

West Midlands Key Route Network

Coventry to Birmingham



Transport for
West Midlands

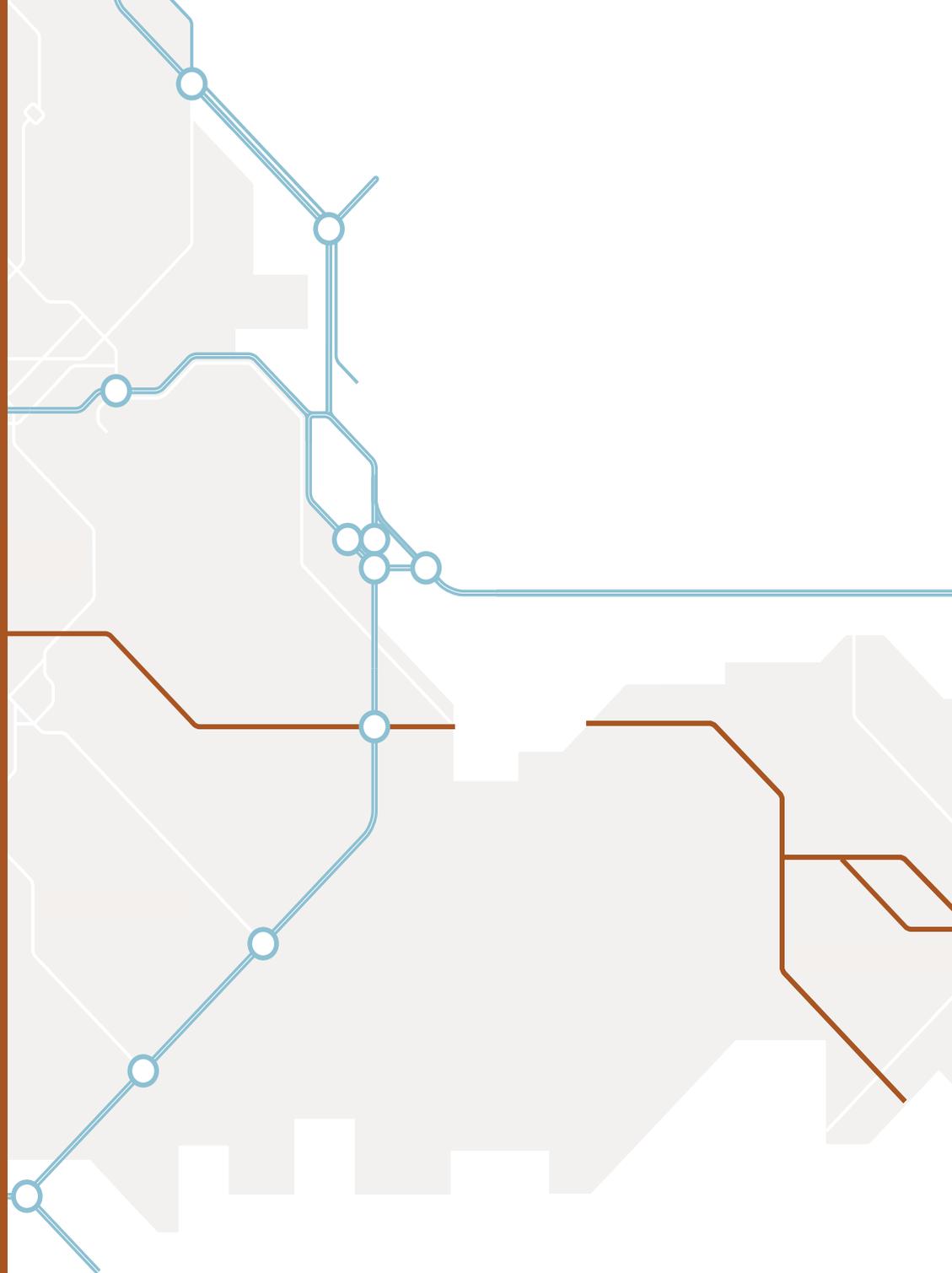
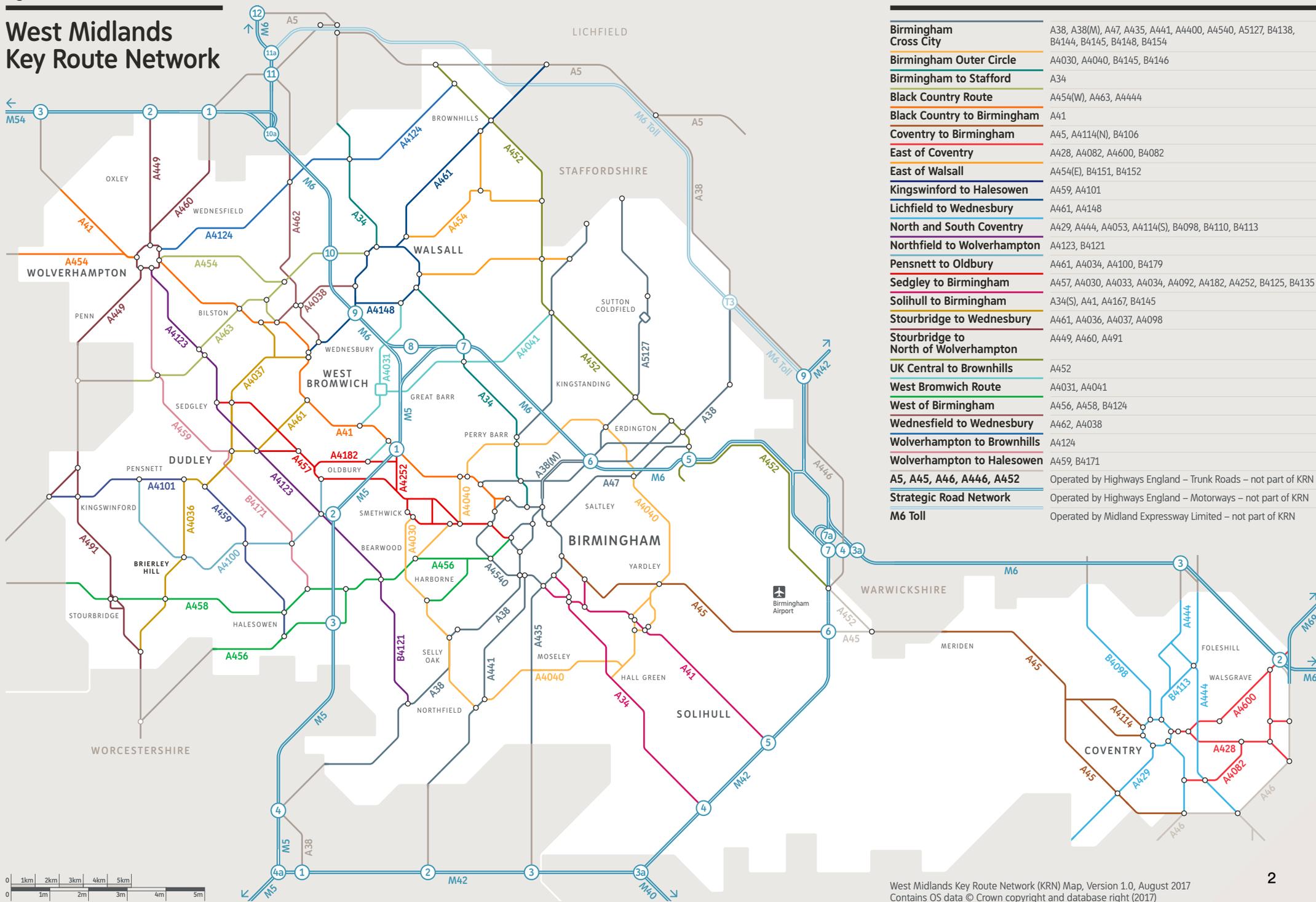


