

West Midlands Key Route Network

UK Central to Brownhills



Transport for
West Midlands

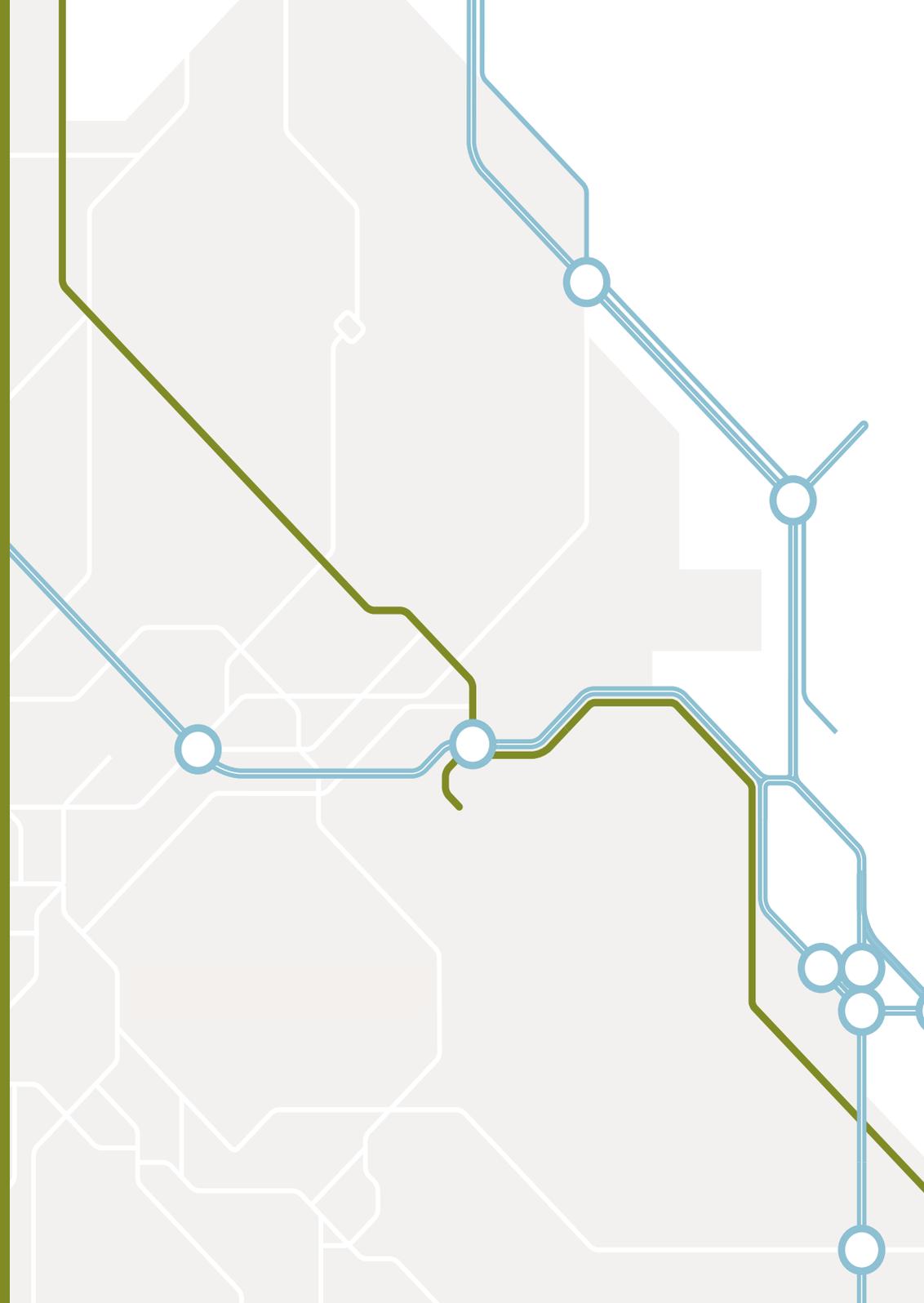
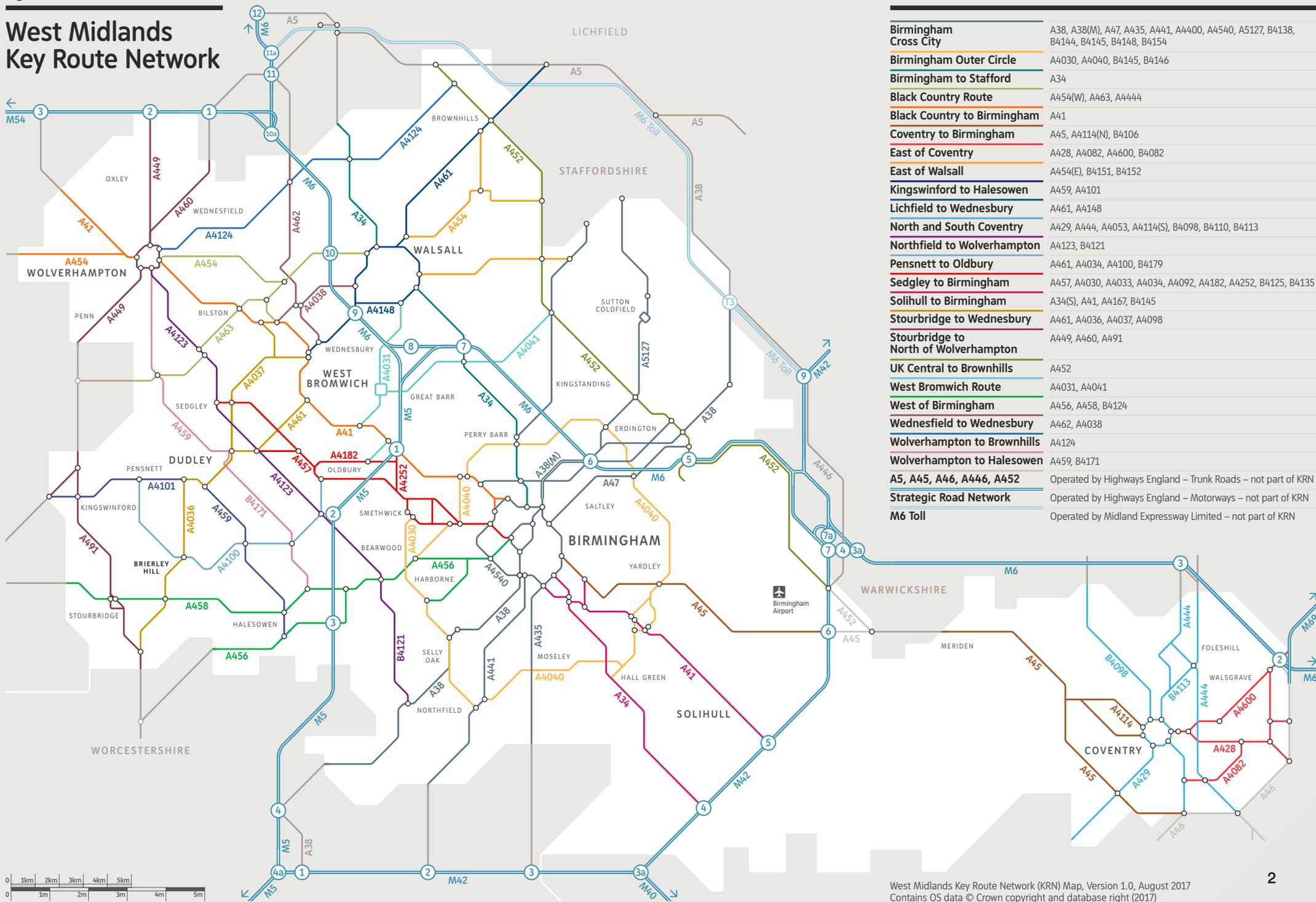


