

West Midlands Key Route Network

Birmingham Cross City



Transport for
West Midlands

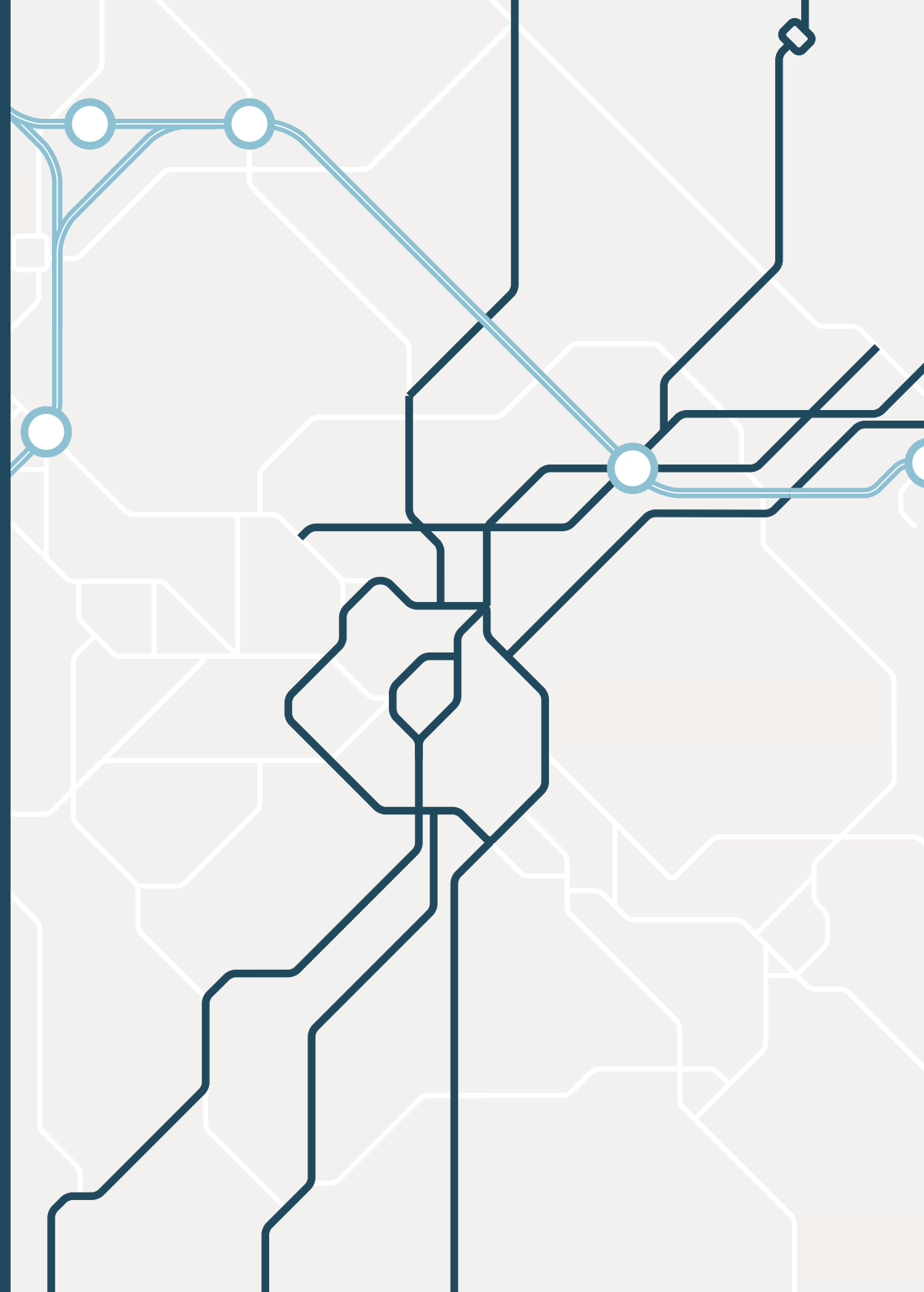
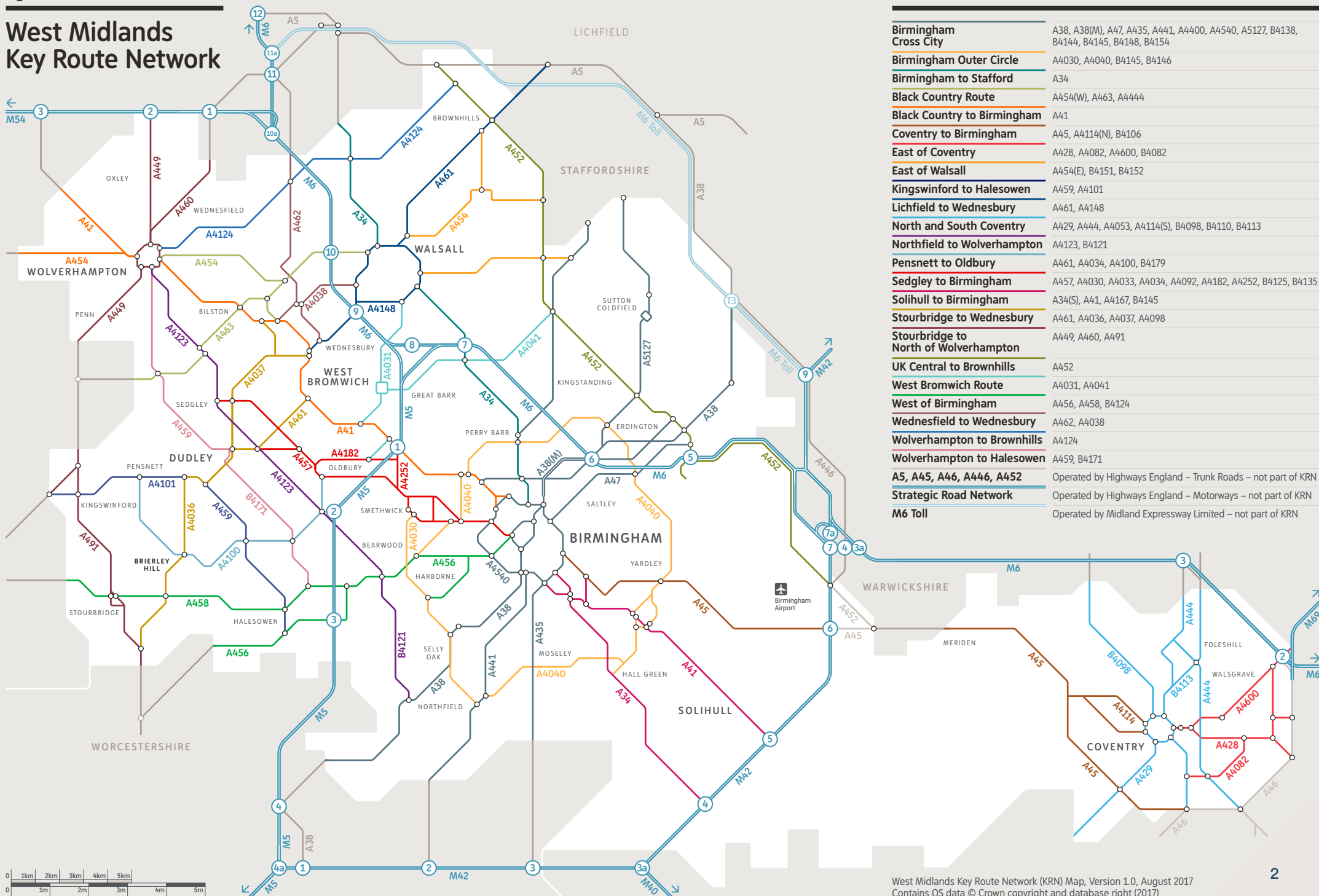