Figure 1

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 Coventry to Birmingham route is a 21 mile/35km section of the West Midlands Key Route Network (KRN), providing strategic link access through Solihull and Warwickshire to the centre of Birmingham and Coventry. This is a key arterial route essential for enabling commuter journeys and for connecting local cities, regional centres and international destinations via Birmingham Airport.

The Coventry to Birmingham route is formed of the A45, A4114 and the B4106.

Across the region the route provides an important strategic link, particularly for suburban areas where it allows surrounding communities access to retail, leisure and employment opportunities. It also enables essential links for businesses in Coventry, Birmingham and Solihull to provide products and services locally, regionally and to international markets.

Within Solihull, this route runs adjacent to UK Central Zone 1 – The Hub, helping to enable the ambition for greater inward investment at UK Central and increase passenger growth at Birmingham Airport. In addition, it also forms a number of crucial connections to other routes on the KRN. These are:

North and South Coventry at three locations

- A4114 Holyhead Road/A4053 Coventry Ring Road
- B4106 Butts Road/A4053 Coventry Ring Road
- A45/A444 Stivichall Interchange junction

UK Central to Brownhills

- A45 Coventry Road/A452 Kenilworth Road

Birmingham Outer Circle

- A45 Coventry Road/A4040 Swan Island junction

Solihull to Birmingham

- A45 Small Heath Highway/B4145 Golden Hillock Road

Birmingham Cross City

- A45 Small Heath Highway/A4540 Watery Lane Middleway

The A45 section of the route is dual carriageway throughout. On the western side of the route where the A45 provides access to the centre of Birmingham, it passes through the built up areas of Small Heath, Tyseley and Sheldon. The A4114, in the north-western part of Coventry, is mostly

single carriageway with some short sections of dual carriageway. Throughout its length the A4114 is bordered by residential and commercial properties. The B4106, the only B-road on the route, also serves north-western Coventry passing through a built-up area with properties well setback from the carriageway and there are long sections of on-street parking.

The Coventry to Birmingham route has the following connections to the SRN operated by Highways England.

- A45 at M42 Junction 6
- A46 at Stivichall Interchange

This connection to the M42 enables further regional access to the M1, M5, M6, M40 and M6 Toll which links the West Midlands to all other regions in England. These connections are essential for residents making long distance journeys and also for businesses providing services and products across the country. The strategic access to the M42 is also critical for supporting leisure and business activities at the National Exhibition Centre and for connecting to international destinations at Birmingham Airport.

The Stivichall Interchange connection provides links via the A46 trunk road to M6 junction 2 and to Warwick and the southwest, and via the trunked section of the A45/M45 to M1 junction 18.

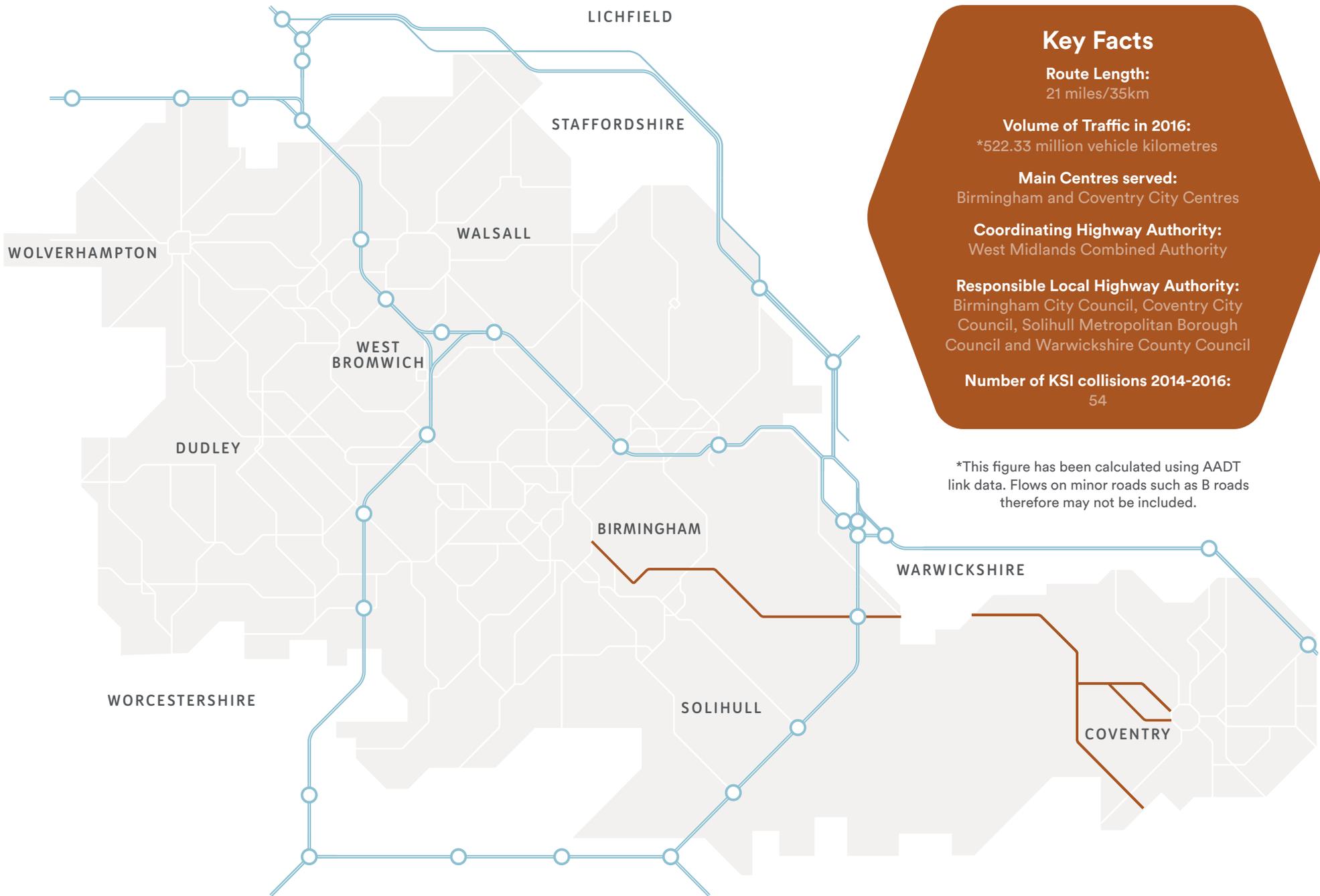


Figure 2

Congestion, Delay, Reliability

This route represents 6% 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 24,900 vehicles, a maximum of 67,200 with an average of 40,500 AADF.