Figure 1

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 UK Central to Brownhills route is a 22 mile/35 km section of the West Midlands Key Route Network (KRN), enabling strategic regional access to Birmingham Airport and UK Central; the home of the National Exhibition Centre, Genting UK's Resorts World, global automotive brand Jaguar Land Rover and the planned High Speed Rail Central Interchange. The route is also essential for providing long distance travel across the wider region. It links the regional centre of Brownhills with the suburban communities of Birmingham, Walsall and Solihull as well as providing direct access to strategic locations.

The UK Central to Brownhills route is formed of the A452 only.

It is an essential route for access to international markets, leisure and for commuters travelling across the West Midlands.

Within Solihull, this route partly enables the ambition for greater inward investment at UK Central and increased passenger growth at Birmingham Airport. It also provides vital links for businesses and residents in Birmingham to other routes providing access to the City Centre and across the region. In Walsall, the route enables improved accessibility to the local centres at Streetly and Brownhills and the movement of essential goods and services into and out of the region. In addition, the route also forms a number of crucial connections to other routes on the KRN. These are:

Wolverhampton to Brownhills

- A452 Chester Rd. North/A4124 Pelsall Road

Lichfield to Wednesbury

- A452 Chester Road/A461 Lichfield Road

East of Walsall

- A452 Chester Road/A454 Little Aston Road
- A452 Chester Road/B4151 Foley Road West

West Bromwich Route

- A452 Chester Road/A4041 Queslett Road East

Birmingham Cross City

- A452 Chester Road/A453 College Road
- A452 Chester Road/A5127 Sutton Road
- A452 Chester Road/A38 Kingsbury Road
- A452 Chester Road/A47 Fort Parkway

Coventry to Birmingham

- A452 Chester Road/A45 Coventry Road

The route is a mixture of single and dual carriageway sections throughout. It is mostly dual carriageway from its junction in Solihull with the A45 through to where it meets the A5127 Sutton Road. The section of the route from the A5127 junction through Boldmere in Birmingham up to Streetly in Walsall is primarily single carriageway serving residential communities.

From Streetly through to Brownhills, up to where the route meets the A5, it is single carriageway characterised by rural fields and residential properties from the Shire Oak junction through to Brownhills.

The UK Central to Brownhills route has the following connections to the Strategic Road Network (SRN) operated by Highways England.

- A452 at M6 Junction 5 (east facing slips only)
- A452 Chester Road North to A5 at Rising Sun Island

The connection at the M6 junction 5 further enables regional access to the M42 and M40 which link the region to the south, northeast and southeast of England.

There is a further connection to M6 Junction 4 via a short length of the A446 near Birmingham Business Park. This provides access to the northwest of England and - via the M5 - to the southwest.

These connections are essential for residents making long distance journeys and also for businesses providing services and products across the country. The connection to the A5 in the north of Walsall also enables strategic access to the M6 Toll which further enables journeys to the north and south of England.