Figure 1

West Midlands Key Route Network



Birmingham Cross City	A38, A38(M), A47, A435, A441, A4400, A4540, A5127, B4138, B4144, B4145, B4148, B4154
Birmingham Outer Circle	A4030, A4040, B4145, B4146
Birmingham to Stafford	A34
Black Country Route	A454(W), A463, A4444
Black Country to Birmingham	A41
Coventry to Birmingham	A45, A4114(N), B4106
East of Coventry	A428, A4082, A4600, B4082
East of Walsall	A454(E), B4151, B4152
Kingswinford to Halesowen	A459, A4101
Lichfield to Wednesbury	A461, A4148
North and South Coventry	A429, A444, A4053, A4114(S), B4098, B4110, B4113
Northfield to Wolverhampton	A4123, B4121
Pensnett to Oldbury	A461, A4034, A4100, B4179
Sedgley to Birmingham	A457, A4030, A4033, A4034, A4092, A4182, A4252, B4125, B4135
Solihull to Birmingham	A34(S), A41, A4167, B4145
Stourbridge to Wednesbury	A461, A4036, A4037, A4098
Stourbridge to North of Wolverhampton	A449, A460, A491
UK Central to Brownhills	A452
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	Operated by Highways England – Trunk Roads – not part of KRN
Strategic Road Network	Operated by Highways England – Motorways – not part of KRN
M6 Toll	Operated by Midland Expressway Limited – not part of KRN



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 Gravelly 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 carriage roads. 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 carriage roads that pass through suburban residential communities and local shopping centres with off-street parking and properties set back from the carriageway.