Due to congestion along the Coventry to Birmingham route, there are large delays for traffic inbound in the morning peak on the Small Heath Bypass, through Sheldon, on the Holyhead Road inbound to Coventry and on the A45 approaching a number of junctions. Generally, traffic is slow moving in the urban areas. In the PM peak the worst congestion is at Sheldon and on the Small Heath Bypass.

The route experiences large volumes of traffic, particularly on:

- the A4114 Holyhead Road Between its junctions with the B4106 Allesley Old Road the B4107 Four Pounds Avenue;
- the B4106 Spon End/Allesley Old Road from its junction with the A4053 Coventry Ring Road to where the start of the dual carriageway section, just north of Maudslay Road; and
- the A45 Coventry Road between M42 Junction 6 and A4540, Bordesley Circus.

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
A45	Fletchamstead Highway, Burnsall Road to A429 Kenilworth Road, Canley	Eastbound
A45	Fletchamstead Highway, A4114 Pickford Way, Allesley to Broad Lane, Lime Tree Park	Eastbound
A4114	Holyhead Road, B4106 Old Allesley Road to A4053 Ringway Hill Cross, Coventry	Eastbound
B4106	Old Allesley Road, A4114 Holyhead Road to A4053 Ringway Hill Cross, Coventry	Eastbound
A45	Coventry Road, approach to Damson Parkway/Terminal Road, Birmingham Airport	Westbound
A45	Coventry Road, approach to Damson Parkway/Terminal Road, Birmingham Airport	Eastbound
A45	Coventry Road, A4040 Swan Island to Heybarnes Circus, Small Heath	Westbound
A45	Small Heath Highway, Talbot Way to Heybarnes Circus, Small Heath	Eastbound
A45	Small Heath Highway, approach to B4145 Golden Hillock Road, Small Heath	Westbound
A45	Small Heath Highway, approach to Bordesley Circus, St Andrews	Westbound

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 congestion is to create problems with access to Birmingham Airport and International Station, Jaguar Land Rover at Elmdon and London Taxi Coventry which rely on just-in-time deliveries and industrial premises in Greet, Tyseley, Canley and Tile Hill which may supply or rely on just-in-time deliveries.

Average Speeds

The average speed for this route in the AM Peak varies considerably across its length. There are some sections in Solihull where the average speed is up to 50 mph. The average speeds through Birmingham can be up to 30 mph but there are some localised areas where the average speeds can fall to 10-20 mph. The sections of the route where average speeds are less than 10 mph in peak hours are as follows:

- A45 Coventry Road: Heybarnes Circus to Kings Rd
- A45 Coventry Rd: Brays Rd - Church Rd
- A4114: B4107 to A4053 Coventry Ring Road- inbound only (towards Coventry)
- B4106: Grayswood Ave to A4053 Coventry Ring Road - inbound only (towards Coventry)

Table 2: PM Peak Congestion-Related Delays

Road	Location	Direction
A45	Fletchamstead Highway, B4101 Tile Hill Lane to Broad Lane, Lime Tree Park	Westbound
A4114	Holyhead Road, Kingsbury Road to A4053 Ringway Hill Cross, Coventry	Eastbound
A4114	Holyhead Road, A4053 Ringway Hill Cross to Four Pounds Avenue, Coventry	Westbound
B4106	Spon End, Hearsall Lane to A4053 Ringway Hill Cross, Coventry	Eastbound
B4106	Spon End, Albany Road to Hearsall Lane, Coventry	Westbound
B4106	Spon End, Hearsall Lane to Four Pounds Avenue, Chapel Fields	Westbound
A45	Coventry Road B4438 Barnes Lane to Damson Parkway/ Terminal Road, Birmingham Airport	Westbound
A45	Coventry Road, approach to Damson Parkway/Terminal Road, Birmingham Airport	Eastbound
A45	Small Heath Highway, B4145 Golden Hillock Road, to Heybarnes Circus, Small Heath	Eastbound
A45	Small Heath Highway, approach to B4145 Golden Hillock Road, Small Heath	Westbound

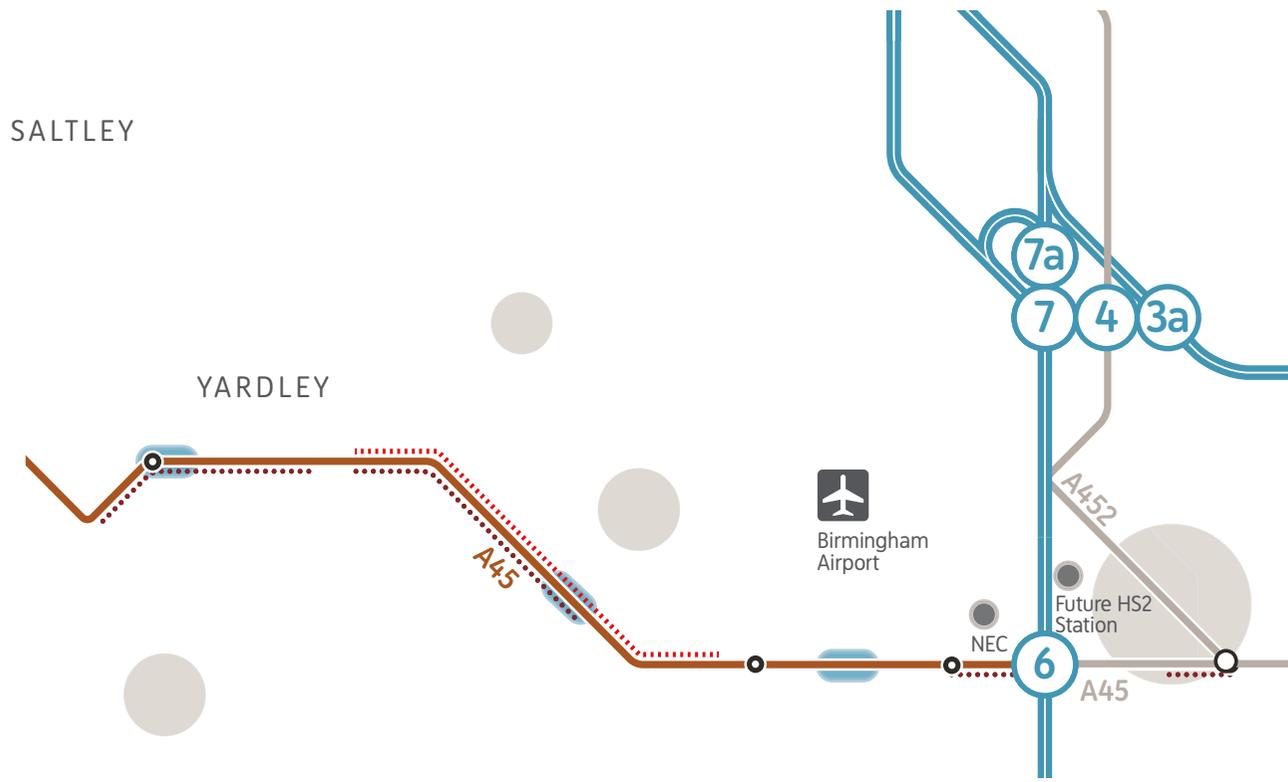
Junction Capacity Issues

There are currently several junctions along this route where the evidence suggests there are capacity issues restricting the free flow of traffic.

These are:

- A45/A429 Kenilworth Road junction
- A45/Sir Henry Parkes Road junction
- A45/Broad Lane junction
- A45 Coventry Road/A452 Chester Road junction
- A45/M42 Junction 6
- A45 Coventry Road/B4438/Bickenhill Lane junction
- A45 Coventry Road/Damson Parkway junction
- A45 Coventry Road/A4040 Yardley Road 9Swan Island junction)
- A45 Small Heath Highway/Coventry Road (Heybarnes Circus junction)
- A45 Small Heath Highway/Golden Hillock Road (Poets Corner Island)
- A4114 Alvis Retail Park Island
- B4106 Allesley Old Road/B4107 Queensland Avenue

West Midlands Key Route Network Coventry to Birmingham



Key

Roads	The Route
	Strategic Road Network operated by Highways England
Environment, Flows and Junction Capacity	Flooding area
	Congestion area
	Junction capacity issue
	Air quality 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

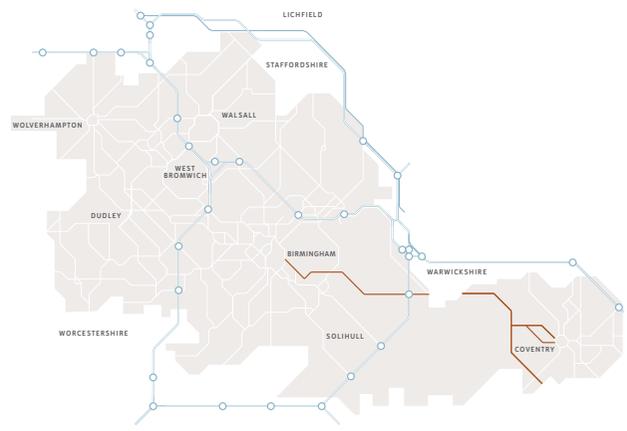
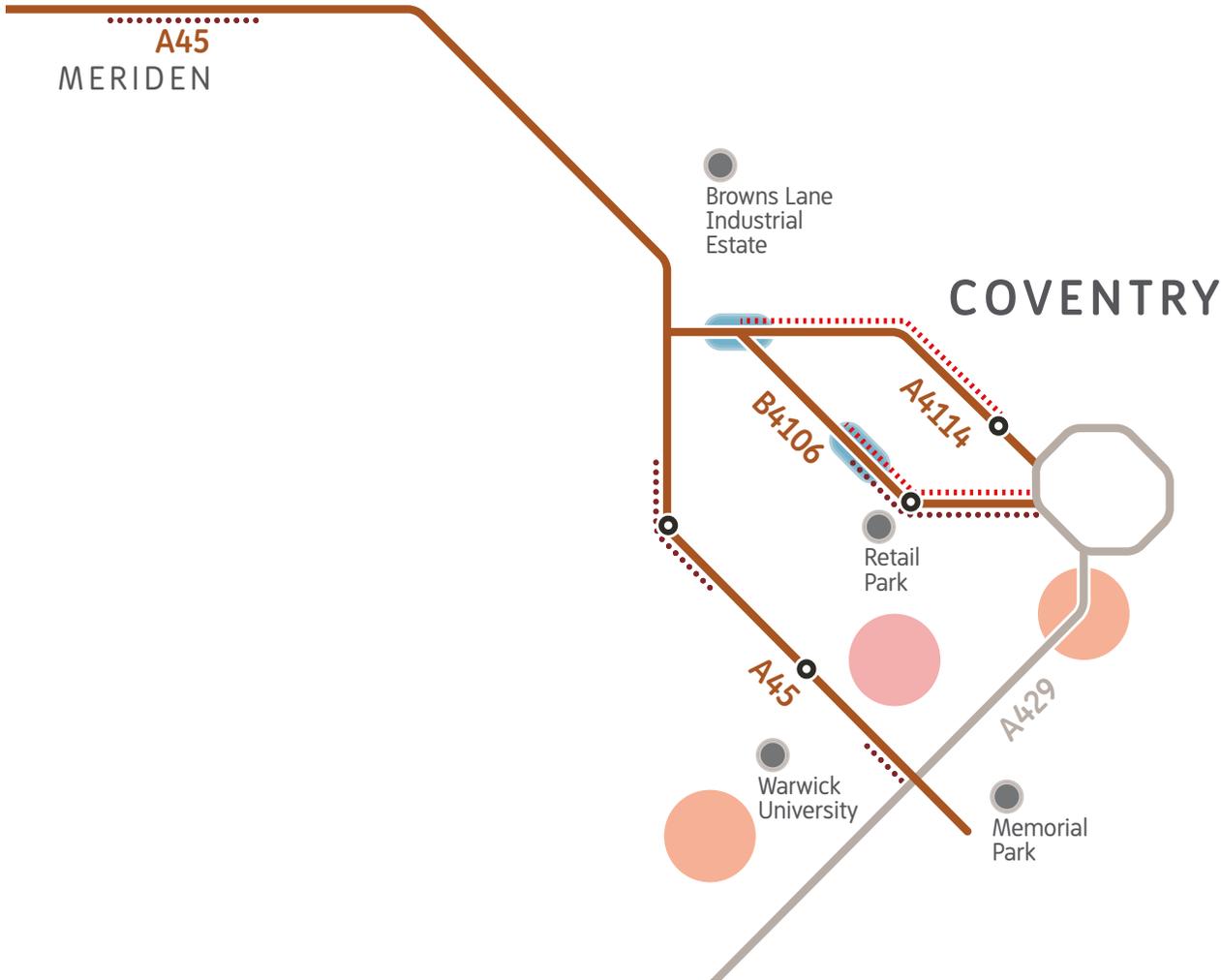


Figure 3 – 1 of 2

West Midlands Key Route Network Coventry to Birmingham



Key

Roads	The Route
Environment, Flows and Junction Capacity	Flooding area
	Congestion area
	Junction capacity issue
	Air quality 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 2

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:

Collisions

- 105 collisions, involving 207 vehicles
- Main contributory factor: Failed to look properly (pedestrian) (14% of all collisions)
 - The KSI ratio for this group is one of the highest for this route at 14% with 18% of all serious collisions being attributed to this group.
- Main contributory factors
 - Careless or Reckless or In a hurry (Driver) (6% of all collisions)
 - Poor turn or manoeuvre (6% of all collisions)

Casualties

- Total casualties: 141
- Killed and Seriously Injured: 18 (13% of all casualties, down 0.4% when compared to 2015 figure of 20 of 152)
 - Killed: 0 (0% of all casualties, down by 3%)
 - Seriously injured: 18 (13% of all casualties, down by 2%)
- Sights: 123 (87% of all casualties)

Casualty Types

We noted the following key statistics in relation to casualties falling into specific groups:

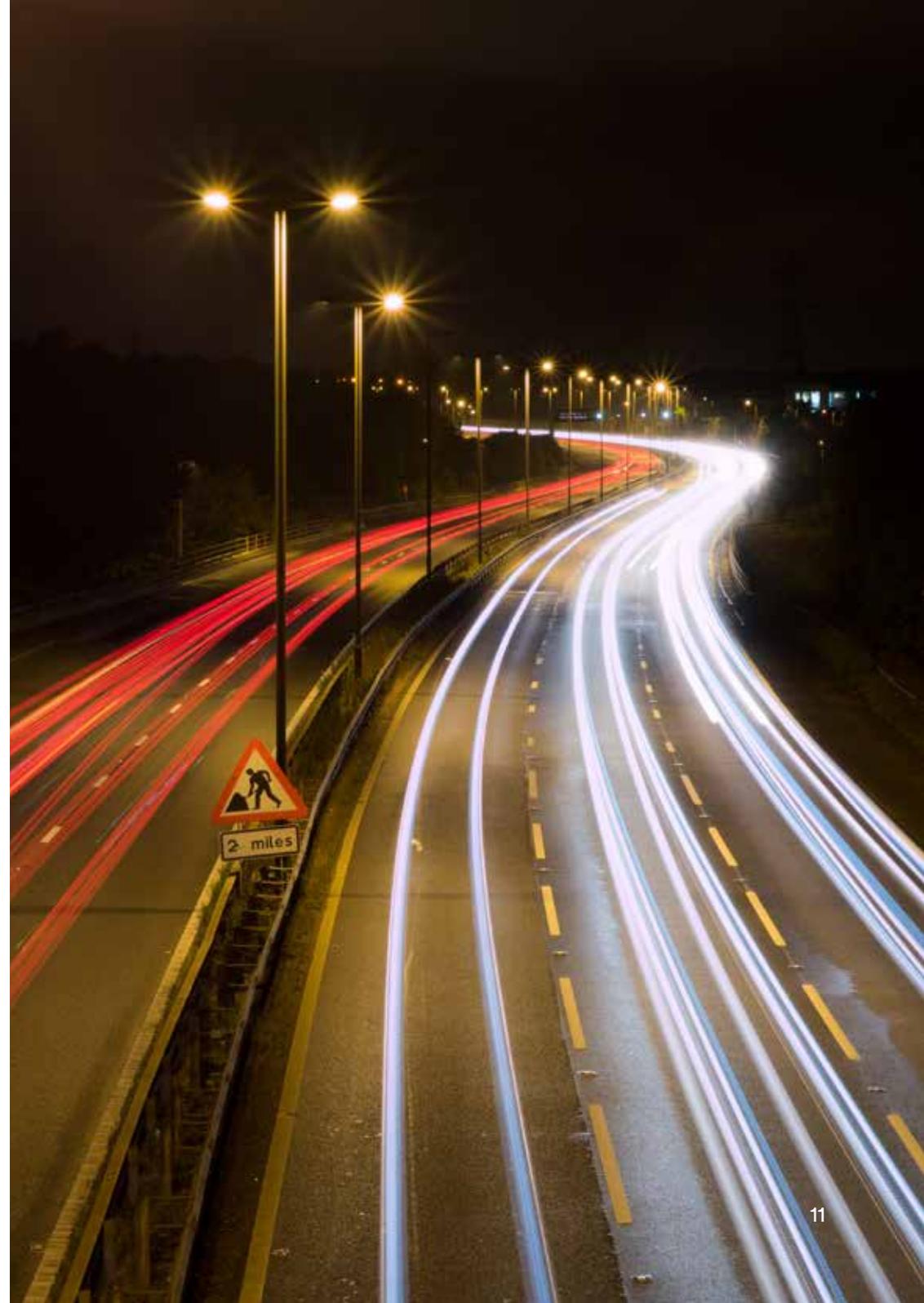
- Pedestrians: 14 (a reduction of 1% compared to 2015)
- Powered Two wheel vehicles: 13 (an increase of 1% compared to 2015)
- Pedal cyclists: 11 (an increase of 3% compared to 2015)
- Car occupants: 103 (a reduction of 4% compared to 2015)

KSI Clusters

There are a number of KSI clusters along the A45, from the A4540 junction at Birmingham to Sheldon, which generally passes through mostly built up areas. There are also a couple of KSI clusters at the roundabout junctions with the A452 and the M42 on the high speed dual carriageway section of the route.

There is a further KSI collision cluster on the A45 at Coventry in the vicinity of its junctions with Tile Hill Lane and Broad Lane. The Broad Lane junction has recently been upgraded from a crossroads to a signalised roundabout.

The B4106 section of the route in Coventry, which passes through a mostly residential built up area with a moderate level of on-street parking, has a spread-out cluster of KSI collisions.



CYCLING

There are some sections with shared use footways along the A45 but these are in need of upgrading to best practice dimensions. There are no facilities on the B4106 whilst the A4114 Holyhead Road has on road cycle lanes. This road also has a 40 mph speed limit.

The section of the A45 section in Birmingham - Stratford Road/Coventry Road/Warwick Road does not have cycling provisions. They are high traffic flows and this section includes challenging junctions. The grand union canal towpath runs parallel to the A45 from the Ring Road to the boundary.

The Sustainable Transport Delivery Excellence Programme (STDEP) for the West Midlands region has identified a number of 'Priority Corridors' for a Strategic Cycle Network in the Midlands. The A45 from Birmingham City Centre to Birmingham Airport is one of these corridors, as well as the A4114 Holyhead road from the A45 into Coventry City Centre.



The route is well served by a number of high frequency bus services operating every 15-30 minutes, including the X1 which is an end to end service. These services provide access to the City Centres, Birmingham Airport and NEC, University of Warwick, shopping facilities, leisure destinations including the Genting Arena, Resorts World and National Motorcycle Museum, employment sites and the surrounding communities.

The average bus speed along this route is 13.8mph (data taken from the X1 bus route). The average total number of daily bus trips is 20,644 (route nos. 82, 1, 10 and 23/23A excluded from this total).

The corridor is part of the Core Bus Network and identified with Sprint corridors between Birmingham and Birmingham Airport/UK Central, and between Birmingham Airport/UK Central and Coventry in the West Midlands Strategic Transport Plan - Movement for Growth.

In Coventry bus lanes were provided through Bus Showcase and Coventry Primelines projects including Tile Hill Lane. In January 2017, Coventry City Council embarked on an experimental suspension of some of the bus lanes along this route. The locations for the trial include:

- Tile Hill gyratory – on Tile Hill Lane inbound between Beech Tree Ave and the rugby club entrance.

Table 3: Main Bus Routes

Road(s) Served	Frequency	Route No.
A45 Birmingham - Sheldon	Every 15 mins	60
A45 Birmingham - Sheldon	Every 15 mins	X2
A45/A4114 Birmingham – Airport/NEC - Coventry	Every 30 mins	X1
A45 Birmingham – Swan Island	Every 30 mins	59/59A
A45 Swan Island - Lyndon	Every 30 mins	58
A45/A4114 Meriden - Coventry	Every 60 mins	82

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

There are also bus services on the B4106 at Coventry in the corridor:

Table 4: Additional Bus Routes

Road(s) Served	Frequency	Route No.
B4106 Spon End – Chapelfields	Every 60 minutes	1
B4106 Coventry – Spon End	Every 15 minutes	10
B4106 Spon End - Chapelfields	Every 10 minutes	23/23A

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

- Tile Hill gyratory – outbound between Renown Ave and Vanguard Ave and on-going between Vanguard and the left turn towards London on the A45.

Bus Lanes remain at Tile Hill Gyratory for the inbound bus gate at the A54, Herald Avenue Junction left turn, Broad Lane Roundabout, Hearsall Lane and Butts Road. Plus outbound on Butts Road and right turn bus lane towards Birmingham on A54.

The corridor has a parallel railway providing express and slow services between Birmingham, Birmingham International and Coventry and extending to Wolverhampton, Rugby, London and the north and south of England. There are a number of mainline railway stations located within the corridor including Lea Hall, Marston Green, Birmingham International, Hampton-in-Arden, Berkswell, Tile Hill and Canley.

The following stations have park and ride facilities:

- Coventry
- Wolverhampton
- Sandwell and Dudley
- Rugby
- Canley
- Tile Hill
- Berkswell
- Hampton-in-Arden
- Birmingham International
- Marston Green
- Lea Hall

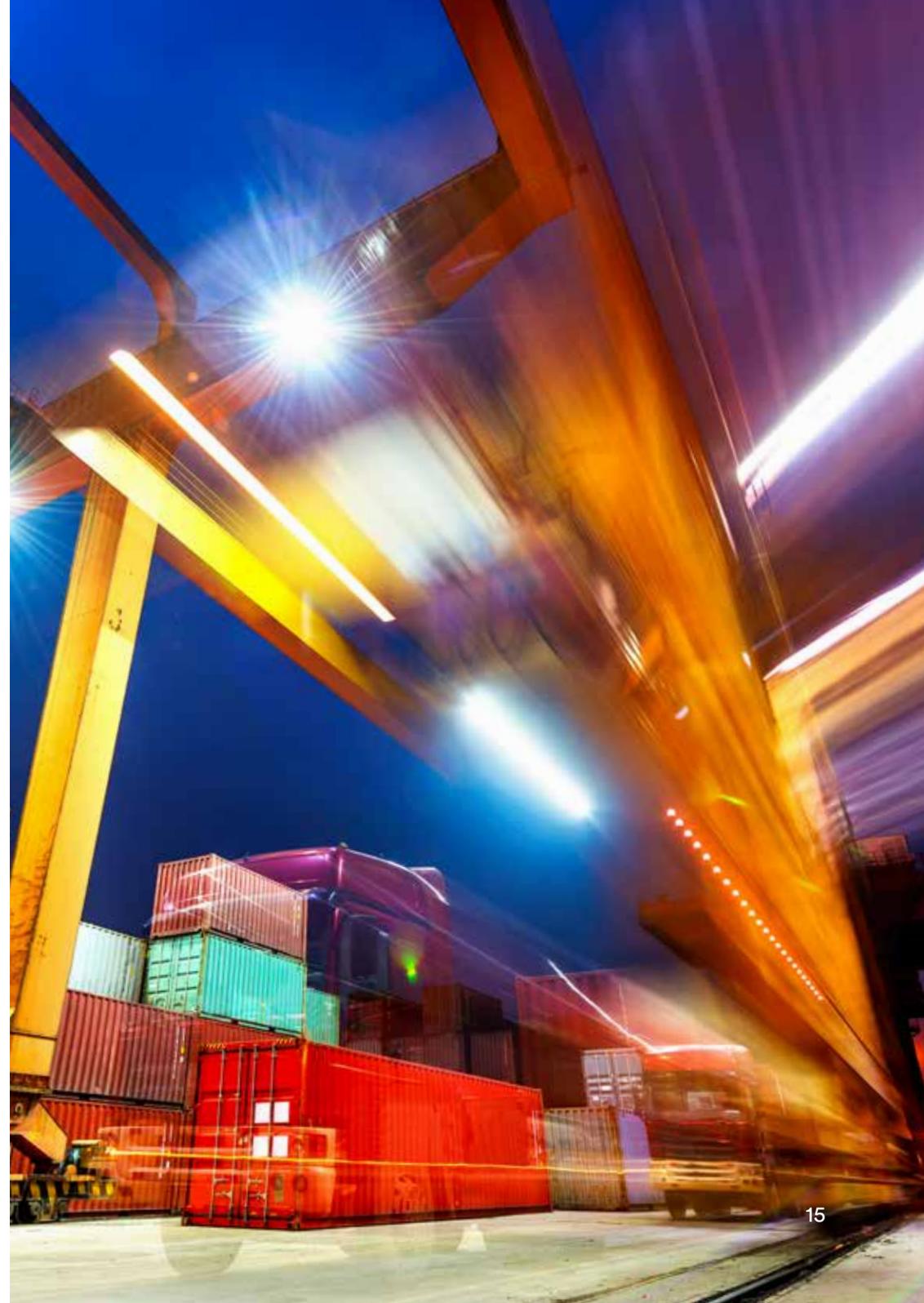
The extension of the Midland Metro, from Digbeth to East Birmingham - Solihull, will terminate within the UK Central Hub/HS2 Interchange Station alongside Birmingham Airport and NEC; this is proposed in the West Midlands Strategic Transport Plan - Movement for Growth and the HS2 Connectivity Package which also proposed the Sprint route between Interchange and Coventry City Centre via the A45. It is understood that ultra-light rail is also being investigated for the eastern end of the corridor.

FREIGHT AND LOGISTICS

The AADF data for 2016 has been used to analyse HGV flows on each respective route. The A45 for its entirety on this route is a key route for HGVs, with flows in excess of 1,000 per day. The average number of Heavy Goods Vehicles (HGV) using the route on a daily basis was 1,832, which represents 5% of all vehicular traffic.

Analysis conducted for Midlands Connect concluded that intra-regional flows between Birmingham and Coventry are very high; this route is utilised for the transportation of goods between the two economic centres. The A45 links to the M42 and M6 which gives it a national significance, whilst later on the route it links the M69 where goods could be transported to the East Midlands.

There are many businesses located along this route, in particular Jaguar Land Rover which requires efficient movement and free flowing conditions for the transportation of products as it utilises a just-in-time delivery operation.



Resilience

The route has parallel strategic roads including the M6 for end to end traffic, the A41 and Meadway (B4128) in Birmingham and the B4106 Allesley Old Road in Coventry. There is a considerable degree of resilience contained within the network for radial journeys, particularly between Birmingham and Coventry urban areas in this corridor. However, certain critical sections can cause grid-lock, including on the motorway network, particularly in the vicinity of the NEC which has large events throughout the year affecting the M42 and A45. The high frequency and high capacity West Coast Main Line in the route provides intermodal network resilience but there is a lack of parking capacity at stations.

Given the existing capacity constraints in the peaks in the Birmingham and Coventry highway networks, a restriction on any of the roads will have considerable adverse implications for journey times on the remainder of this route and surrounding routes.

Diversion Route

A section of the A45 in Coventry is used as an Emergency Diversion Route (EDR) by Highways England when there are closures or incidents on the strategic road network. Between the A46 Stivichall Interchange and M42 junction 6, it forms part of the EDR for the section of the M6 between junctions 2 and 4.

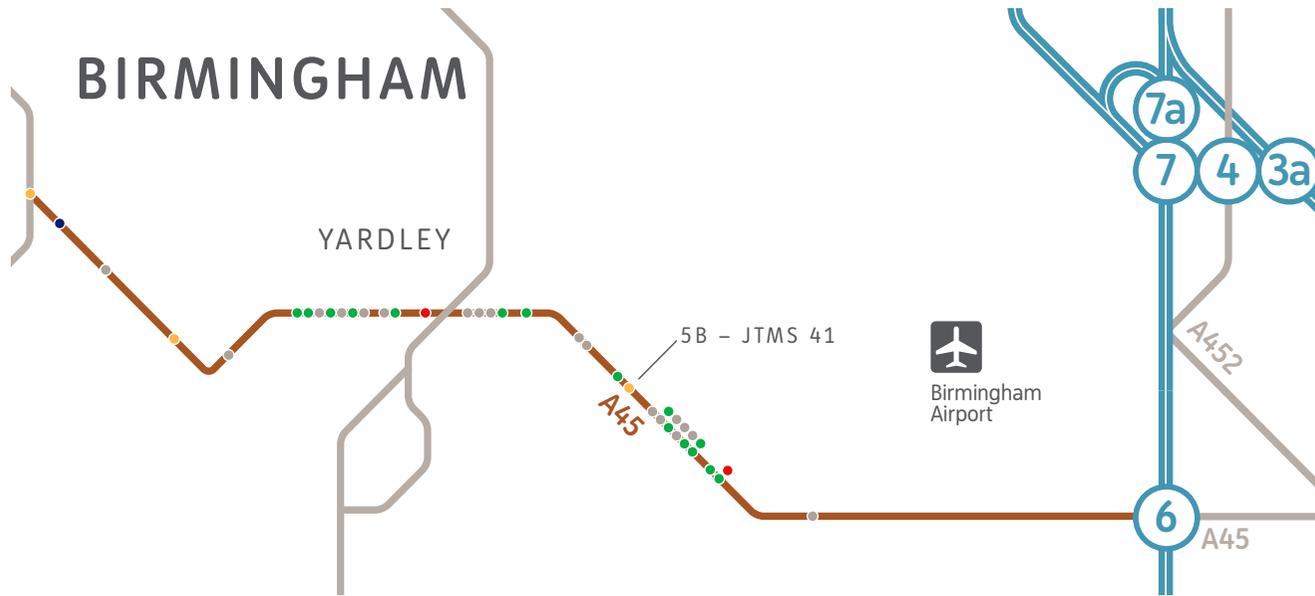
Although not formally designated an EDR, the A45 in Birmingham is affected by diverting traffic if there are problems on the M6 west of the M42.

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 some areas on this route that pose a flood risk. These are:

- The section of the route where the A4114 meets the A45 and along the A4114 to where it meets the B4106
- At the junction of the A45/A452
- Along the A45 to the west of Sheldon where the dual carriageway ends and where the A45 meets the B425
- The section of the route immediately adjacent to the Birmingham Airport runaway
- In Small Heath at Haybarnes Circus Island

West Midlands Key Route Network Coventry to Birmingham



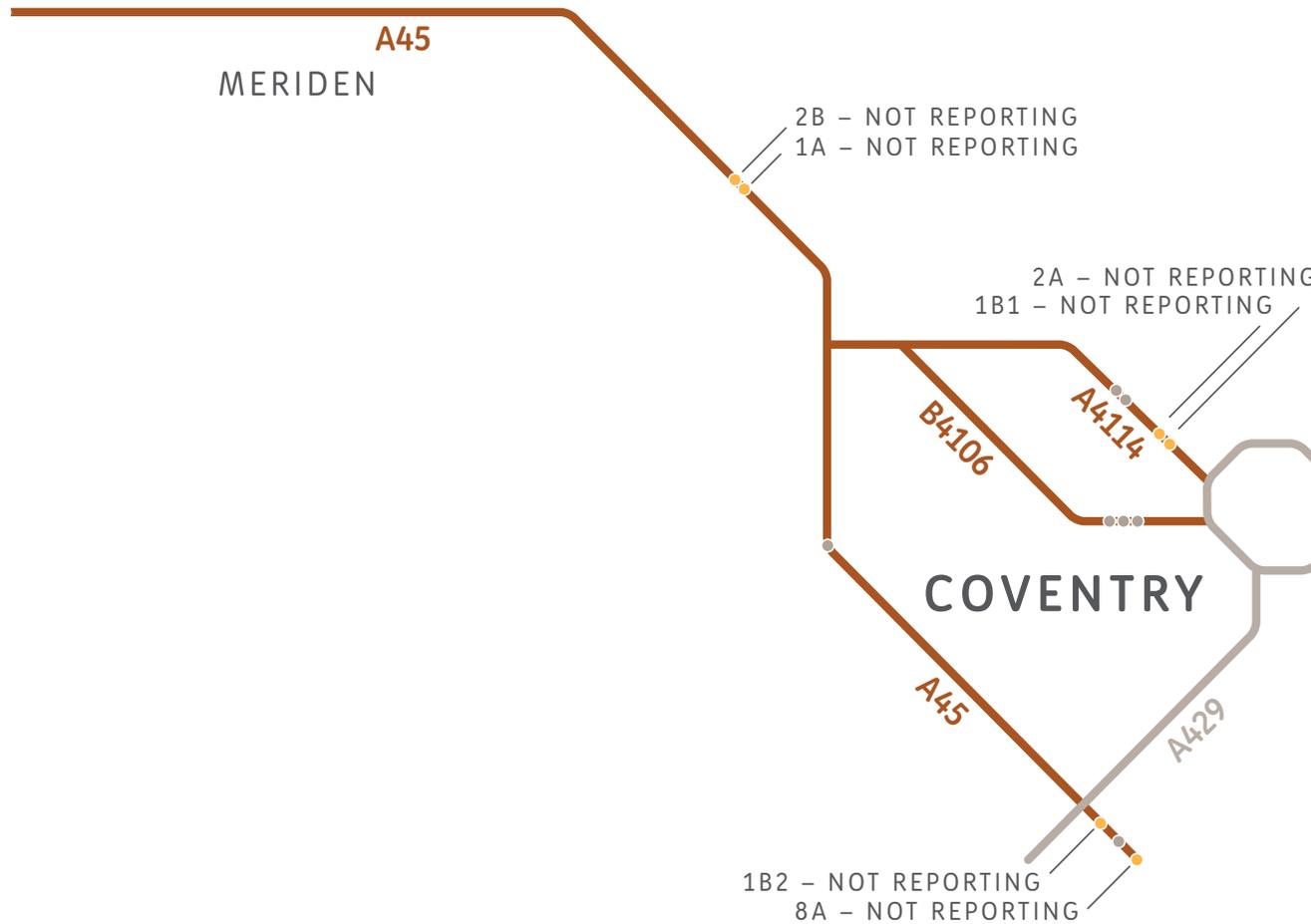
Key

Roads	The Route
	Strategic Road Network operated by Highways England
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 – 1 of 2

West Midlands Key Route Network Coventry to Birmingham



Key

Roads

- The Route

Asset Location & Conditions (where known & information available)

- Automatic Number Plate Recognition (ANPR) / Journey Time Monitoring System (JTMS) locations
- Traffic Camera locations



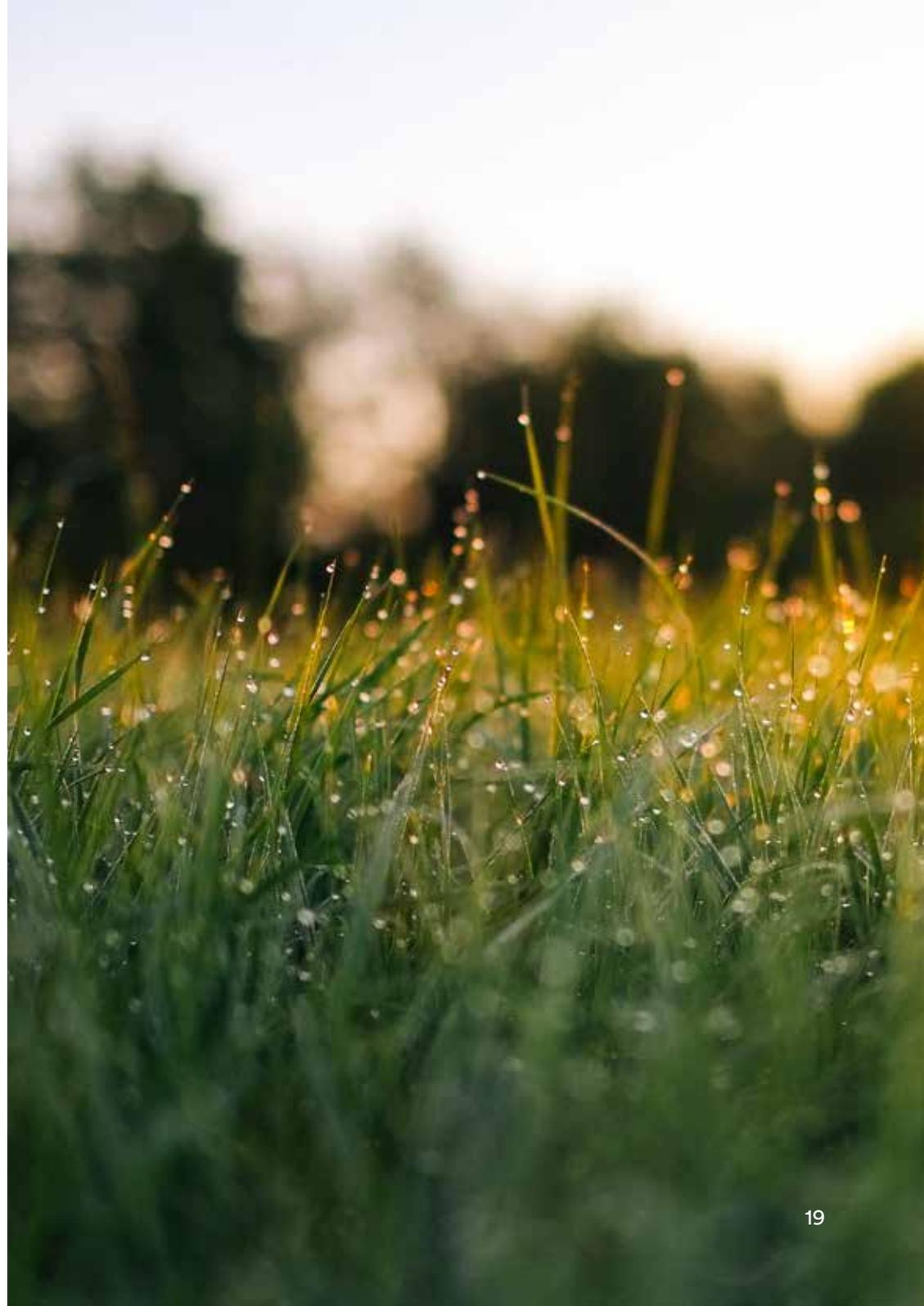
Figure 4 – 2 of 2

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 A45 section of the Coventry to Birmingham route passes through deprived areas in between Birmingham City Centre and the A4040; where residents have lower healthy life expectancy, below the national average of 83. More than one third of residents in communities either side of the road are children under the age of 17, and typically at least 2 out of every 5 children in year 6 are obese in some areas. Communities in between the M42 and Coventry are typically older with one in four over the age of 65. In the areas where the A45 enters Coventry, more than one in every 10 people provides some level of unpaid care for a relative.

Some sections of the route fall within the Coventry Air Quality Management Area (AQMA) declared for Nitrogen Oxide (NO₂), as well as the Birmingham AQMA, declared for both 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.



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

Please refer to the Technical Annex.



Development proposals directly affecting this route

Housing

- Coventry Eastern Sustainable Urban Extension 2250 dwellings (2017-30)
- COVRAD 110 dwellings (2025-30)
- UK Central Housing 1000 dwellings (2025-30)

Employment

- Coventry Eastern Sustainable Urban Extension 4000 jobs (2017-25)
- Damson Parkway 21000 jobs (2017-30)
- Wider Tyseley Area 3000 jobs (2017-25)

Development proposals indirectly affecting this route

Housing

- No significant proposals

Employment

- Wheels Site 1500 jobs (2020-30)
- UK Central 20000 jobs (2025-30)

Committed Transport Improvements (as outlined in Movement for Growth - 2026 Delivery Plan for Transport)

- Birmingham International Integrated Transport Hub
- UK Central Infrastructure Package
- UKC Interchange
- SPRINT: Hall Green to Birmingham Interchange HS2
- SPRINT: Birmingham City Centre to Airport/Solihull (A45)
- Metro East Birmingham and Solihull Tramway
- A45 Bridge
- Link Road Phase 1: A46 Stoneleigh Junction
- St Martins and A45/Leamington Road Junctions Connectivity to UKC
- WMCA Area Park and Ride Expansion Programme: Capacity Improvements to Tile Hill Park and Ride
- Link Road Phase 3: University of Warwick-UKC
- Link Road Phase 2: Stoneleigh Junction-University of Warwick/Westheath Housing
- Coventry VLR: Route to UKC (Phase 3)
- Metro: East Birmingham to Solihull Tramway

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:

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>