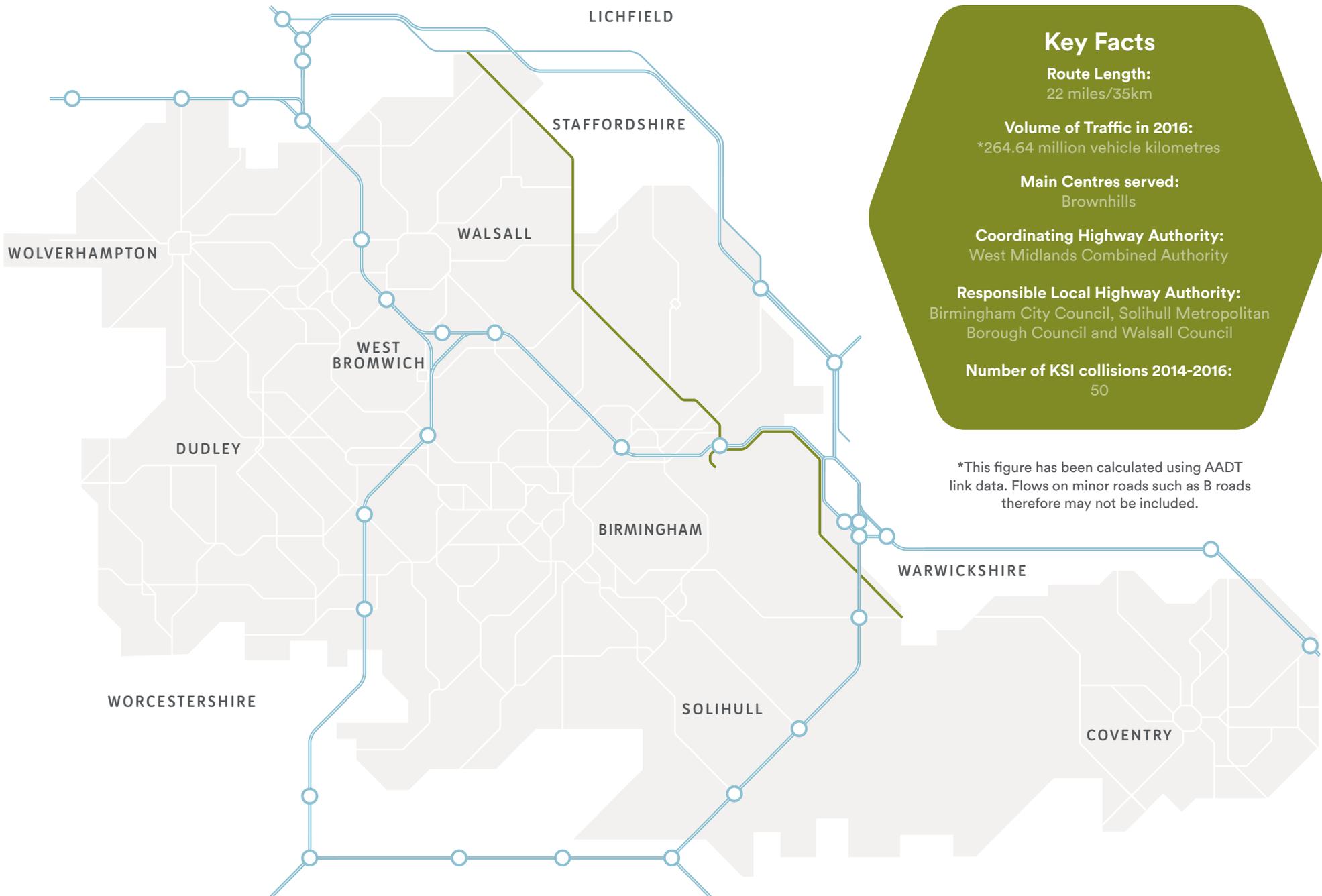


Figure 2

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 13,800 vehicles, a maximum of 50,000 with an average of 22,000 AADF.

Due to congestion along the UK Central to Brownhills route, there are large delays for traffic Southbound in the morning peak at A38 Kingsbury Road junction. Other sections through New Oscott are also slow moving. In the PM peak the worst congestion is in both directions at A38 Kingsbury Road junction and Southbound at the A446/Solihull Parkway junction.

There are five sections of this route which experience high traffic volumes. These are:

- In Chelmsley Wood between the junctions with Coleshill Heath Road and the A446 link roads at Birmingham Business Park;
- From the junction with Grange Road to the junction with Parkfield Drive, Castle Bromwich.
- both approaches to the A5127 Sutton Road;
- The section of the route through Boldmere between its junctions with the A453 and the B4149 Kings Road including the approaches to both; and
- In Walsall, on the approach to the A461 Shire Oak junction when travelling towards Brownhills.

The locations of the most significant congestion-related delays (>40 sec/km) are set out in tables 1 and 2.

Table 1: AM Peak Congestion Related Delays

Road	Location	Direction
A452	Chester Road, Packington Lane to junction of A446/Solihull Parkway/B4438, Marston Green	Northbound
A452	A452, Parkfield Drive to Newport Road, M6 Junction 5 (including gyratory)	Westbound
A452	Chester Road, Pipe Hayes Road to M6 junction 5	Southbound
A452	Chester Road, Gunter Road to A5127 Sutton Road, Erdington	Northbound
A452	Chester Road, Church Road to Orphanage Road, Erdington	Southbound
A452	Chester Road, A453 College Road to B4149 Jockey Road, New Oscott	Northbound
A452	Chester Road, Warwick road to A453 College Road, New Oscott	Southbound
A452	Chester Road, Kingscroft Road to B4138 Thornhill Road, Streetly	Southbound

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 on this route is to create problems with access to the Birmingham International Airport and International Station and Jaguar Land Rover at Castle Bromwich which relies on just-in-time deliveries.

