and has a higher number of children than other areas of the WMCA. This is particularly true on the north, east and west sides of the city in between the A4540 and A4040; the A47, A38 and B4144 run through these communities. There are some areas of high unemployment around the A47 at this point. North of Birmingham, close to Sutton Coldfield, the population is older.

The route falls within the Birmingham Air Quality Management Area (AQMA) declared for Nitrogen Oxide (NO₂) and Particulate Matter (PM₁₀).

The West Midlands has significant air quality problems. Every year there are between 2,000 and 2,400 deaths caused by air pollution. This is a huge health issue for people in the region, increasing the risk of lung disease and heart disease. There are parts of our region where considerable action such as the introduction of Clean Air Zones (CAZs) is required by Government to improve air quality.

Considerations by Birmingham City Council are currently being undertaken regarding the introduction of CAZs in Birmingham. The location of the zone is not yet defined but it is anticipated that it will cover part of Birmingham City Centre. This directly impacts this route and is driven by the large traffic volume and subsequent environmental impacts.
Across the West Midlands the local authorities have a statutory duty to maintain its highway network in a safe condition. This also includes carrying out routine maintenance of highway assets which could include up to 12 specific groups. An Asset Management Plan is produced which aims to ensure that any future issues with the assets could be address in a proactive way.

**Carriageway Condition**

Refer to the Technical Annex for further details on asset condition.
Development proposals directly affecting this route

Housing

- Langley Sustainable Urban Extension 5000 dwellings (2017-30)
- Lyndhurst Estate 178 dwellings (2017-20)
- Former Cincinatti Building 180 dwellings (2025-30)
- Kettleworks 290 dwellings (2017-20)
- Arena Central 320 dwellings (2017-30)
- Lee Bank Middleway 335 dwellings (2017-20)
- Belgrade Middleway 425 dwellings (2017-25)
- Wholesale Markets (2025-30)
- Selly Oak Hospital 650 dwellings (2017-30)

Employment

- Peddimore 12000 jobs (2017-30)
- Sutton Coldfield Town Centre 2250 jobs (2017-30)
- Erdington Industrial Estate 500 jobs (2025-30)
- Former Alstom Site 3900 jobs (2017-30)
- Great Barr Street 2000 jobs (2017-20)
- Eastside Locks 3500 jobs (2017-20)
- Paradise Circus 4000 jobs (2017-25)
- Arena Central 4500 jobs (2017-30)
- Monaco House 3000 jobs (2017-30)
- Exchange Square/Masshouse Circus 15000 jobs (2020-30)
- Digital Plaza 1000 jobs (2020-25)
- Snow Hill 2000 jobs (2020-25)
- Kettleworks 2000 jobs (2020-25)
- Longbridge Regional Investment Site 3000 jobs (2020-25)
Development proposals indirectly affecting this route

Housing

- Signal Hayes Road 110 dwellings (2017-20)
- Holly Lane 250 dwellings (2020-25)
- Pershore Street 650 dwellings (2017-20)
- Cheapside/Bradford Street 1100 dwellings (2025-30)
- Barford Street 580 dwellings (2025-30)
- Emily Street/Darwen Street 225 dwellings (2025-30)
- Egg Hill Estate 171 dwellings (2017-20)
- Wider Longbridge Area 1400 dwellings (2017-30)

Employment

- Mid-Point Park 7500 jobs (2017-30)
- Wheels Site 2000 jobs (2020-30)
- Beorma Quarter 4000 jobs (2017-20)
- Wider Digbeth Area 9000 jobs (2020-30)
Committed Transport Improvements
(as outlined in Movement for Growth- 2026 Delivery Plan for Transport)

- 20mph zones Phase B
- Metro: Centenary Square/Edgbaston/Five Ways extension
- Green Travel Districts Phase 2
- 20mph zones Phase A
- Metro: Five Ways-Highway Works
- Ashted Circus
- Metro: Birmingham Eastside Extension
- One station
- SPRINT: Sutton Coldfield to Birmingham City Centre via Langley
- Battery Way Extension
- Camp Hill Line: Local enhancements
- SPRINT: Longbridge to Birmingham (A38)
- Birmingham Cycle Revolution (A38)
- Curzon Street Masterplan
- Tame Valley Viaduct
- Snow Hill Station Capacity Enhancement
- Water Orton Local Enhancements
- Water Orton and Kingsbury Area Remodelling
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<tr>
<th>Acronym</th>
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<tr>
<td>AADF</td>
<td>Annual average daily flow</td>
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<td>AQMA</td>
<td>Air Quality Management Areas</td>
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<td>DfT</td>
<td>Department for Transport</td>
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<td>Emergency Diversion Route</td>
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<td>Heavy Goods Vehicles</td>
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<td>High Speed Rail Two</td>
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<td>JTMS</td>
<td>Journey Time Measurement Systems</td>
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<td>KRN</td>
<td>Key Route Network</td>
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<tr>
<td>KSI</td>
<td>Killed or seriously injured</td>
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<td>Strategic Road Network</td>
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<td>WMCA</td>
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AADF Data:
AADF counts for A roads on each route: https://bit.ly/2fbapuc

Route Safety:
Reported casualty and accident rates by urban and rural roads, road class, road user type, severity and pedestrian involvement, Great Britain, 2015.

Committed Schemes:
West Midlands Combined Authority. Movement for Growth: The West Midlands Strategic Transport plan.

West Midlands Strategic Cycle Network:

Freight Information:
MDS Transmodal Data. Provided in Confidence for Midlands Connect Freight Study.

Enterprise Zones:
https://bit.ly/2u7DCN1

Road Haulage Companies:
UK Trade & Investment Road Haulage Industry, Midlands Hauliers. Provided in Confidence for Midlands Connect Freight Study.

National Cycle Routes, Sustrans:

HS2 Connectivity Package:

Average Speeds and Congestion Data:

Route Safety:

Air Quality Management Areas:

Male and Female Healthy Life Expectancy:

Childhood obesity:

Younger population:
ONS: 2011 Census aggregate data. Population aged 0-17, as a percentage of total population by LSOA.

Older population:
ONS: 2011 Census aggregate data. Population aged 65+, as a percentage of total population by LSOA.

Living with a disability:
ONS: 2011 Census aggregate data. Households with at least one person living with a disability, as a percentage of all households by LSOA.

Unemployment:
ONS: 2011 Census aggregate data. No adults in employment in household, as a percentage of all households by LSOA.

West Midlands Cycling Charter: