

West Midlands Key Route Network

Stourbridge to
North of Wolverhampton



Transport for
West Midlands

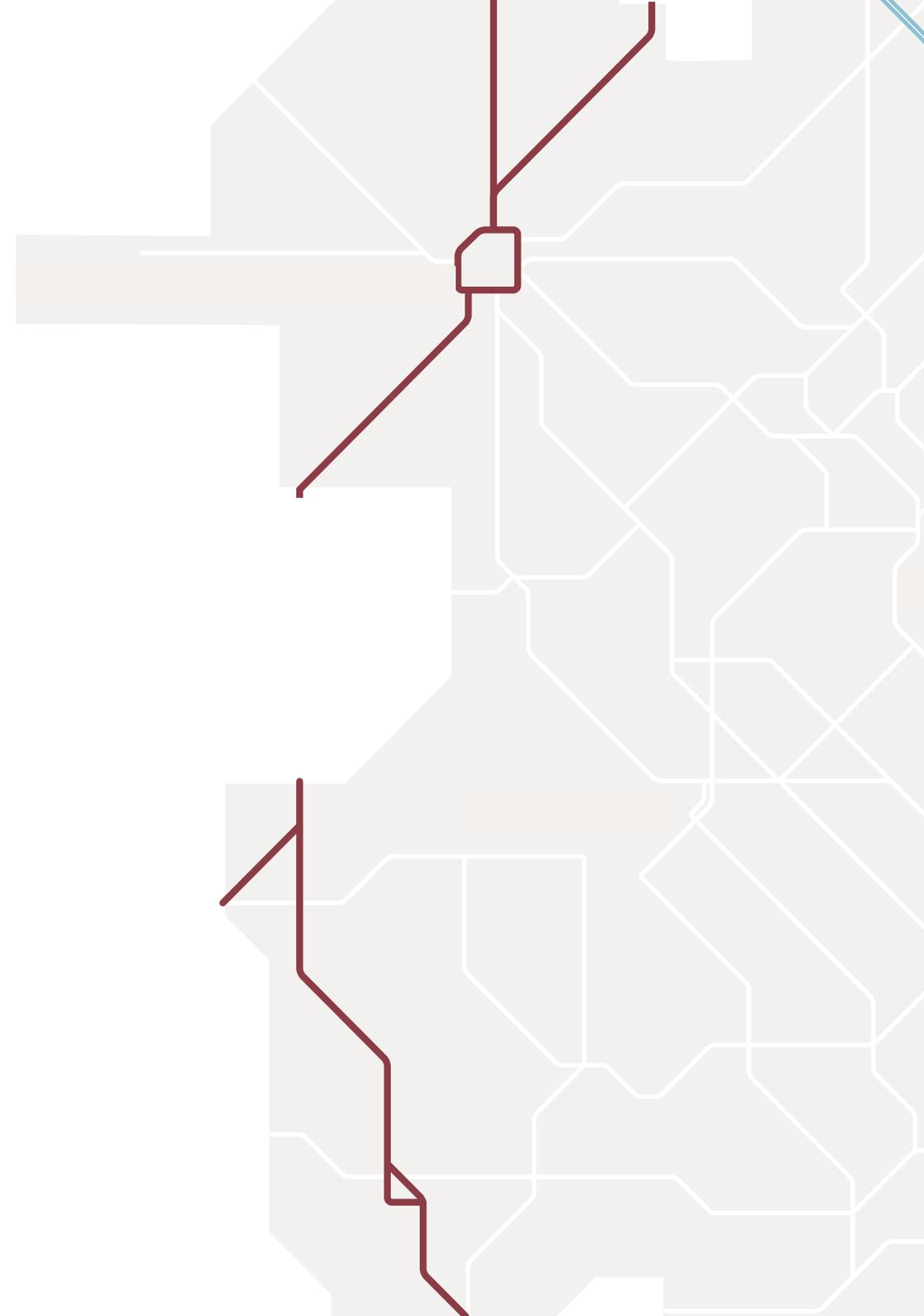
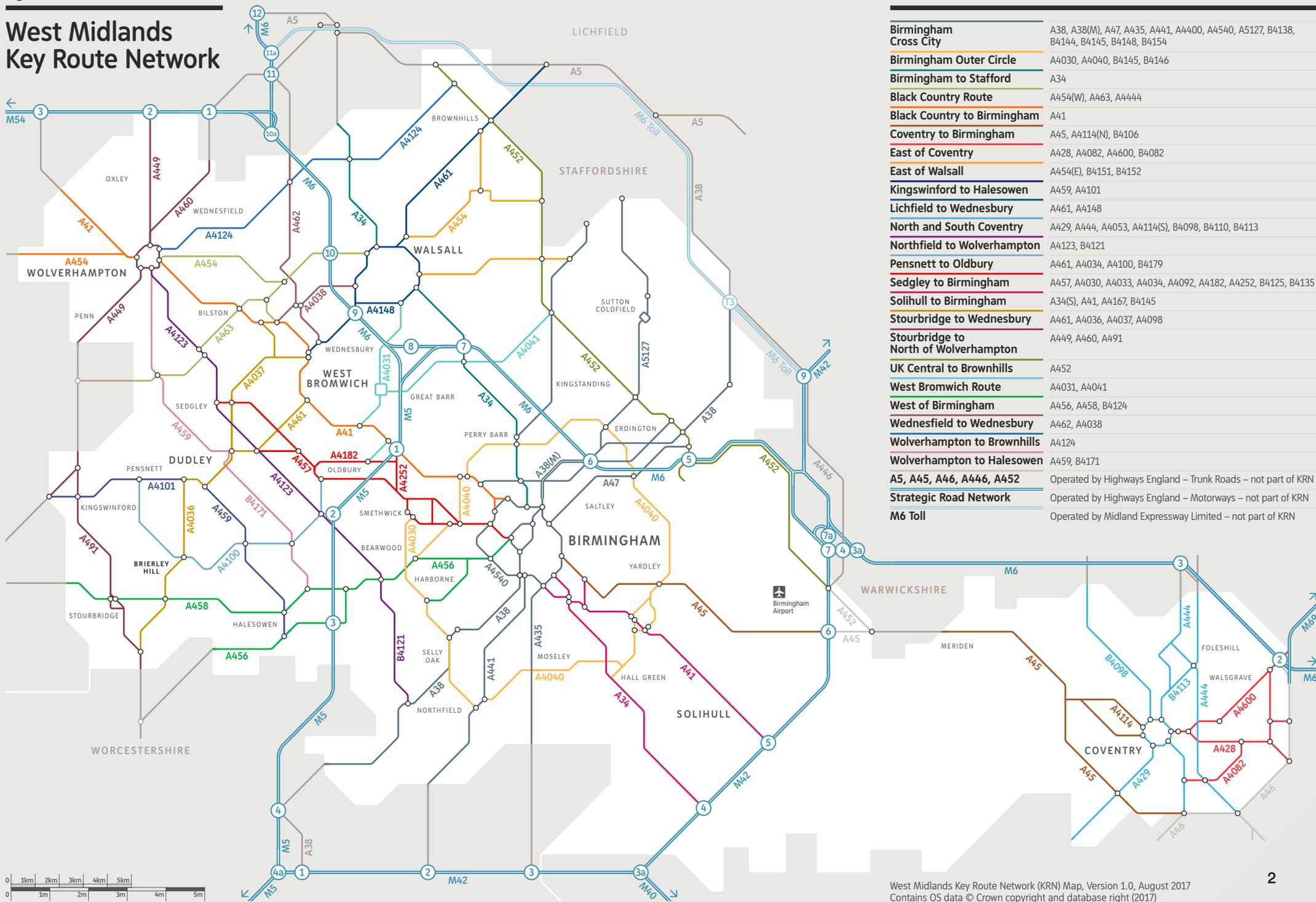


Figure 1

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



ROUTE DESCRIPTION

The Stourbridge to North of Wolverhampton Route is a 18 mile/29km section of the West Midlands Key Route Network (KRN) that serves the communities of:

- Stourbridge
- Kingswinford
- Penn; and
- Wolverhampton

The route provides a key connection to Wolverhampton City Centre, Staffordshire, Worcestershire and the M54 Junction 2. It enables access to employment sites in Wolverhampton for settlements such as Wombourne, Kingswinford and Penn. A particular strategic employment site is the i54 located just off junction 2 of the M54. It also provides access to the Molineux stadium, and Wolverhampton Race Course.

The route is formed of the A491 (from Stourbridge to junction with A449), A449 (from junction with A491 to M54 junction 2), A4150 (Ring Road) and A460 (from junction with A449 to M54 junction 1).

The A491 runs through Worcestershire and the West Midlands. From Hagley, the A491 is a dual carriageway. Where the A4036 branches off to Merry Hill and Dudley, the A491 becomes single carriageway. It then joins the Stourbridge Ring Road and meets the A451, A458, A461, A4101 and B4175 before terminating at its junction with the A449.

The A449 section of this route begins at the Wall Heath junction with the A491. This is single carriageway and passes Wolverhampton Half Penny Green Airport, Himley and Wombourne. As the A449 passes through Wombourne it becomes a dual carriageway, this continues through to the Wolverhampton Ring Road (A4150). The A449 continues North beyond the Ring Road where it passes the University of Wolverhampton. This section of road is dual carriageway throughout until it meets the M54 motorway at junction 2 near the i54 Business Park Enterprise Zone.

The A460 travels in a North Eastern direction across Southern Staffordshire from Wolverhampton City Centre. The section of this route within Wolverhampton is narrow, due to the placement of pedestrian refuge areas in the centre of the carriageway near to each bus stop. However, the route becomes a dual carriageway as it travels through the Staffordshire countryside shortly before it meets the M54 at junction 1.

This route connects to the Strategic Road Network (SRN) at the M54 junctions 1 and 2, providing access to the M6 and the wider motorway network. To the west the M54 gives access to Telford and Shrewsbury and, via the A5, on into Wales.

The Stourbridge to North of Wolverhampton Route also has numerous connections with other KRN route, these include:

- West of Birmingham Route (A458)
- Kingswinford to Halesowen Route (A4101)
- Wolverhampton to Halesowen Route (A459)
- Northfield to Wolverhampton Route (A4123)
- Black Country to Birmingham Route (A41)
- Black Country Route (A454 [W])
- Wolverhampton to Brownhills Route (A4124)

These routes provide connectivity to Birmingham, the Black Country and Walsall.