Table 2: PM Peak Congestion-Related Delays

Road	Location	Direction
A452	Junction of A452/Solihull Parkway/B4438, Marston Green	Gyratory
A452	A452, Parkfield Drive to Newport Road, M6 Junction 5	Westbound
A452	Chester Road, gyratory at M6 Junction 5 to A38 Kingsbury Road, Castle Vale	Northbound
A452	Chester Road, Pipe Hayes Road to A38 Kingsbury Road, Castle Vale	Southbound
A452	Chester Road, A5127 Sutton Road to B4142 Boldmere Road, Short Heath	Northbound
A452	Chester Road, Church Road to B4149 Jockey Road, New Oscott	Northbound
A452	Chester Road,, Warwick road to A453 College Road, New Oscott	Southbound
A452	Chester Road, B4151 Foley Road West to Little Hardwick Road	Northbound

Average Speeds

The average speed for this route in the peak hours vary considerably along 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 sections where the average speeds can fall to 10-20 mph. The Walsall section of the route generally performs better through the rural section but the average speed falls to between 10-20 mph on the urban section at Brownhills. Overall, there are only two locations where average speeds fall below 10 mph:

- A452: B4531 Boldmere Road to A5127 Birmingham Road/Sutton Road
- A452: A453 College Road to B4149 Kings Road/Jockey Road

Junction Capacity Issues

There are currently some junctions along the route where the evidence suggest there are capacity issues restricting the free flow of traffic. These are:

- A452/M6 Junction 5
- A452 Chester Road/A38 Kingsbury Road junction
- A452 Chester Road/A5127 Sutton Road junction
- A452 Chester Road/B4151 Foley Road East junction
- A452 Chester Road/A461 Shire Oak junction
- A452 Brownhills High Street/A4124 Pelsall Road

West Midlands Key Route Network 3 UK Central to Brownhills



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 – 1 of 2

West Midlands Key Route Network UK Central to Brownhills



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|---|--|
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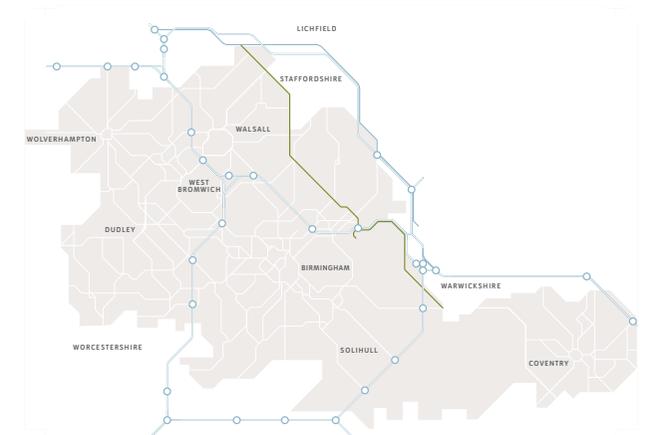


Figure 3 – 2 of 2

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 have regard 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

- 85 collisions, involving 165 vehicles
- Main contributory factor: Failed to look properly (pedestrian) (26% of all collisions)
 - The Killed and Seriously Injured (KSI) ratio for this group is 18% with 22% of all serious collisions being attributed to this group.
- Main contributory factors
 - Poor turn or manoeuvre (9% of all collisions)
 - Failed to look properly (driver) (6% of all collisions)

Casualties

- Total casualties: 119
- Killed and Seriously Injured: 26 (22% of all casualties, up 11% when compared to 2015 figure of 12 of 112)
 - Killed: 4 (3% of all casualties, up by 3%)
 - Seriously injured: 22 (19% of all casualties, up by 8%)
- Slight: 93 (72% of all casualties)

Casualty Types

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

- Pedestrians: 14 (an increase of 2% compared to 2015)
- Powered Two wheel vehicles: 18 (a reduction of 2% compared to 2015)
- Pedal cyclists: 12 (an increase of 0.3% compared to 2015)
- Car occupants: 75 (a reduction of 0.4% compared to 2015)

KSI Clusters

There is a KSI cluster along the A452 between the A5 and the A452 Chester Road/Lazy Hill Junction which has the highest number of fatal and serious personal injury collisions for the overall route. This section is mainly single urban carriageway in a built-up residential environment.

There are also KSI clusters on the A452 in the vicinity of its junction with the A5127 and on the length between Kingsbury Road and the roundabout at Newport Road (near to the M6). This section is mainly urban dual carriageway in a built-up residential environment.

CYCLING

There is a greenway between Minworth and Castle Bromwich and this off road route continues to Sutton Coldfield. North of Minworth Island along the A452 in Birmingham, there are no formal provisions. The section in Walsall does not have formal cycling provisions.

The Sustainable Transport Delivery Excellence Programme (STDEP) plan for a Strategic Cycle Network for the West Midlands has identified 'Priority Corridors' for cycling in the region. There are two corridors that interact with this route:

- A5127 corridor and;
- A452 near Birmingham Business Park.