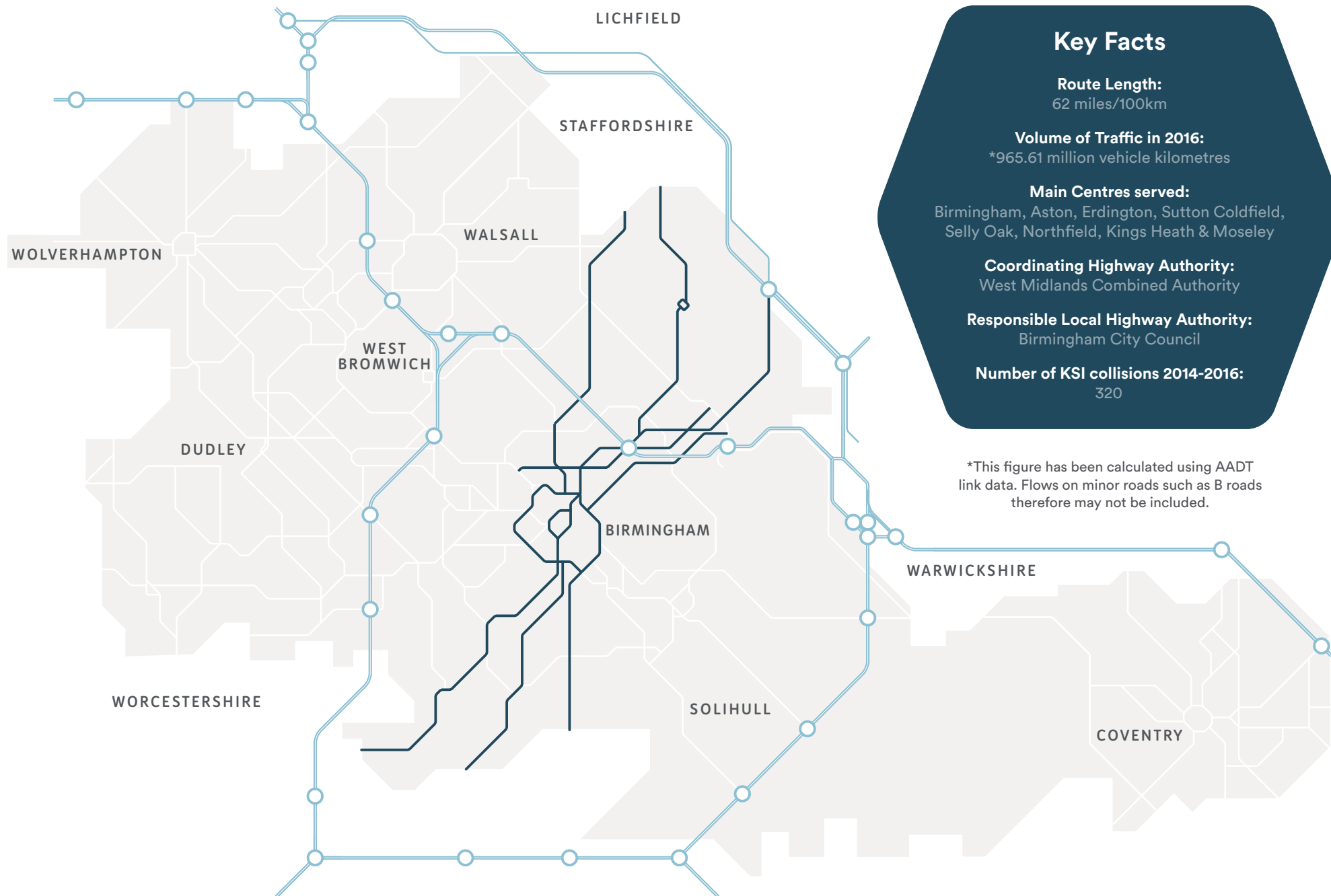


Figure 2

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 1: AM Peak Congestion-Related Delays

Road	Location	Direction
A38	Oxleys Lane to Minworth Island	Inbound to City
A38	Maybrook Road to Tyburn House Island	Inbound to City
A38	B4148 Tyburn Road to Jarvis Way	Inbound to City
A38(M)/A38	M6 Gravelly Hill Interchange to B4100 Old Snow Hill	Inbound to City
A38	A4040 Harborne Lane to A4540 Middleway	Inbound to City
A38	Pebble Mill Road to B384 Bristol Road, Selly Oak	Outbound from City
A38	Frankley Beeches Road to Bell Hill, Northfield	Inbound to City
A38	B4120 Lickey Road to Tessall Lane, Longbridge	Inbound to City
A5127	A38 Tyburn Road, Gravelly Hill to A453 Tamworth Road, Sutton Coldfield	Both
A5127	A454 Four Oaks to A453 Tamworth Road, Sutton Coldfield	Inbound to City
A453/B4138	B4149 Kings Road to A34 Perry Barr	Inbound to City
A441	Selly Wick Road to Edward Road, Edgbaston	Inbound to City
A441	A4540 Middleway to Edward Road, Edgbaston	Outbound from City
A441	Selly Park Road to Lifford Lane, Stirchley	Outbound from City
A441	Masshouse Lane, Kings Norton to Selly Park Road, Stirchley	Inbound to City
A4540	Ryland Road to Five Ways Island	Clockwise
A4540	Icknield Port Road to Five Ways Island	Anticlockwise

ROUTE PERFORMANCE

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.

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

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

Road	Location	Direction
A38(M)/A38	Paradise Circus to M6 Gravelly Hill Interchange	Outbound from City
A38	A4040 Bromford Lane to A5127 Gravelly Hill	Inbound to City
A38	B4148 Tyburn Road to A452 Chester Road	Outbound from City
A38	Priory Road to Paradise Circus	Inbound to City
A38	Paradise Circus to A4040 Harborne Lane	Outbound from City
A38	A4040 Harborne Lane to Edgbaston Park Road	Inbound to City
A38	Bell Hill to Frankley Beeches Road, Northfield	Outbound from City
A38	B4120 Lickey Road to Tessall Lane, Longbridge	Inbound to City
A38	Cliff Rock Road to Park Way, Longbridge	Outbound from City
A5127	A38 Tyburn Road, Gravelly Hill to A453 Tamworth Road, Sutton Coldfield	Outbound from City
A5127	A454 Four Oaks Road to Jockey Road, Sutton Coldfield	Inbound to City
A453	Wellhead Lane to Aldridge Road, Perry Barr	Both
A441	A4540 Middleway to Priory Road, Edgbaston	Outbound from City
A441	Selly Wick Road, Selly Park to A4040 Fordhouse Lane, Cotteridge	Outbound from City
A441	Bourneville Lane to Selly Park Road, Stirchley	Inbound to City
A4540	Great King Street North to A435 Haden Circus	Both
A4540	A38 Bristol Road to B4126 Icknield Port Road	Clockwise
A4540	Cope Street to Five Ways Island	Anticlockwise

