

West Midlands Key Route Network

Black Country to Birmingham



Transport for
West Midlands

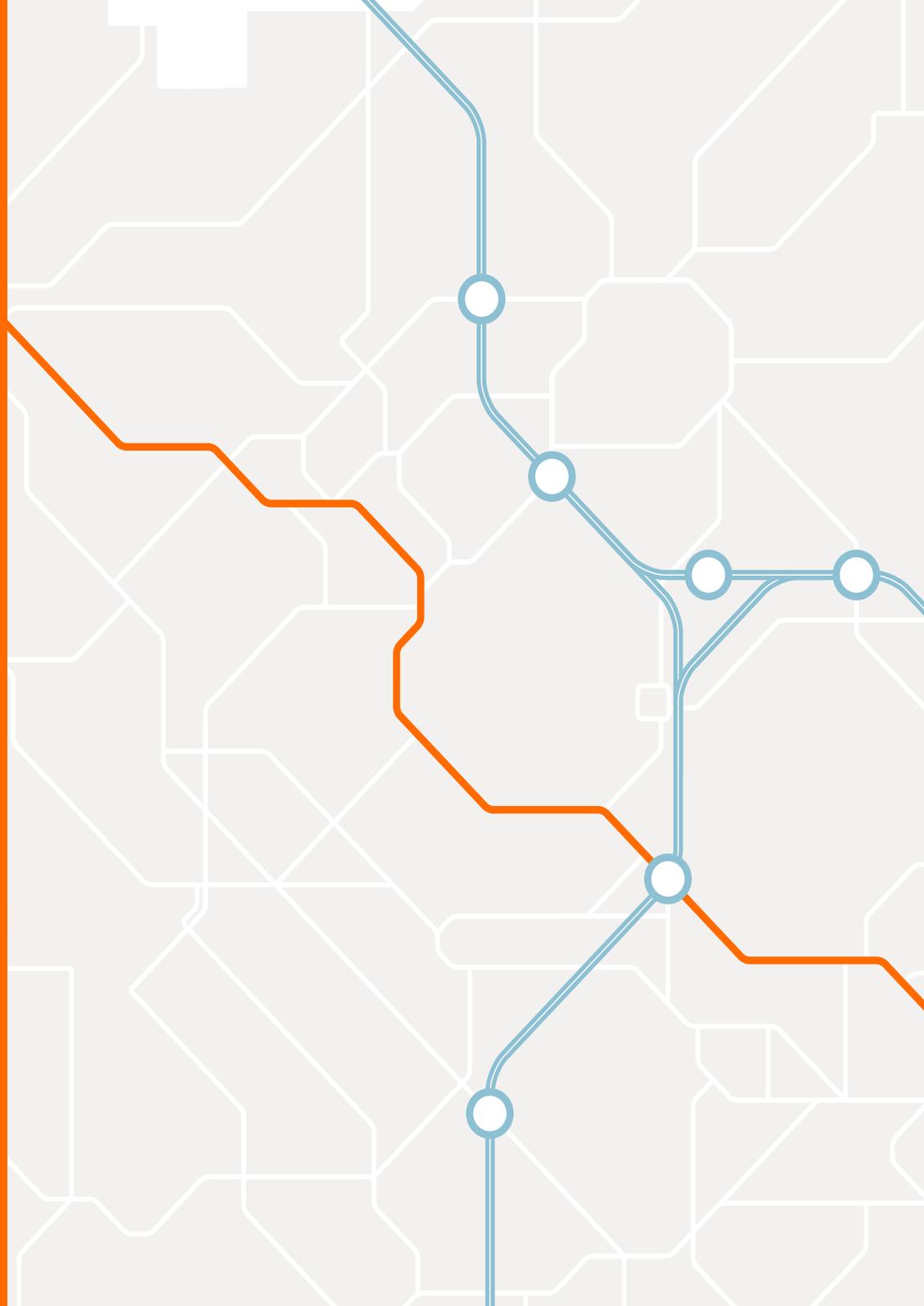
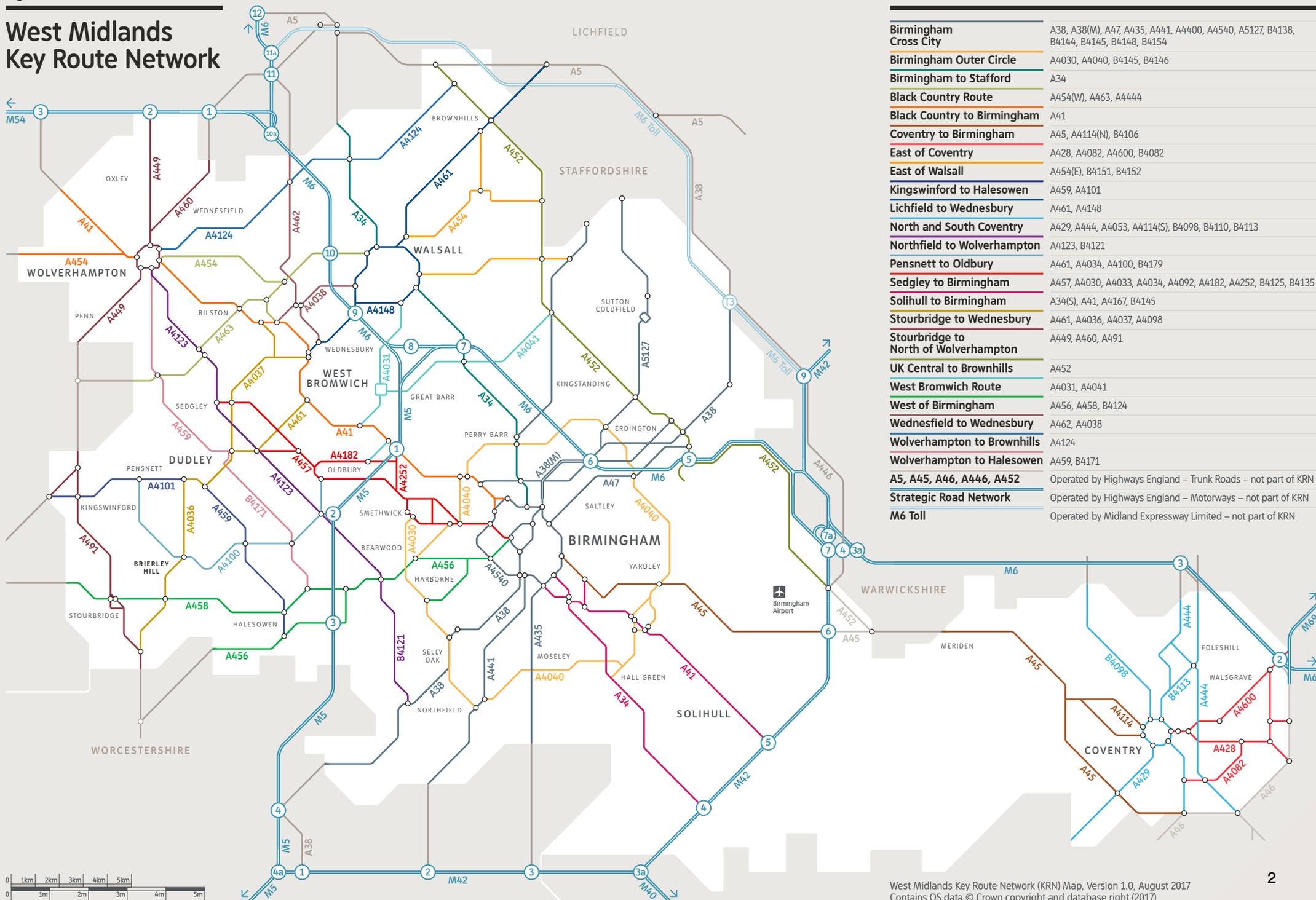


Figure 1

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 Black Country to Birmingham route is a 19 mile/31km section of the West Midlands Key Route Network (KRN), providing strategic regional connectivity cross the West Midlands. It links the main centres of Birmingham, West Bromwich, Wednesbury and Wolverhampton and provides access to the Midlands motorway network.

The route is formed of the A41 and A454. It is an essential route for freight movements and commuter trips and for accessing employment opportunities across the Black Country and the wider region.

Across the region the route provides an important sub-regional strategic link particularly for Sandwell and Wolverhampton. It connects these areas directly to the Strategic Road Network (SRN) at M5 Junction 1.

Within the Black Country, this is a vital route for freight movements supporting economic growth and is essential for attracting new business opportunities to the area. It also enables the movement of goods and services from employment sites, requiring access to the M6 and M5 motorways. This route further enables connectivity to the north, south and southwest of England.

In addition, this route also forms a number of connections to other routes on the KRN. These are:

Birmingham Cross City

- A41 Soho Road/B4144 Villa Road

Birmingham Outer Circle

- A41 Soho Road/A4040 Boulton Road
- A41 Soho Road/A4040 Rookery Road

Sedgley to Birmingham

- A41/M5 Junction 1/A4252 Kenrick Way

West Bromwich

- A41 The Expressway/A4031 Trinity Way
- A41 The Expressway/A4031 All Saints Way

Stourbridge to Wednesbury

- A41 Black Country New Road/A461 Great Western Way
- A41 High Street/A4098 Great Bridge Road

Black Country Route

- A41/A444 Black Country New Road
- A41 Oxford Street/A463 Black Country Route

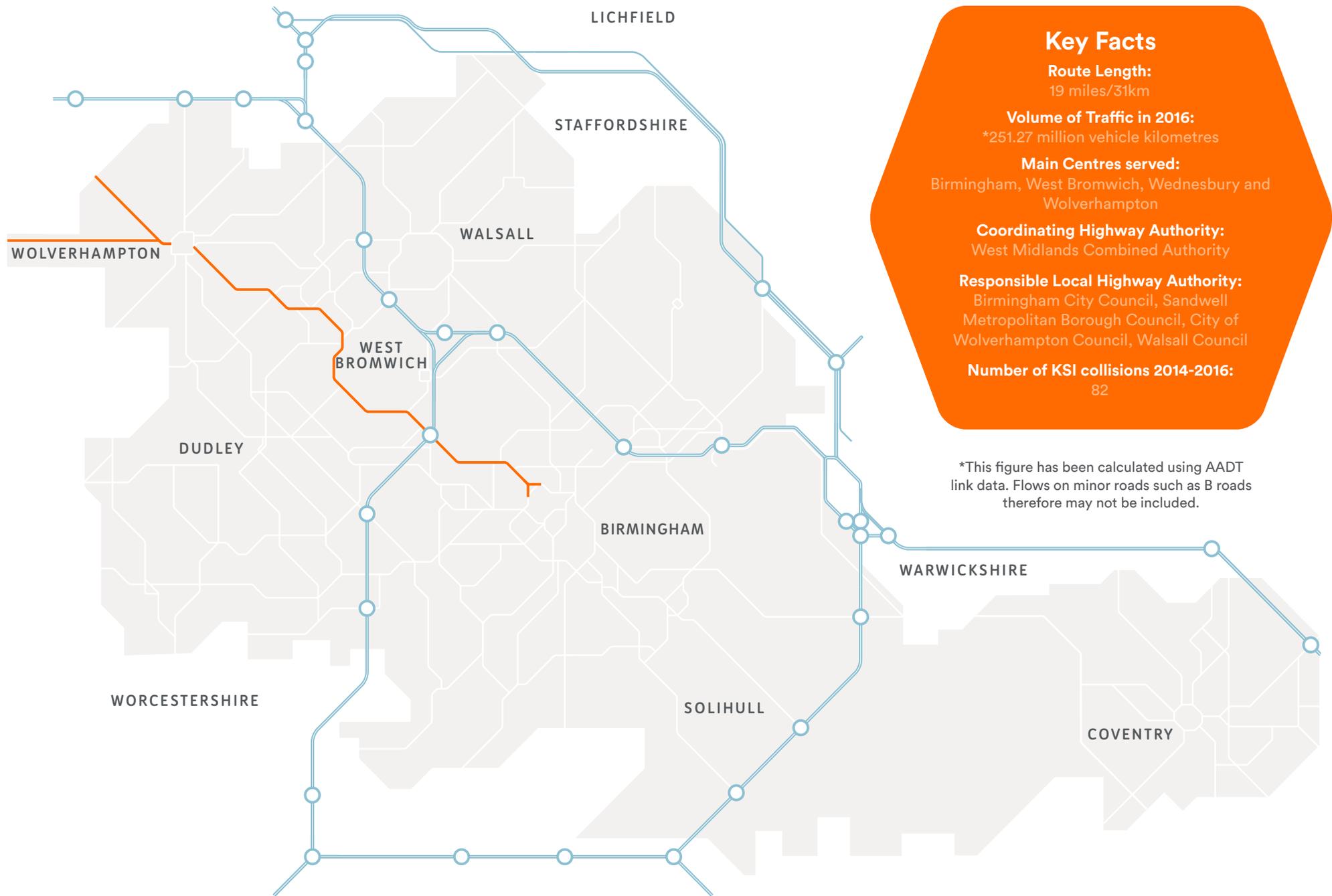
Stourbridge to North of Wolverhampton

- A41 Bilston Road/A4150 Wolverhampton Ring Road
- A41 Chapel Ash/A4150 Wolverhampton Ring Road

The route comprises of dual carriageway between the A4068 Moxley Road and M5 Junction 1 with the remainder being single carriageway. The A41 in Birmingham passes through the residential community on Soho Road. Between M5 Junction 1 and the A4038 junction in Moxley there is no frontage development but access is provided to the local centres at West Bromwich and Wednesbury along with numerous commercial businesses.

From Moxley onwards towards Monmore Green, the route passes through residential communities and the Bilston local centre whilst the remaining section east of Wolverhampton City Centre are a number of junctions providing access to services and commercial businesses.

The section of the route to the west of Wolverhampton City Centre passes through residential communities along the A41 Tettenhall Road and the A454 Compton Road.



Key Facts

Route Length:
19 miles/31km

Volume of Traffic in 2016:
*251.27 million vehicle kilometres

Main Centres served:
Birmingham, West Bromwich, Wednesbury and Wolverhampton

Coordinating Highway Authority:
West Midlands Combined Authority

Responsible Local Highway Authority:
Birmingham City Council, Sandwell Metropolitan Borough Council, City of Wolverhampton Council, Walsall Council

Number of KSI collisions 2014-2016:
82

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

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 12,600 vehicles, a maximum of 45,100 with an average of 22,700 AADF.

The route experiences large volumes of traffic, particularly on:

- the sections of the A41 between Hamstead Road up to the junction with A4031 All Saints Way;
- the section of A41 between Great Western Way and up to the A461 Dudley Street;
- the section of the A41 Bilston Road, where it meets with A4126 Ettingshall Road;
- the A41 Tettenhall Road between its junction with Danescourt and up to the A4150 Ring Road St Marks; and
- the section of A454 between its junction with the B4161 Henwood Road and up to Richmond Road.

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

Table 1: AM Peak Congestion Related Delays

Road	Location	Direction
A454	Compton Road, Clark Road to A41 Tettenhall Road, Park Vale	Eastbound
A41	Tettenhall Road, Regis Road to New Hampton Road West, Tettenhall	Eastbound
A41	Tettenhall Road, Newbridge Crescent (E) to New Hampton Road West, Tettenhall	Westbound
A41	Bilston Road, B4612 Wolverhampton Street to A4126 Ettingshall Road, Monmore Green	Westbound
A41	Bilston Road, Stow Heath Lane to B4612 Wolverhampton Street, Stow Heath	Eastbound
A41	The Expressway/Birmingham Road/Holyhead Road/Soho Road, Nicholls Street, West Bromwich, to Hamstead Road, Lozells (including M5 Junction 1 gyratory)	Eastbound
A41	Soho Road/Holyhead Road/Birmingham Road, Hamstead Road, Lozells, to M5 Junction 1 (including gyratory)	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 the congestion is to create problems with access to Wolverhampton Railway Station, Sandwell General Hospital, New Cross Hospital, Birmingham City Hospital, Birmingham Children’s Hospital and the industrial area between Wolverhampton and Monmore Green, in Bilston, Wednesbury, Golds Green, Sandwell, Middlemore Business Park and Hockley which may supply or rely on just-in-time deliveries.

Average Speeds

The average speed for this route in the AM peak is between 10-20 mph throughout its busiest sections. The areas approaching Birmingham City Centre and Wolverhampton City Centre are particularly slow during the morning and evening peaks and speed can be as low as less than 10 mph. The sections of the route where the speed is lower than 10 mph on average are as follows:

Table 2: PM Peak Congestion-Related Delays

Road	Location	Direction
A454	Compton Road, Merridale Lane to Clark Road, Park Vale	Westbound
A41	Bilston Road, A4126 Ettingshall Road to B4612 Wolverhampton Street, Monmore Green	Eastbound
A41	Bilston Road, B4612 Wolverhampton Street to A4126 Ettingshall Road, Monmore Green	Westbound
A41	Wellington Road/Lichfield Street, Prouds Lane to A463 Black Country Route, Bilston	Eastbound
A41	The Expressway, Nicholls Street, West Bromwich, to M5 Junction 1 (including gyratory)	Eastbound
A41	Soho Road/Holyhead Road/Birmingham Road, Hamstead Road, Lozells, to M5 Junction 1 (including gyratory)	Westbound
A41	Soho Road, A4040 Rookery Road to Villa Road	Eastbound

- A41: A4040 Rookery Road - A4040 Boulton Road
- A41: B4136 Booth Street - A4040 Rookery Road
- M5 Junction 1 Roundabout
- A41: A463 Black Country Route - B4484 Mount Pleasant
- A41: A4126 Ettingshall Road - Cable St
- A41: Steelhouse Lane- A4150/A454 (Wolverhampton Ring Road)
- A41: Henwood Road/Lower Street - Yew Tree Lane
- A454 Wightwick Bank/Windmill Lane - Henwood Road

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:

- A41 Soho Hill and its junction with B4124 Hamstead Road
- A41 Soho Road and its junction with Grove Lane/Nineveh Road
- A41 Soho Road and its junction with A4040 Boulton Road
- A41 The Expressway and its junction with A4031 All Saints Ways
- A41 Black Country New Road and its junction with A4037 Leabrook Road
- A41 Black Country New Road and its junction with A4038 Moxley Road
- A41 High Street and its junction with Great Bridge Road
- A41 Oxford Street and its junction with Black Country Route
- A41 Chapel Ash and its junction with A4150 Ring Road St Andrews

West Midlands Key Route Network Black Country to Birmingham



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

KRN 6 – Black Country to Birmingham

West Midlands Key Route Network Black Country to Birmingham

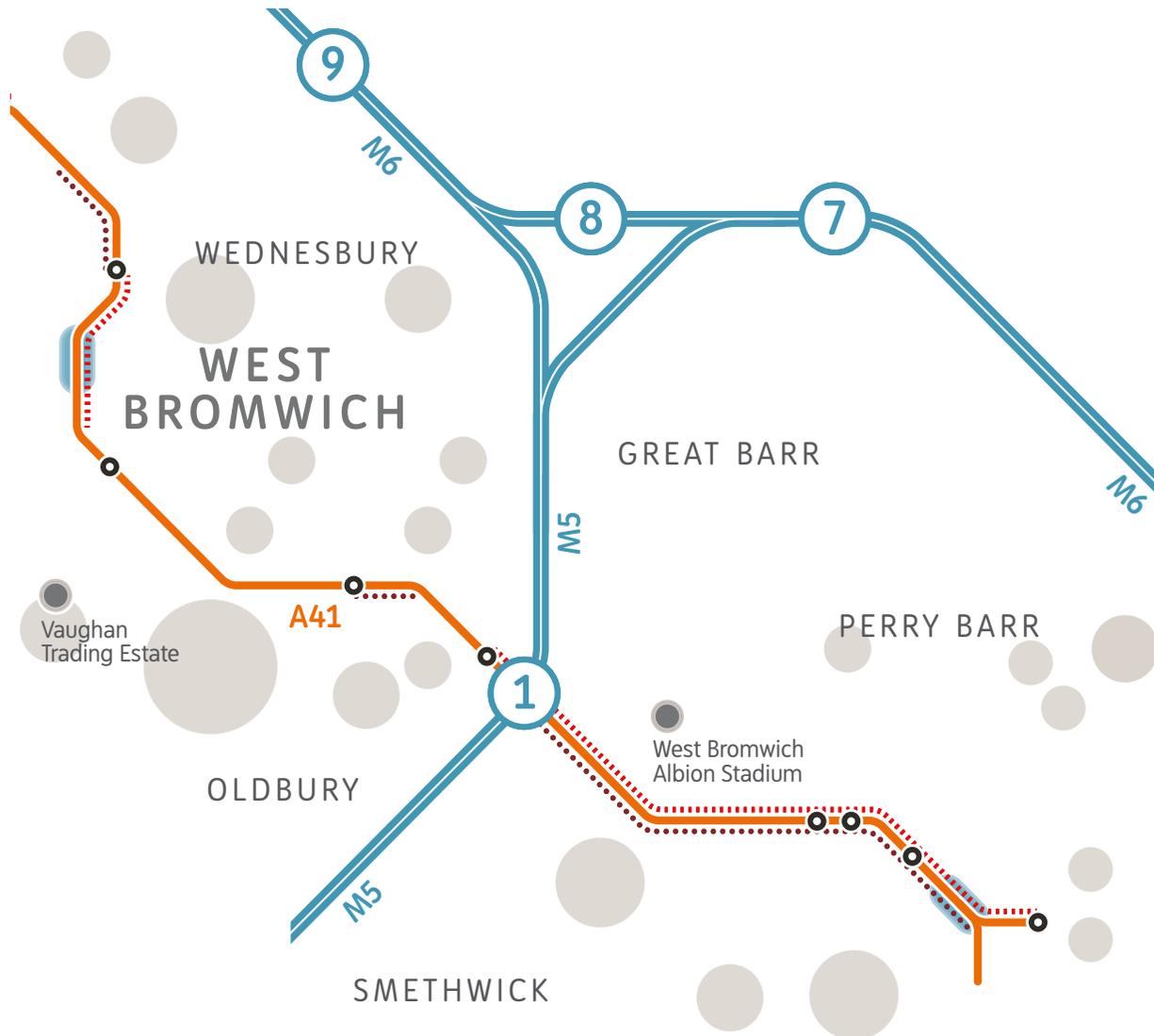


Figure 3 – 2 of 2

KRN 6 – Black Country to Birmingham

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

- 180 collisions, involving 342 vehicles
- Main contributory factor: Failed to look properly (pedestrian) (23% of all collisions)
 - The KSI ratio for this group is 12% with 17% of all serious collisions being attributed to this group.
- Main contributory factors
 - Poor turn or manoeuvre (7% of all collisions)
 - Failed to judge other persons path or speed (6% of all collisions)

Casualties

- Total casualties: 246
- Killed and Seriously Injured: 25 (10% of all casualties, down 1% when compared to 2015 figure of 33 of 311)
 - Killed: 1 (0.4% of all casualties, down by 0.9%)
 - Seriously injured: 24 (10% of all casualties, up by 1%)
- Sights: 221 (90% of all casualties)