There are large sections of this route which aren't served by public transport. Where the route passes through built up residential areas, it is well served by the following high frequency bus service providing access Birmingham City Centre, Walsall Town Centre and Brownhills.

The average bus speed along this route is 10.6mph (data taken from the 28 bus route). The average total number of daily bus trips is 3,017 (routes 936/037/937A included in this total only).

In terms of rail, there are two main railway stations along this route and both have park and ride facilities. These are:

- Chester Road which is situated on the Redditch-Birmingham New Street-Lichfield Cross-City Line.
- Birmingham International which is located at Birmingham Airport in Solihull and on the West Coast Main Line providing direct services to London, the north of England and Scotland.

Proposals for the East Birmingham to Solihull Midland Metro line could provide interaction with the route and interchange opportunities.

Table 3: Main Bus Routes

Road(s) Served	Frequency	Route No.
A452 Castle Bromwich - Walmley	Every 12 mins	28
A452 Chester Road Station – New Oscott	Every 60 mins	88/89
A452 Shire Oak - Brownhills	Every 10-30 mins	936/937/937A

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

There are also plans for a Sprint Rapid Transit route between Sutton Coldfield and HS2 Interchange station in the HS2 Connectivity Package.

The Midlands Rail Hub includes new services between Birmingham Moor Street Station and Tamworth with a local station at Castle Bromwich.

Investigations are ongoing into Ultra-Light Rail services or Sprint Bus Services between HS2 Interchange station and Coventry.

The AADF data for 2016 has been used to analyse HGV flows on each respective route. The average number of Heavy Goods Vehicles (HGV) using the route on a daily basis was 702, which represents 3% of all vehicular traffic. There is one particular section of this route where HGV flows exceed 1,000 per day:

- The southernmost point on the route on the A452 between Stonebridge Road and the A45 junction

The route connects to the M6 which is a of National significance for freight- between the Midlands and North West in 2014, approx. 45.5m tonnes of goods were transported according to MDS Transmodal (MDST) data; a significant amount of this travels on the M6.

The northernmost point on the route also experiences relatively high HGV flows of between 500 and 1000 per day according to the AADF data.

In addition, the route connects to the A47 Fort Parkway and therefore to Fort Dunlop and Gravelly Industrial Park. The route also directly passes the Castle Bromwich branch of Jaguar Land Rover which operate on a just in time delivery system.



Resilience

This route has parallel strategic roads through the A5/A38/A446 and M6 Toll/M42 for end to end journeys, M6 and A4041 and A45/A4040/Short Heath Road/Perry Common Road/Hawthorn Road/Kingstanding Road/Sutton Oak Road. There is a considerable degree of resilience contained within the Birmingham and Warwickshire networks for orbital journeys. There is a lack of intermodal network resilience as a result of a lack of an orbital rail network.

Given the existing capacity constraints in the peaks in the Birmingham network, 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

The A452 between Meriden and Spitfire Island forms part (with the A47) of the signed diversion route for traffic when there are closures on the M6 motorway between junction 4/4a, 5 and/or 6. It is also used as a diversion route between Stonebridge and Little Packington when there are closures between junctions 6 and 7/7a or between junctions 8 and 9 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 between the junction with the A45 Coventry Road and where the A452 meets the A446.
- Along the route between the A452/Moorend Avenue and the A452 Birmingham Road junction
- The section of the route where the A452 meets M6 junction 5
- Where the route meets the A38 Kingsbury Road

West Midlands Key Route Network 3 UK Central to Brownhills



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	Congestion area
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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 UK Central to Brownhills