ROUTE PERFORMANCE

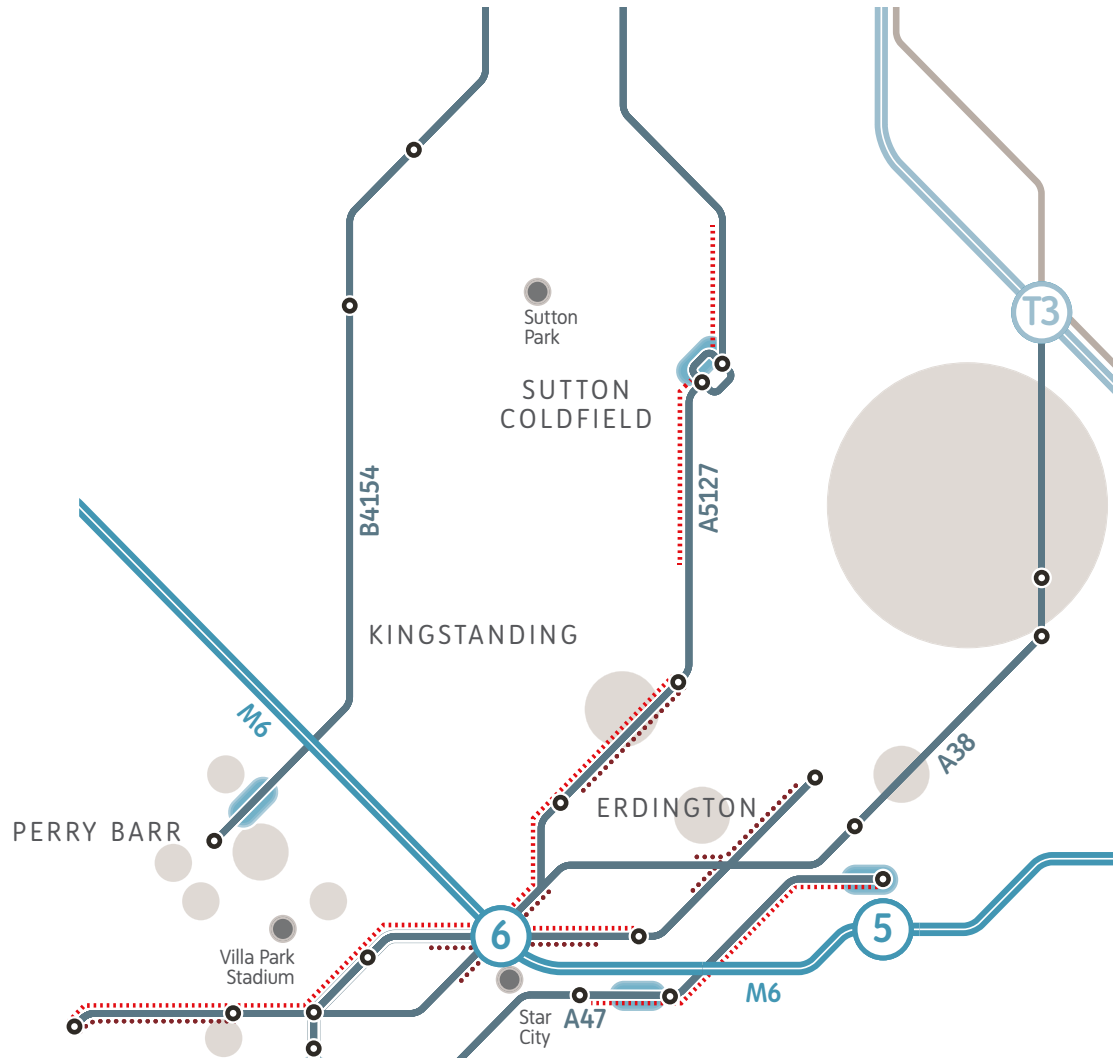
Road	Location	Direction
A4540	Cope Street to A457 Summer Hill Road	Clockwise
A4540	Pitsford Street to A457 Summer Hill Road	Anticlockwise
A4540	Hospital Street to Dartmouth Circus	Clockwise
A4540	Dartmouth Circus to Summer Lane	Anticlockwise
A4540	A34 Stratford Road to Dartmouth Circus	Anticlockwise
A4540	A38 Bristol Street to Haden Circus	Anticlockwise
A4540	Garrison Lane to A45 Small Heath Highway	Clockwise
A4540	A34 Stratford Road to Haden Circus	Clockwise
A435	Haden Circus to Moseley Road, Sparkbrook	Outbound from City
A435	Moseley Road to Balsall Heath Road, Sparkbrook	Inbound to City
A435	Park Hill to B4127 Salisbury Road, Moseley	Outbound from City
A435	Queensbridge Road, Wake Green to Taylor Road, Alcester Lane's End	Both
A435	Warstock Road to Maypole Island, Druids Heath	Both
A47	B4137 Cuckoo Road to A452 Chester Road	Outbound from City

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	<ul style="list-style-type: none"> The Route Strategic Road Network operated by Highways England M6 Toll operated by Midland Expressway Ltd.
Environment, Flows and Junction Capacity	<ul style="list-style-type: none"> Flooding area Congestion area Junction capacity issue
Route Safety	<ul style="list-style-type: none"> KSI hotspot zone – high number of serious or fatal incidents
Key Considerations	<ul style="list-style-type: none"> Housing development area Named site of strategic importance District and local centres

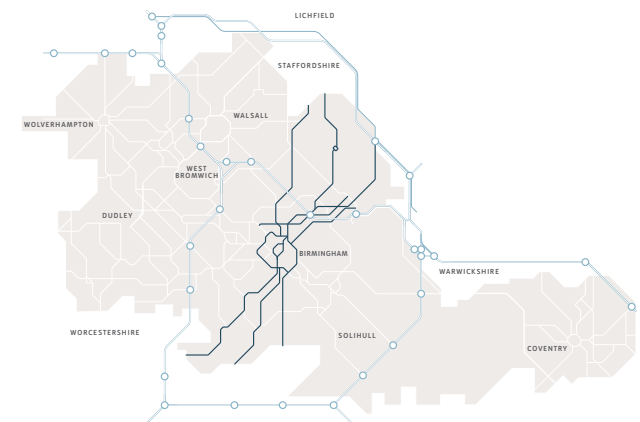
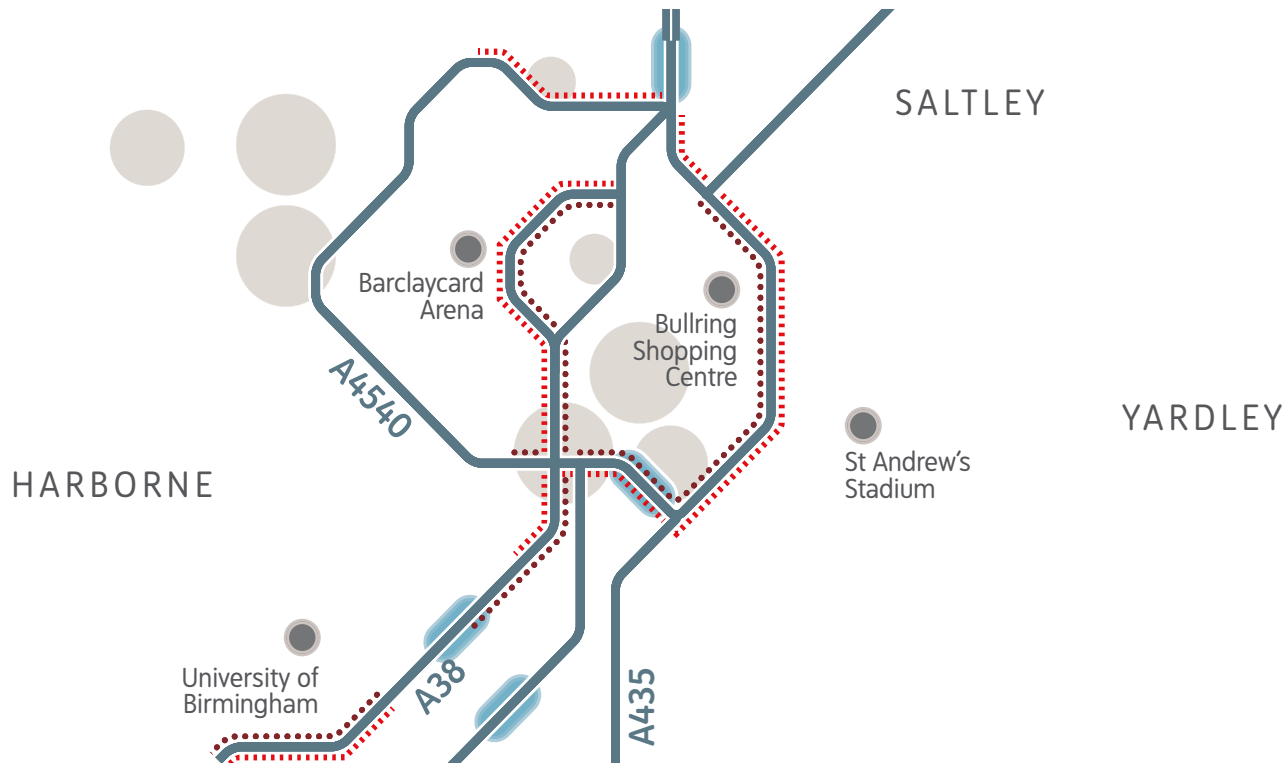