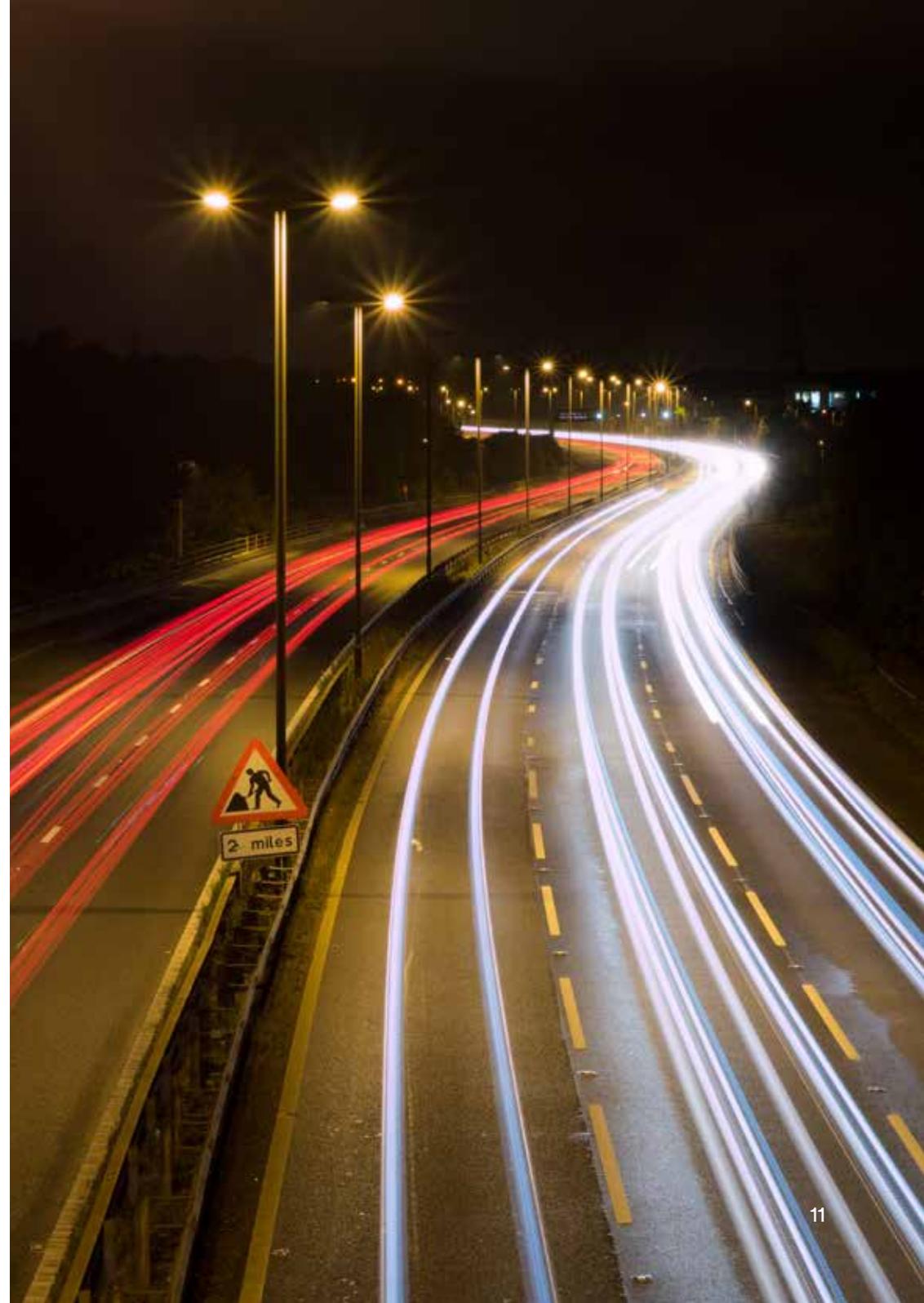
Casualty Types

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

- Pedestrians: 58 (an increase of 4% compared to 2015)
- Powered Two wheel vehicles: 22 (a reduction of 2% compared to 2015)
- Pedal cyclists: 15 (a reduction of 0% compared to 2015)
- Car occupants: 151 (a reduction/ of 2% compared to 2015)

KSI Clusters

On this route there is a KSI cluster between Junction 1 of the M5 and A4540, which is on a section of road that is mainly urban 2+2 dual carriageway through a mostly residential/retail built up area with a high level of on street parking.



CYCLING

The A41 in Wolverhampton has inconsistent provision along the western side of the city, in addition to some off road segregated paths in Bilston. There are no provisions for cycling along the A454. There are also no provisions in the sections within Sandwell or Birmingham. This route traverses the busy Soho Road with mixed use including residential and shops.

There are also no safe provisions for cycling to navigate around the junction at M5 (Junction 1). At the Moxley Junction, a shared use footpath was introduced to help address challenges for active travel.



The route is well served by a number of high frequency bus services operating every 8-20 minutes. Collectively, these services provide access to the City Centres of Birmingham and Wolverhampton, West Bromwich Town Centre, and District Centres of Handsworth, Wednesbury and Bilston, leisure destinations including The Hawthorns (West Bromwich Albion Football Club), Monmore Green Dogs, and the Jewellery Quarter, employment sites and the surrounding communities.

The average bus speed along this route is 7.6mph (data taken from the 74 bus route).