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- | | |
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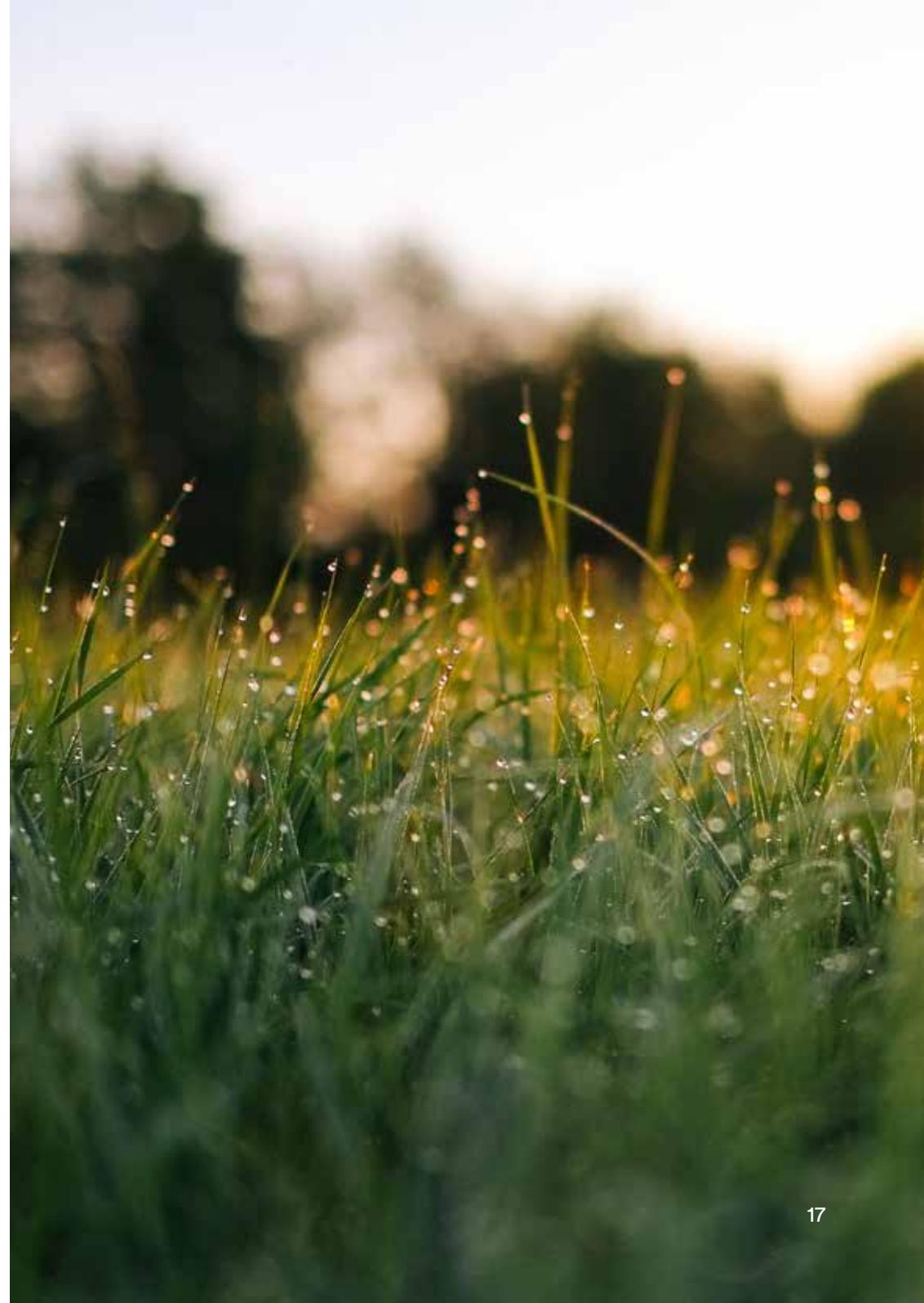


Figure 3 – 2 of 2

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 UK Central to Brownhills route carries traffic around the north border of Solihull, and Chelmsley Wood, it bisects communities with low healthy life expectancies. Around 1 in 5 people report that their daily activities are limited a little or a lot by their health. In this same area, West of the route there is a large area where 2 in 5 households have no adults in work.

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

The carriageway condition across the UK Central to Brownhills route is in fair and safe order. Over the past six years there has been a systematic planned programme of capital maintenance carried out on the A452.

Footway Condition

The footway condition across the route is in a generally good and safe condition. Over the past six years a systematic planned and programme of capital maintenance has been carried out on the A452.

Refer to the Technical Annex for further details on asset condition.



Development proposals directly affecting this route

Housing

- UK Central 1000 dwellings (2020-30)
- Lyndhurst Estate 178 dwellings (2017-20)

Employment

- UK Central 20000 jobs (2025-30)
- Erdington Industrial Estate 500 jobs (2025-30)

Development proposals indirectly affecting this route

Housing

- Former Cincinnati Building 430 dwellings (2020-30)

Employment

- Birmingham Business Park 3000 jobs (2017-30)

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

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>