Figure 3 – 1 of 3

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

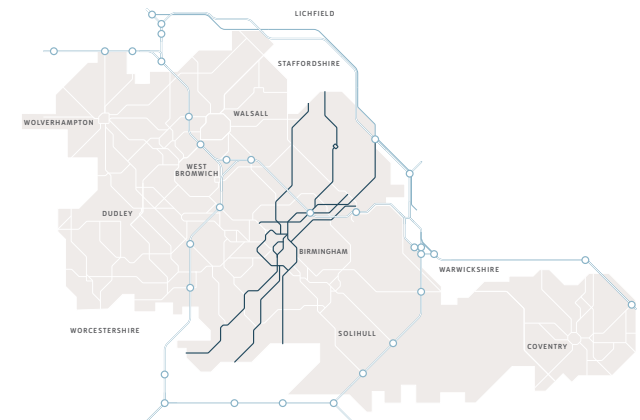
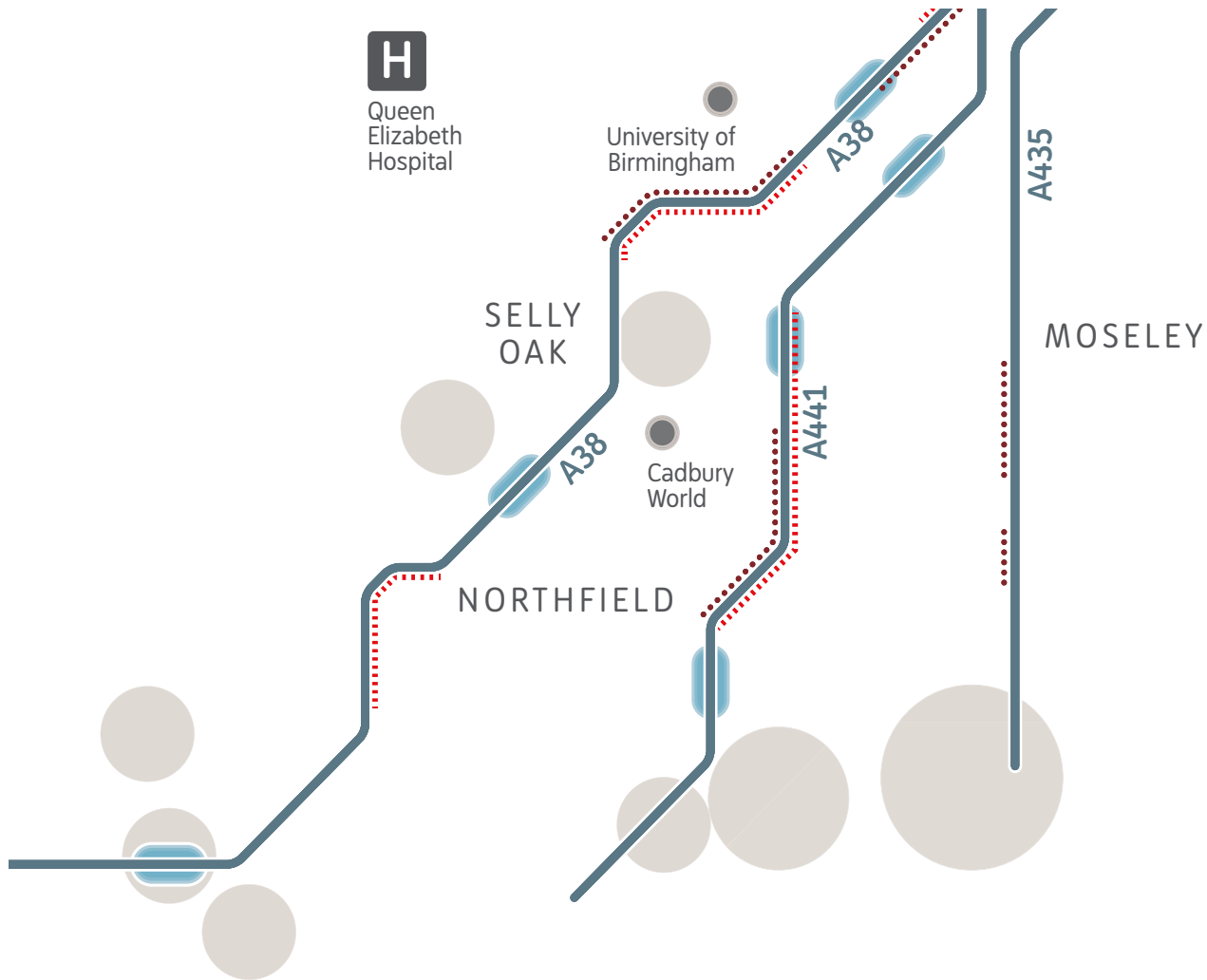