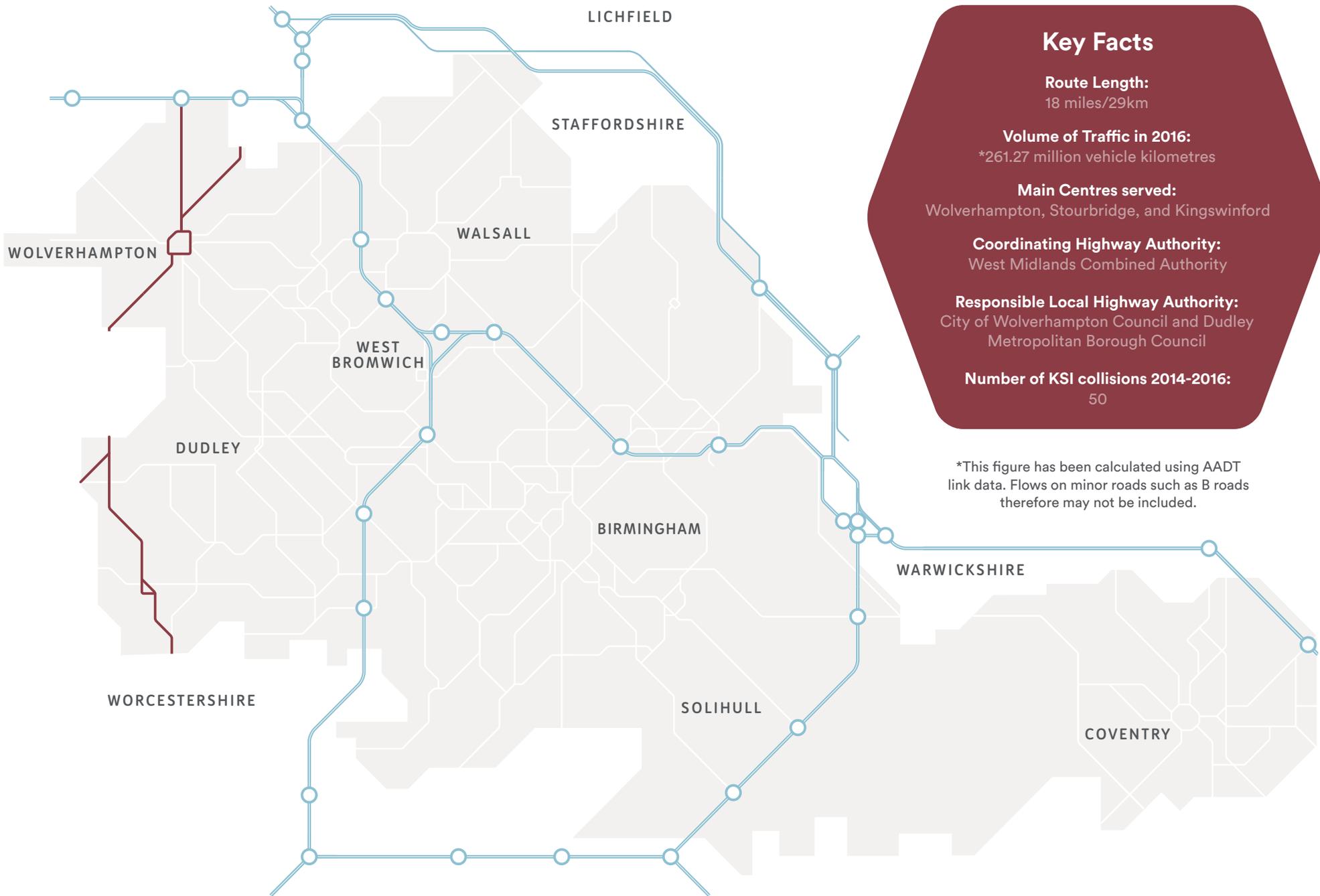


Figure 2

Congestion, Delay, Reliability

This route represents 5% 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 15,200 vehicles, a maximum of 39,900 with an average of 25,700 AADF.

The route experiences large volumes of traffic, particularly on:

- The A491 between its junctions with the A4036 Ham Lane and the A458 Enville Street;
- The A491 between its junctions with Vicarage Road and Bromley Lane;
- The A449 between Wolverhampton City Centre and its junction with Greenwood Road; and
- The entire length of the A460 Cannock Road.

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
A491	Hagley Road, A4036 Ham Lane to Union Street Stourbridge	Northbound
A491	St John's Road/Hagley Road, Foster Street East to B4186 Glasshouse Hill, Stourbridge	Southbound
A491	Bath Road/High Street, A458 Bridgnorth Road to Vicarage Road, Stourbridge	Northbound
A491	High Street, A461 Brettel Lane to Vicarage Road, Amblecote	Southbound
A491	High Street, Stamford Street to A4102 Wollaston Road, Amblecote	Northbound
A491	Audnam/Camp Hill, A461 Brettel Lane to Lawnswood road, Wordsley	Northbound
A491	Stream Road/High Street, Greenfields Road to B4180 Brierley Hill Road, Wordsley	Southbound
A491	Stream Road/Market Street/Moss Grove, The Portway to B4175 Dudley Road, Kingswinford	Northbound
A491	Wolverhampton Road, A449 Holbeache Road to A4101 High Street, Kingswinford	Southbound
A449	Kidderminster Road/High Street/Holbeache Road, Clover lane to A461 Wolverhampton Road, Wall Heath	Northbound
A449	Penn Road, Pinfold Lane, Upper Penn, to B4161 Stubbs Road, Goldthorn Park	Northbound
A4150	Ring Road St Marks, Penn Road Island to Chapel Ash Island, Wolverhampton	Clockwise
A4150	Ring Road St Andrews/Ring Road St Peters, Bath Road to A449 Stafford Street	Clockwise

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 Stourbridge Junction Station, New Cross Hospital, Corbett Hospital and i54 Business Park at Fordhouses where the Jaguar Land Rover Engine factory relies on just-in-time deliveries and supplies the car factories at Solihull and Castle Bromwich. Congestion on this route also impacts on Pensnett Trading Estate and Blakenhall and Wolverhampton industrial areas, Park Village and Bushbury where businesses may supply or rely on just-in-time deliveries.

Table 1: AM Peak Congestion Related Delays

Road	Location	Direction
A460/A449	Cannock Road/Stafford Street, Cambridge Street to A4150 Ring Road St Patricks, Wolverhampton	Southbound
A460	Cannock Road, Lambert Road to Powell Street, Park Village	Southbound
A460	Cannock Road, Mill Lane to Bushbury Road, Fallings Park	Southbound
A449	Stafford Street, A460 Cannock Road to Dunstall Road Island	Northbound
A449	Stafford Road, Mercury Drive to Bushbury Lane, Oxley	Southbound
A449	Stafford Road, Wobaston Road to Three Tuns Lane, Fordhouses	Southbound

Table 2: PM Peak Congestion-Related Delays

Road	Location	Direction
A491	Hagley Road, A4036 Ham Lane to Union Street Stourbridge	Northbound
A491	St John’s Road/Hagley Road, Foster Street East to B4186 Glasshouse Hill, Stourbridge	Southbound
A491	Bath Road/High Street, Greenfield Avenue to Old Wharf Road, Stourbridge	Northbound
A491	High Street/Camp Hill/Audnam/High Street, B4180 Brierley Hill Road, Wordsley, to St John’s Road, Stourbridge	Southbound
A491	Market Street, Broad Street to B4175 Dudley Road, Wall Heath	Northbound
A491	Wolverhampton Road/Market Street, A449 Holbeache Road, Wall Heath, to A4101 High Street, Kingswinford	Southbound
A449	Kidderminster Road/High Street, Brooklyn Grove to B4175 Enville Road, Wall Heath	Northbound

Average Speeds

The average speed for this route in the AM peak is between 10-20 mph throughout its busiest sections. The areas approaching Stourbridge, Audnam, Wordsley and Wolverhampton City Centre are particularly slow during the peak periods. The worst performing sections where average speeds are below 10 mph are as follows:

- A449: Vicarage Road to Goldthorn Hill/ Coalway Road
- A460: Old Fallings Lane to Bushbury Road
- A491: A4102 Collis Street to A458 Bridgnorth Road
- A491: Bromley Lane to A4101 Dudley Road
- A491: B4187 Worcester Lane to A4036 Ham Lane

Table 2: PM Peak Congestion-Related Delays

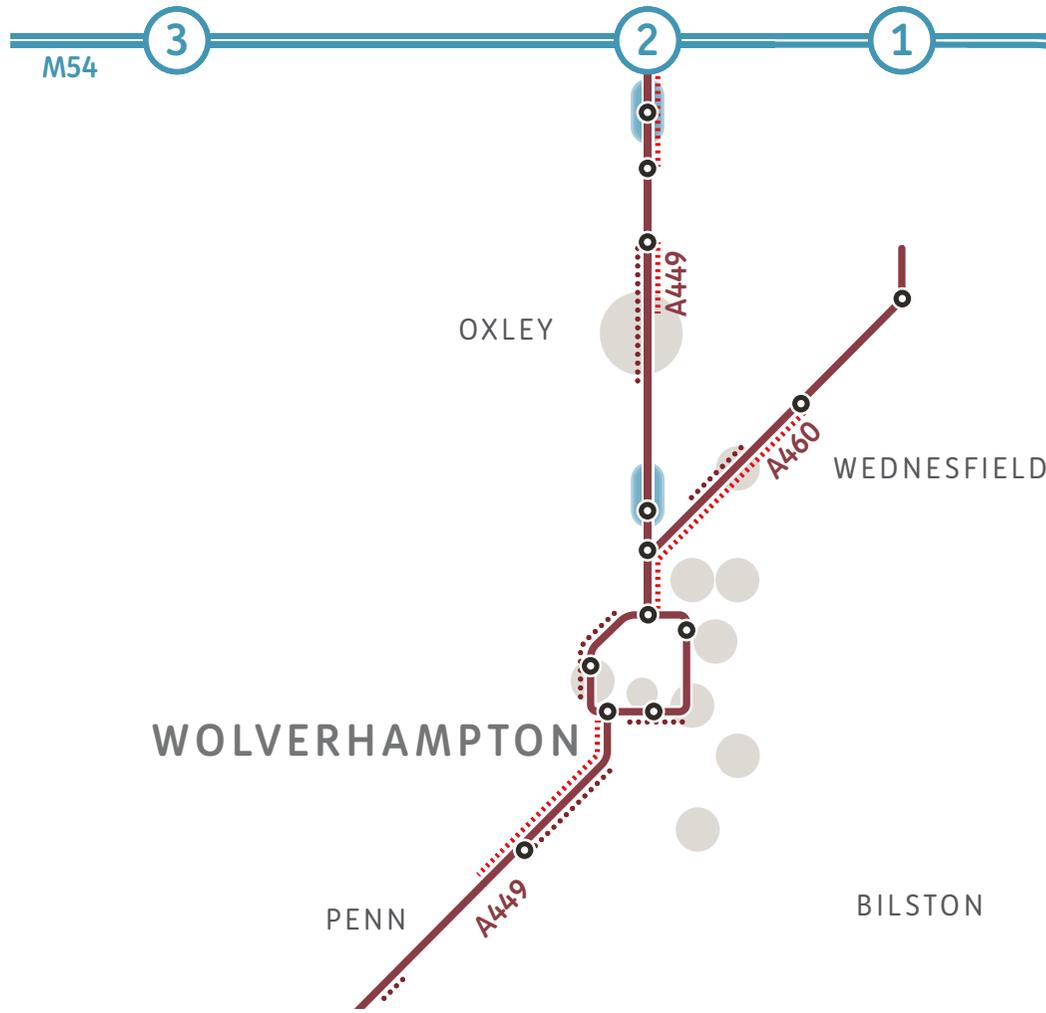
Road	Location	Direction
A449	Holbeache Road/High Street, Grove Park to B4175 Enville Road, Wall Heath	Southbound
A449	Penn Road, A4150 Ring Road St Johns to A4039 Goldthorn Hill	Southbound
A449	Penn Road, Lea Road to A4150 Ring Road St Marks, Wolverhampton	Southbound
A4150	Ring Road St Marks, Penn Road Island to Chapel Ash Island, Wolverhampton	Clockwise
A4150	Ring Road St Davids/St Patricks/St Peters/St Andrews, Bilston Street Island to Chapel Ash Island, Wolverhampton	Anticlockwise
A4150	Ring Road St Andrews/St Peters/St Patricks/St Davids, Bath Road to A454 Horseley Fields, Wolverhampton	Clockwise
A4150	Ring Road St Georges/St Johns, Bilston Street Island to Penn Road Island, Wolverhampton	Clockwise
A460/A449	Cannock Road/Stafford Street, Cambridge Street to A4150 Ring Road St Patricks, Wolverhampton	Southbound
A449	Stafford Road, Dunstall Road Island to Gorsebrook Road Island, Dunstall	Northbound
A449	Stafford Road, Three Tuns Island to Oxley Moor Road, Oxley	Northbound and Southbound
A449	Stafford Road, Newbury Road to Wobaston Road Island, Fordhouses	Northbound
A449	Stafford Road, Milldale Road Access to M54 Junction 1, Fordhouses	Northbound

Junction Capacity Issues

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

- A4036 Ham Lane/A491 Hagley Road
- A491 Hagley Road/New Road
- A491 High Street/St John's Road
- A491 High Street/B4180 Brierley Hill Road
- A491 High Street/Lawnswood Road
- A491 Markets Street/A4101 High Street
- A491 Wolverhampton Road/A449 Holbeache Road
- A449 Penn Road/A4150 Ring Road St Johns
- A449 Stafford Road/A4150 Ring Road St Patricks
- A449 Stafford Road/Bushbury Lane
- A460 Cannock Road/Bushbury Road

West Midlands Key Route Network Stourbridge to North of Wolverhampton



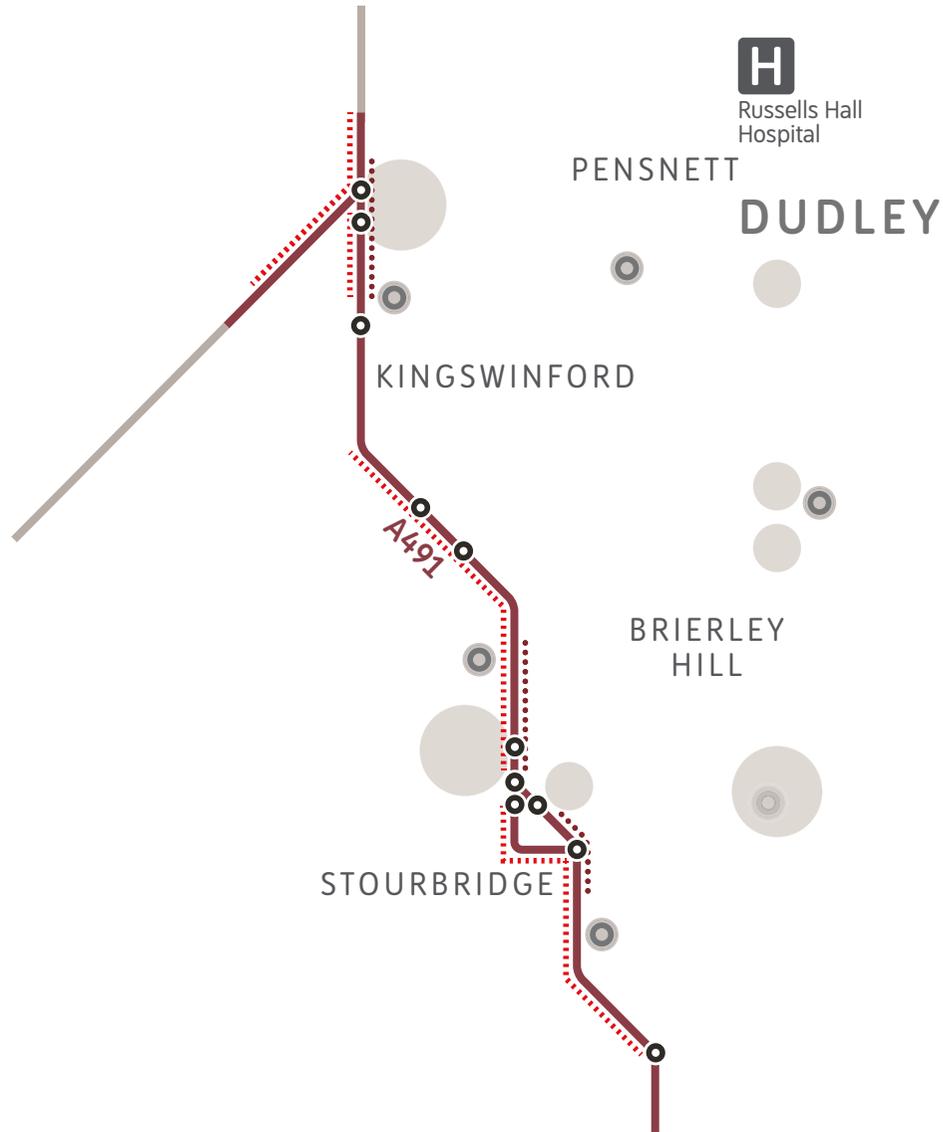
Key

Roads	The Route
	Strategic Road Network operated by Highways England
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 Stourbridge to North of Wolverhampton



Key

- | | |
|---|--|
| Roads | The Route |
| Environment, Flows and Junction Capacity | Flooding area |
| | Congestion area |
| Route Safety | Junction capacity issue |
| | 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 on this route:

Collisions

- 105 collisions, involving 188 vehicles
- Main contributory factor: Failed to look properly (pedestrian) (19% of all collisions)
 - The Killed and Seriously Injured (KSI) ratio for this group is 30% with 27% of all serious collisions being attributed to this group.
- Main contributory factors
 - Loss of control (6%)
 - Poor turn or manoeuvre (6%)

Casualties

- Total casualties: 148
- Killed and Seriously Injured: 24 (16% of all casualties, no variance compared to 2015 figure of 19 of 117)
 - Killed: 1 (0.7% of all casualties, down by 1%)
 - Seriously injured: 23 (16% of all casualties, down by 1%)
- Slight: 124 (84% of all casualties)

Casualty Types

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

- Pedestrians: 21 (a reduction of 0.4% compared to 2015)
- Powered Two wheel vehicles: 13 (a reduction of 6% compared to 2015)
- Pedal cyclists: 10 (a reduction of 4% compared to 2015)
- Car occupants: 99 (an increase of 10% compared to 2015)

KSI Clusters

There are a number of KSI collision clusters on the A449 and A460 around Wolverhampton and on the A491 near Stourbridge. The environment is a mix of commercial and residential.

CYCLING

The A491 is severed which impacts cycling and walking access to Stourbridge Junction Station. There is inadequate provision along A449 at Summerhill Lane. This route is also heavily used by school children accessing Summerhill School by cycling and walking. Within Wolverhampton, there is a heavily constricted junction at Goldthorn Hill area at the A4039 junction that is particularly challenging for those choosing to either cycle or walk in this location.

There are shared used facilities on the eastern side of Wolverhampton Ring Road and a mixture of shared use footways north along A449 up to i54. There is limited provision for cyclists on the western side of the ring road and the A460.



Between Stourbridge and Wolverhampton, the route benefits from a half-hourly end to end bus service with additional provision on the outskirts of both centres. North of Wolverhampton the route is well served by a number of high frequency bus services operating every 15-30 minutes. However, South of Stourbridge there is only limited provision. These services provide access to Wolverhampton City Centre, Stourbridge Town Centre, retail facilities, leisure destinations including Molineux Stadium (Wolverhampton Wanderers FC), employment sites and the surrounding communities.

Table 3: Main Bus Routes

Road(s) Served	Frequency	Route No.
A491 Stourbridge - Audnam	Every 8 mins	246
A449 Wolverhampton - Pendeford	Every 15 mins	3
A449 Wombourne – Spring Hill - Wolverhampton	Every 30 mins	255
A449 Wolverhampton - Oxley	Every 15 mins	4
A491 Stourbridge – Kingswinford – Himley and A449 Wombourne – Spring Hill - Wolverhampton	Every 30 mins	256
A491/A449 Stourbridge - Kingswinford	Every 30 mins	257
A449 Wolverhampton - Dunstall	Every 10 mins	32/33
A449 Wolverhampton - Wobaston	Every 30 mins	54
A449 Wolverhampton - Coven	Every 60 mins	876/877/878
A449 Wolverhampton - Wobaston	Every 60 mins	154
A491 Stourbridge - Wordsley	Every 60 mins	267
A449 Penn - Wolverhampton	Every 60 mins	64
A491 Pedmore - Stourbridge	Every 60 mins	298/299
A491/A449 Stourbridge - Kingswinford	Every 60 mins	657
A491 Hagley - Stourbridge	Every 120 mins	318

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

The average bus speed along this route is 13.6mph (data taken from the 256 bus route).

The average total number of daily bus trips is 25,980.

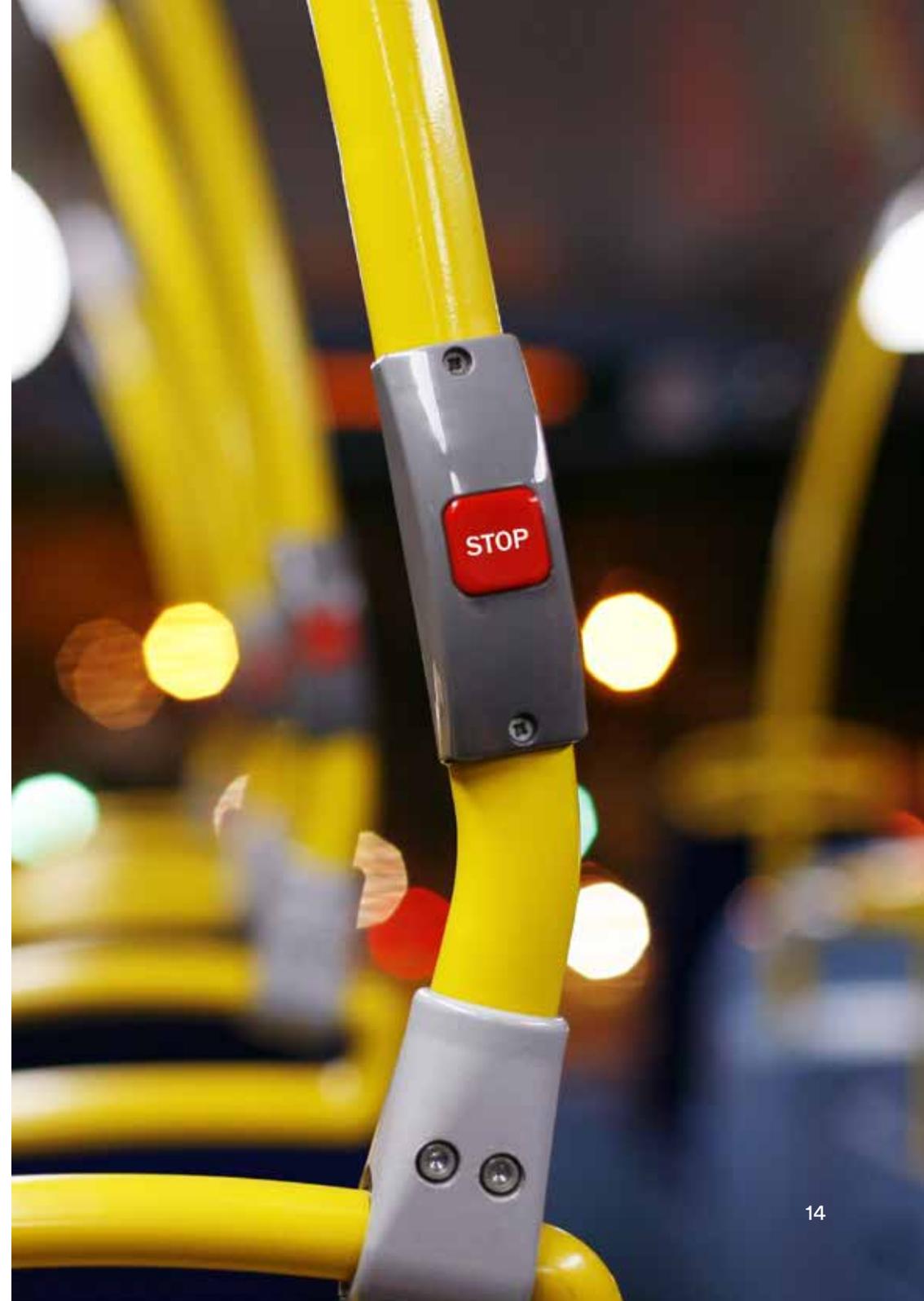
This route is identified in the Core Bus Network in the West Midlands Strategic Transport Plan - Movement for Growth. The section between Wolverhampton and Penn and between Wolverhampton and A54 / Brinsford is identified for Sprint investment which is also identified in the HS2 Connectivity Package.

South of Wolverhampton there is no mainline railway along this route corridor, but the corridor connects to the stations at Wolverhampton and Stourbridge Junction. Both of these stations have park and ride facilities.

North of Wolverhampton, the West Coast Main Line railway runs parallel to the A449 but the only rail station is in Wolverhampton City Centre.

The Midland Metro which crosses this route at the A4150 Bilston Street Island and connects to Wolverhampton St George's is to be extended to Wolverhampton Rail Station.

The proposed introduction of tram-train / rail services between Stourbridge and Brownhills will include an interchange station at Wednesbury connecting to the Midland Metro for Stourbridge – Wolverhampton traffic. This scheme is identified in the West Midlands Strategic Transport Plan – Movement for Growth, but not in the HS2 Connectivity Package.

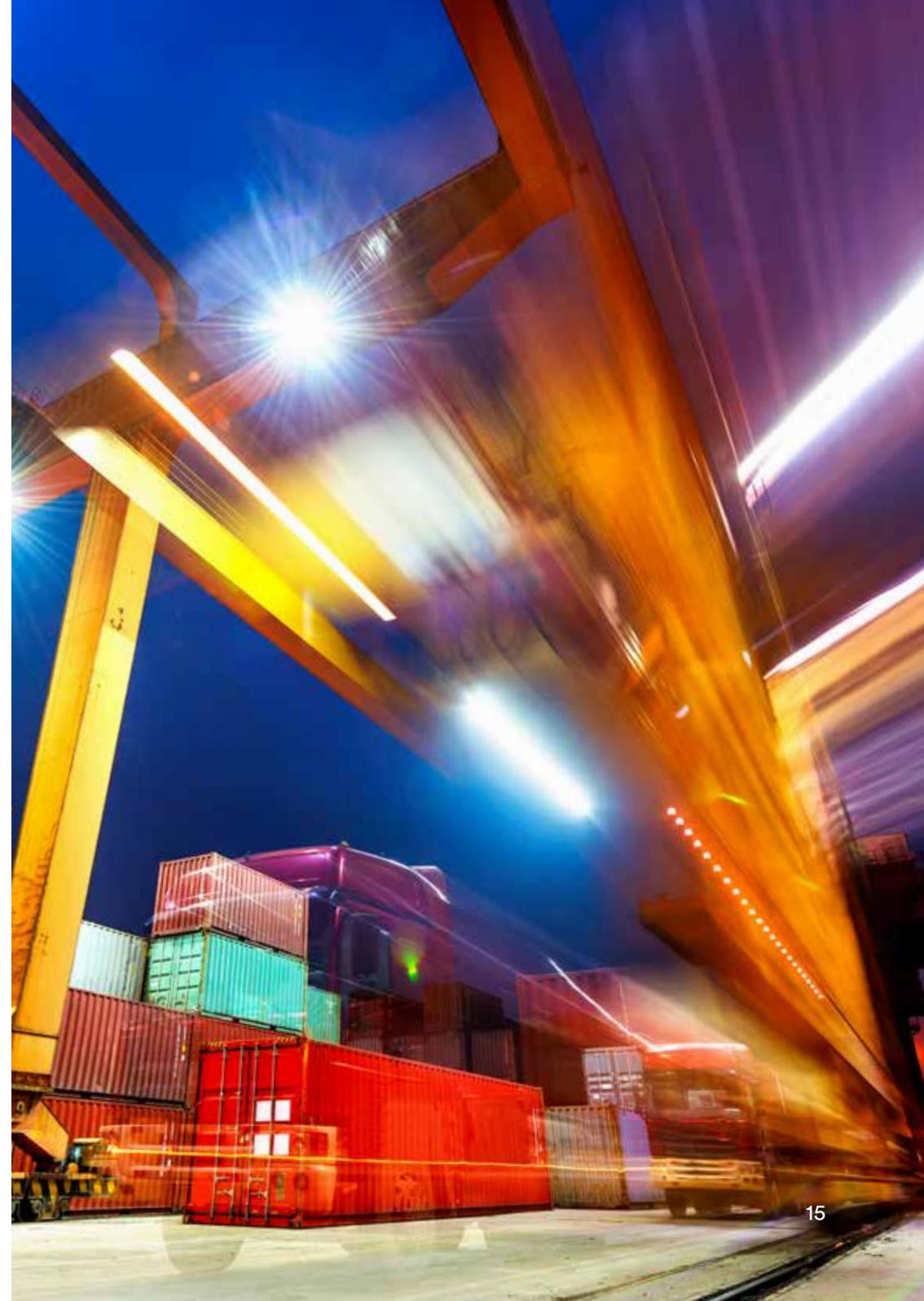


FREIGHT AND LOGISTICS

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 694, which represents 3% of all vehicular traffic.

A short section on the southernmost part of the route between the A491 and Pedmore Lane experiences in excess of 1,000 HGVs per day. The other section of the route of high importance for freight is the section North of the Wolverhampton Ring Road, the A449 between the A454 junction and M54 junction 2.

The i54 development, part of the Black Country Enterprise Zone led by the Black Country Local Enterprise Partnership (LEP), is of great relevance to this route, and contains the Jaguar Land Rover engine factory which transports the engines via the motorway network. There are also several large road haulage firms located in the Wolverhampton area and this route would need to be used by fleets to access the SRN.



Resilience

The route has parallel strategic roads including the A4036/A459 and A460 in the North of the route. There is a degree of resilience contained within the Black Country highway network. However, certain critical sections can cause grid-lock such as A449, which could affect M54 junction 2, and, particularly, where roads converge approaching Wolverhampton and Stourbridge.

There is a lack of intermodal network resilience due to the lack of rail based transport along the route. Rail passengers would need to interchange at Smethwick Galton Bridge to travel between Stourbridge and Wolverhampton.

Given the existing capacity constraints in the peaks in the Black Country 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.

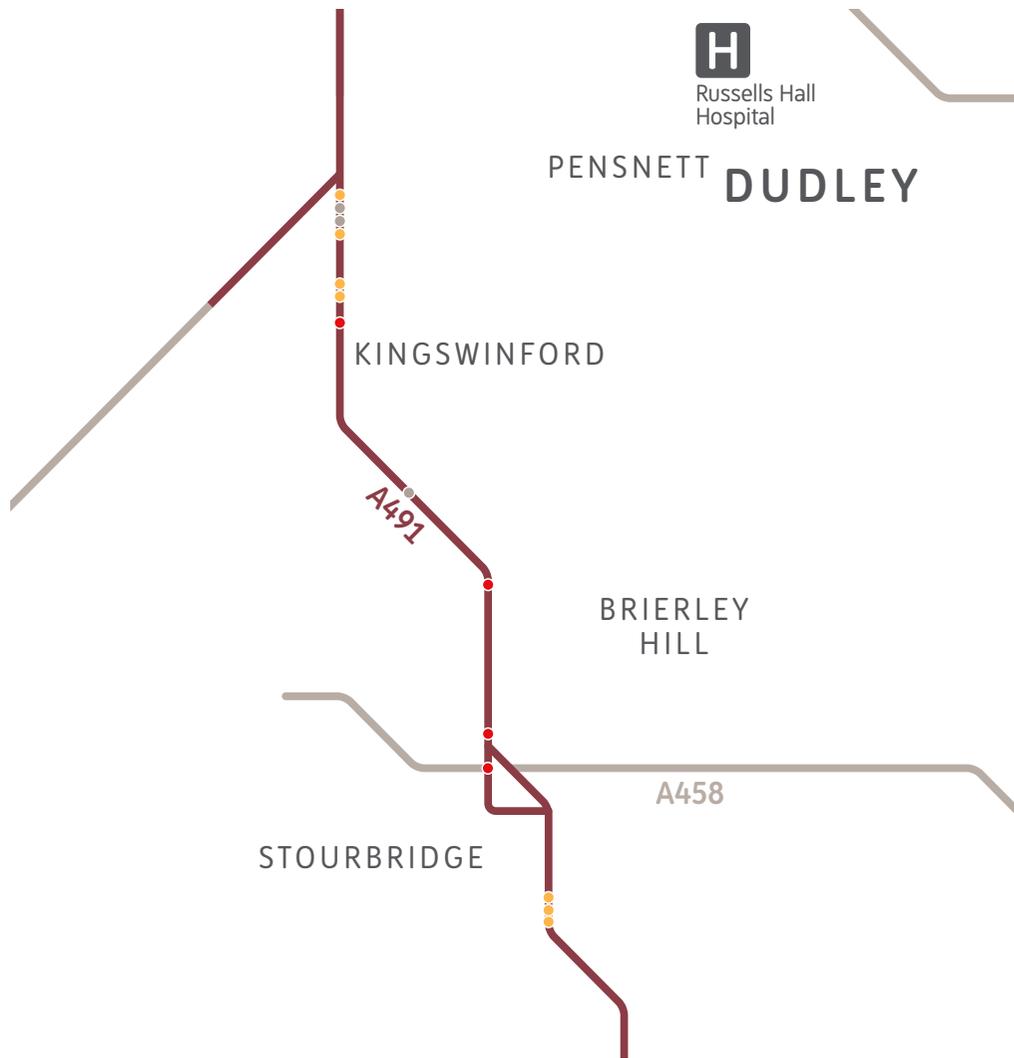
Diversion Route

This route does not form part of the Emergency Diversion Routes used by Highways England although both the A449 and A460 are utilised for such purpose North of the M54.

Flooding

Flooding on this route impacts overall performance, safety of road users and affects the lives of those living in the vicinity. The evidence gathered indicates that there are two areas on this route that pose flood risk. These are located on the A449 North of Wolverhampton.

West Midlands Key Route Network Stourbridge to North of Wolverhampton



Key

Roads

— The Route

Asset Location & Conditions (where known & information available)

● CCTV

● Automatic Number Plate
Recognition (ANPR) /
Journey Time Monitoring
System (JTMS) locations

● Traffic Camera locations



West Midlands Key Route Network Stourbridge to North of Wolverhampton



Key

- Roads**
- The Route
 - Strategic Road Network operated by Highways England
- Asset Location & Conditions (where known & information available)**
- CCTV
 - Automatic Number Plate Recognition (ANPR) / Journey Time Monitoring System (JTMS) locations
 - Traffic Camera locations
 - No CCTV



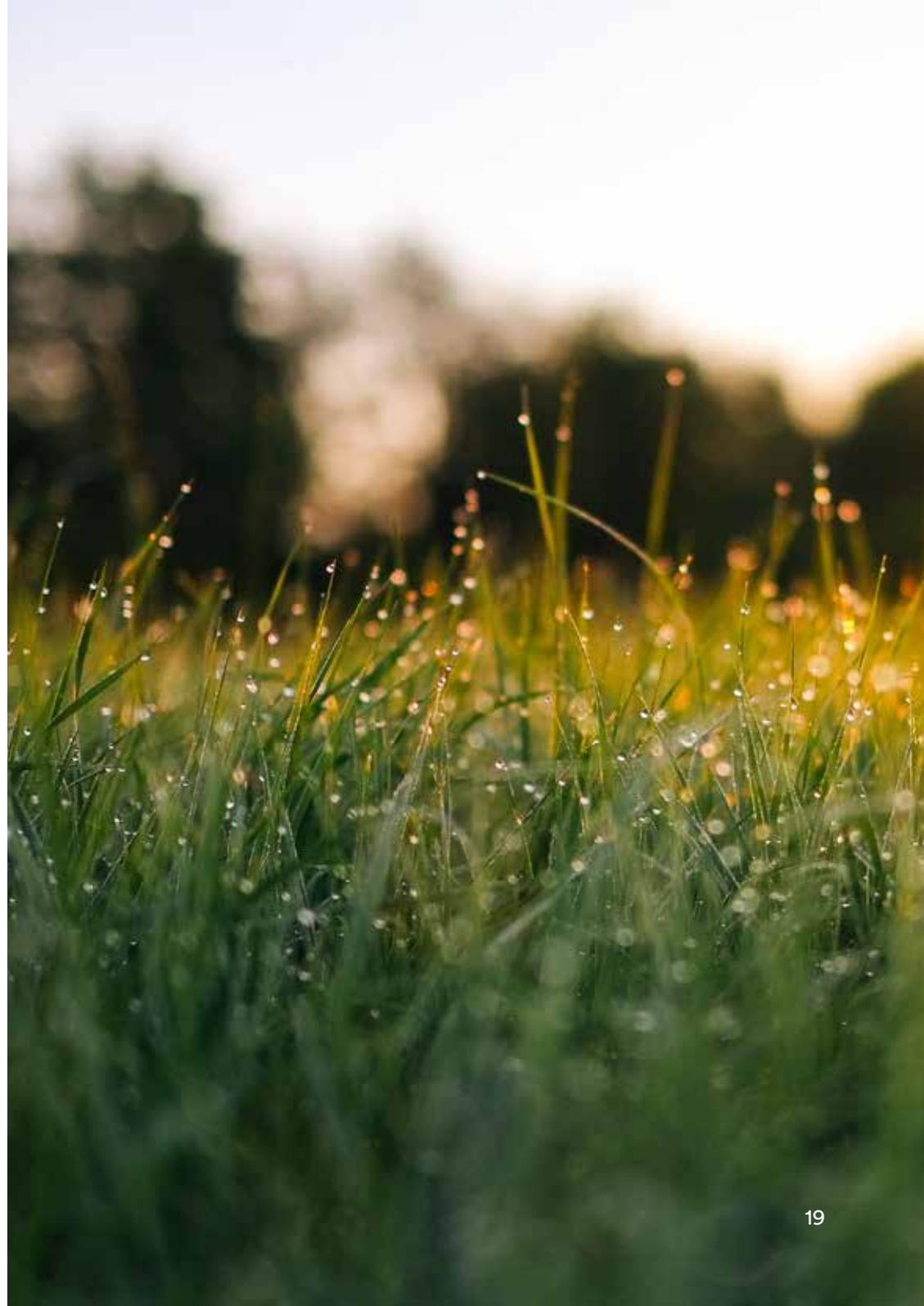
Figure 4 – 2 of 2

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.

South of Stourbridge, this route runs through some areas where a large proportion of the population are over 65, and similarly in some communities where more than 1 in every 10 people provides unpaid care. Some of the more deprived areas also have low healthy life expectancies, for example the area North of Wolverhampton close to the route between the A460 and A449 has a life expectancy that is lower than the national average of 83.

The northern and southern sections of the route are situated within Air Quality Management Zones (AQMAs); the North of the route in Wolverhampton AQMA which is declared for both Nitrogen Oxide (NO₂) and Particulate Matter (PM₁₀), and the south of the route in Dudley AQMA which is declared for NO₂ only.

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 this route based on visual inspection is beginning to show signs of deterioration however it remains in a safe and serviceable condition. Over the past six years a number capital maintenance schemes have been carried out on the A449 and A4150. In addition to these works our regular programme of highway safety inspection ensures that any hazardous defects are dealt with once we become aware of them.

Footway Condition

The footway condition across the route varies in condition from good to poor condition. Over the past six years no major planned maintenance works have been carried out.

Structures

There are 42 structures identified across this route including 11 bridges, 3 culverts and 4 subways on the Stourbridge to North of Wolverhampton (A449, A460, A4150) route, which are systematically inspected and maintained. The overall condition of these structures is good to very good.

Further details can be found in the technical annex.



Development proposals directly affecting this route

Housing

- Goodyear Site 280 dwellings (2017–20)
- Springfield Brewery 440 dwellings (2017–20)
- Westside Development 165 dwelling (2017–20)
- Bass Brewery 162 dwellings (2017–20)
- Goodyear Site 229 dwellings (2020–25)
- Former Royal Hospital 120 dwellings (2020–25)
- Stallings Lane 95 dwellings (2020–25)
- Assa Abloy Building/Bluebird 240 dwellings (2020–25)
- Stallings Lane 190 dwellings (2025–30)

Employment

- Wolverhampton Business Park 3,300 jobs (2017–25)
- Wolverhampton Science Park 2400 jobs (2017–25)
- Stafford Street 4000 jobs (2020–25)
- Westside 5000 jobs (2020–25)
- Southside and St George's Parade 5000 jobs (2020–25)

Development proposals indirectly affecting this route

Housing

- Former Northcote School 174 dwellings (2020-25)
- Stallings Lane 272 dwellings (2017-20)
- Heath Town Estate 75 dwellings (2020-25)
- Horseley Fields/Qualcast Road 300 dwellings (2020-25)

Employment

- A54 9000 jobs (2017-30)
- Dreadnought Road 170 jobs (2017-20)
- Brierley Hill Enterprise Zone 7000 jobs (2017-20)

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

- Springfield Campus Interchange Connectivity
- Wolverhampton Interchange
- City North Gateway Phase 1 M54 J2 to Springfield

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>