Figure 3 – 2 of 3

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

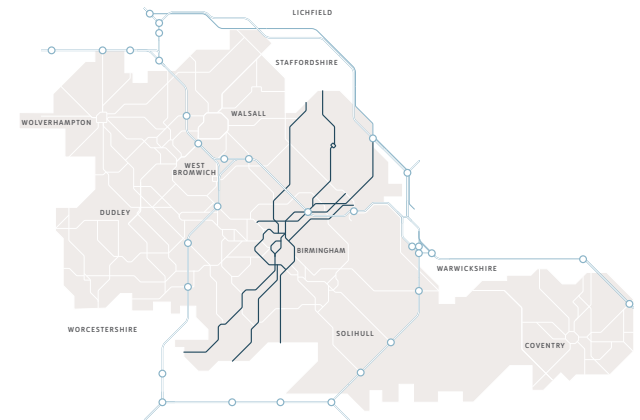


Figure 3 – 3 of 3

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)

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 where 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

Table 3: Main Bus Routes

Road(s) Served	Frequency	Route No.
A435 Highgate - Moseley - Kings Heath - Maypole	Every 5 mins	50/50A
A38 Birmingham - Selly Oak - Rednall - Rubery	Every 7-8 mins	63
A435 Moseley - Kings Heath	Every 10 mins	35
A453/B4138 Birmingham - Handsworth Wood - Old Oscott	Every 8 mins	33
A441 Birmingham - Edgbaston - Stirchley - West Heath	Every 10 mins	45
A441 Cotteridge - Cadbury College	Every 15-30 mins	49
A47 Birmingham - Duddeston - Sattley	Every 30 mins	72
A38(M)/A38/B4148 Birmingham - Gravelly Hill - Tyburn	Every 10-20 mins	67
A38(M)/A5127 Birmingham - Gravelly Hill - Erdington - Sutton Coldfield	Every 20 mins	X4
A453 Birmingham - Handsworth Wood - Perry Park	Every 20-30 mins	997
A441 Birmingham - Edgbaston - Stirchley - Bourneville	Every 10 mins	47
A38 Birmingham - Selly Oak - Northfield	Every 15 mins	61/X61
A453/B4138 Birmingham - Handsworth Wood - Witton	Every 20 mins	907
A38(M)/A5127 Birmingham - Gravelly Hill - Erdington - Sutton Coldfield - Mere Green	Every 20 mins	X5
A38(M)/A5127 Birmingham - Gravelly Hill - Erdington - Sutton Coldfield - Mere Green	Every 20 mins	X3
A38(M)/A5127/Kingsbury Road/B4148 Birmingham - Gravelly Hill - Tyburn	Every 20 mins	X14

investment (A5127 Birmingham – Erdington – Sutton Coldfield and Birmingham Castle Vale – Minworth – Peddimore – Langlely – 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

Road(s) Served	Frequency	Route No.
A47 Birmingham - Duddeston - Saltley	Every 30 mins	70
A47 Fort Shopping - Castle Bromwich	Every 30 mins	966
A453/B4138 Birmingham - Handsworth Wood - Streetly	Every 20-30 mins	937/937A
A38(M)/A5127 Birmingham - Gravelly Hill - Erdington - Sutton Coldfield - Watford House	Every 20 mins	110
A38 University of Birmingham - Weoley Park Road	Every 20 mins	X64
A453/B4138 Birmingham - Handsworth Wood - Streetly	Every 15-30 mins	935
A453/B4138 Birmingham - Handsworth Wood - Old Oscott	Every 30 mins	934
A453/B4138 Birmingham - Handsworth Wood - Old Oscott	Every 15-30 mins	936
A38 Birmingham - Selly Oak - Rednall - Rubery	Every 30 mins	144
A441 Birmingham - Edgbaston	Every 60 mins	146
A38 Birmingham - Edgbaston - Cotteridge - Hawkesley	Every 60 mins	146
A47 Fort Dunlop - Minworth	Every 30 mins	38
A435 Highgate - Moseley - Kings Heath - Maypole	Every 60 mins	150
A47 Birmingham - Duddeston - Fort Dunlop	Peak only	FD

*All daily averages have been obtained by analysing 15 days data (Mon-Fri) during the month of March 2017.

PUBLIC TRANSPORT

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.



FREIGHT AND LOGISTICS

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.

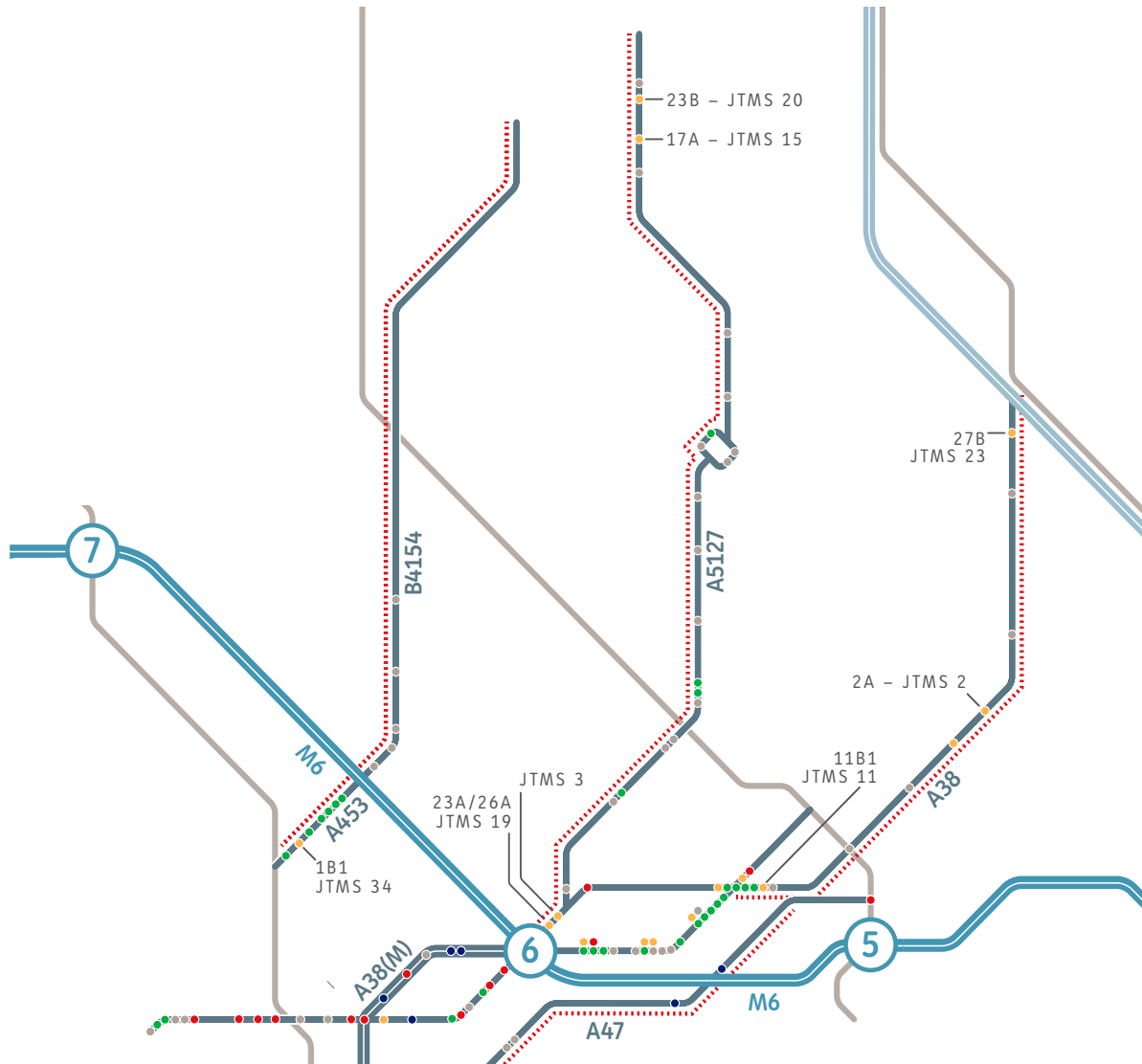
Flooding

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



Key

Roads

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

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

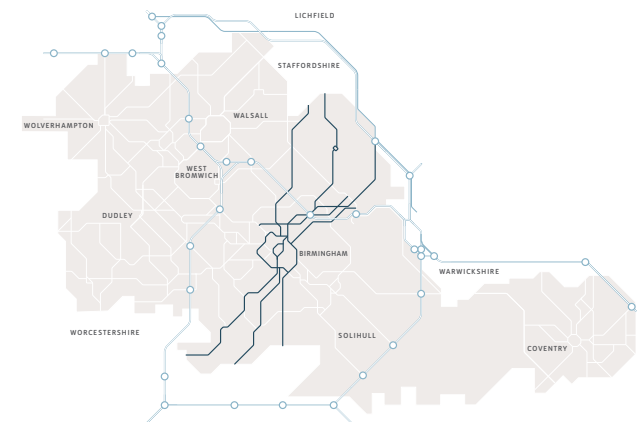


Figure 4 – 1 of 3

West Midlands Key Route Network 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

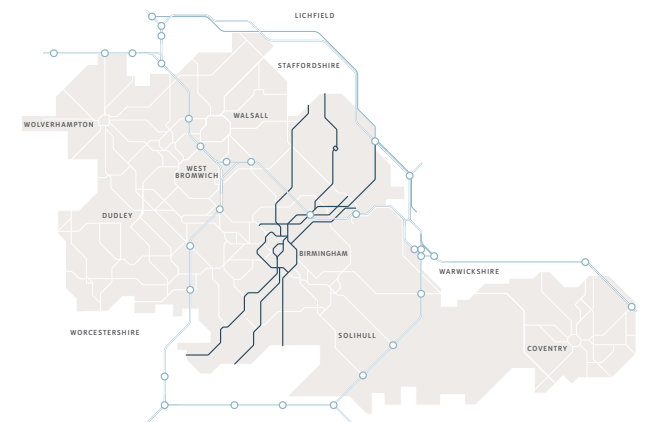
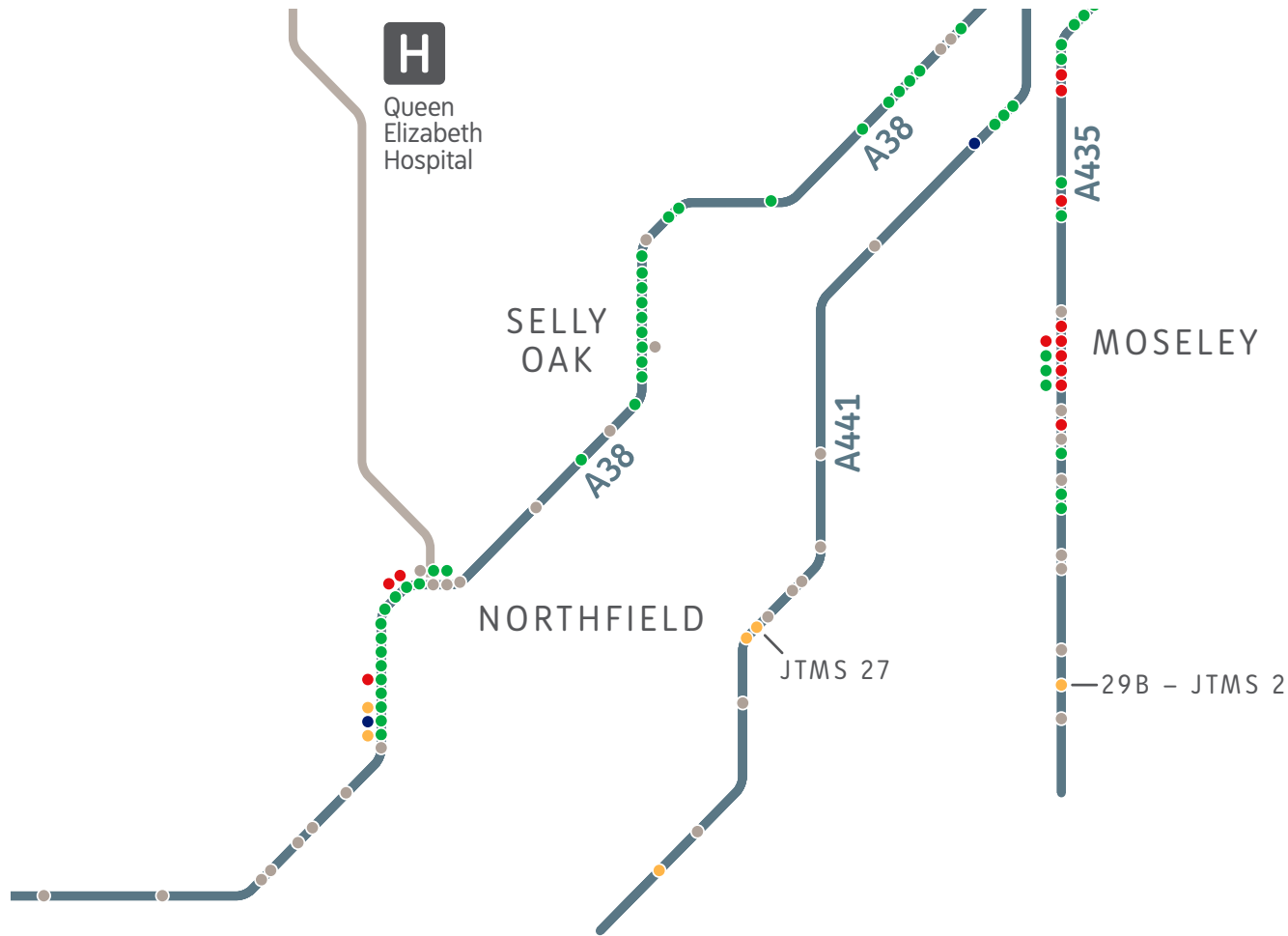


Figure 4 – 2 of 3

West Midlands Key Route Network 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

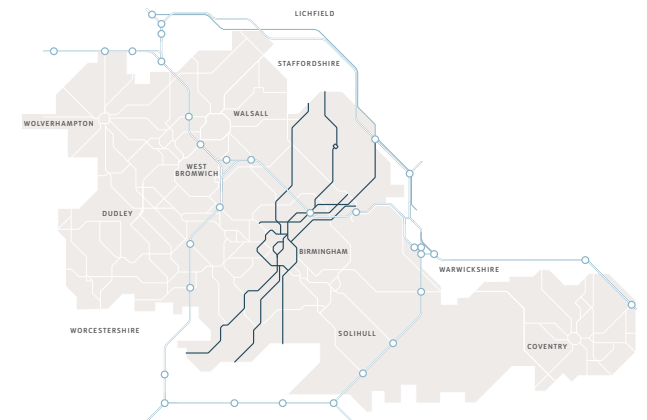


Figure 4 – 3 of 3

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)
- Belgrave 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

GLOSSARY

- AADF** – Annual average daily flow
- AQMA** – Air Quality Management Areas
- DfT** – Department for Transport
- EDR** – Emergency Diversion Route
- HGV** – Heavy Goods Vehicles
- HLE** – Healthy life expectancy
- HS2** – High Speed Rail Two
- JTMS** – Journey Time Measurement Systems
- KRN** – Key Route Network
- KSI** – Killed or seriously injured
- LE** – Life expectancy
- LEP** – Local Enterprise Partnership
- LSOA** – Lower Layer Super Output Areas
- MDST** – MDS Transmodal
- MSOA** – Middle Layer Super Output Areas
- PIA** – Personal injury accidents
- SRN** – Strategic Road Network
- STDEP** – Sustainable Transport Delivery Excellence Programme
- TfWM** – Transport for the West Midlands
- TCG** – Tactical Co-ordination Group
- UKTI** – UK Trade and Investment
- UTMC** – Urban Traffic Management Control
- VMS** – Variable Message Sign
- WM** – West Midlands
- WMCA** – West Midlands Combined Authority

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:

West Midlands Combined Authority Board Report, 20 January 2017, item 4.3 - Strategic Cycle Network
<https://bit.ly/2hrrCAi>

Freight Information:

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

Enterprise Zones:

<https://bit.ly/2uZLDTe>
<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:

<https://bit.ly/18FFBsT>

HS2 Connectivity Package:

HS2 Growth Strategy, Connectivity Programme. GBSLEP. <https://bit.ly/2woBqxp>

Average Speeds and Congestion Data:

West Midlands Strategic Highways Phase 2: Key Route Network Definition and Outline Performance. Produced by Mott Macdonald for West Midlands Integrated Transport Authority. March 2016.

Route Safety:

Department for Transport. Reported Road Casualties Great Britain, annual report: 2015.
<https://bit.ly/2hrclDb>

Air Quality Management Areas:

Department for Environment, Food and Rural Affairs, March 2017 AQMA Dataset.
<https://bit.ly/2fEduLf>

Male and Female Healthy Life

Expectancy:

Office for National Statistics. Life Expectancy (LE) and Healthy Life Expectancy (HLE) at birth for males by Middle Layer Super Output Areas (MSOAs) in England, 2009 to 2013. Published 2015. <https://bit.ly/2vwtxd1>

Childhood obesity:

Public Health England. National Child Measurement Programme data from 2012/13 to 2014/15, aggregated by MSOA. Published 2016
<https://bit.ly/2p3ocVV>

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:

<https://bit.ly/2xbg4oK>