The average total number of daily bus trips is 50,233.

There is no direct bus route between the two cities within the corridor. The Core Bus Network in the West Midlands Strategic Transport Plan - Movement for Growth includes sections between Birmingham and West Bromwich, and Wolverhampton to Wednesbury. There are no plans to introduce Sprint services in this corridor.

Midland Metro closely parallels the route between Birmingham New Street Station and Wolverhampton St George's and runs along the A41 for its northerly section between Priestfield and Wolverhampton. Services operate every 6-8 minutes calling at all key locations in the corridor.

There are mainline railway stations located along the route at Birmingham (Snow Hill and New Street) and Wolverhampton which provide frequent services between Birmingham and Wolverhampton and beyond to Birmingham

Table 3: Main Bus Routes

Road(s) Served	Frequency	Route No.
A41 West Bromwich – Hockley - Birmingham	Every 10 mins	74
A41 Tettenhall Wood - Wolverhampton	Every 8 mins	1
A41 Wolverhampton – West Bromwich	Every 20 mins	79
A41 Bilston - Moxley	Every 20 mins	39
A454 Finchfield - Wolverhampton	Every 10 mins	10
A41 West Bromwich – Hockley - Birmingham	Every 10 mins	75

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

International / Airport, Coventry, London, Telford and Shrewsbury.

The West Midlands Rail Franchise Specification included a higher frequency of local rail service between Birmingham and Shrewsbury via Wolverhampton and Telford.

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

- Shrewsbury
- Wellington
- Oakengates
- Telford Central
- Shifnal
- Albrighton
- Codsall
- Wolverhampton

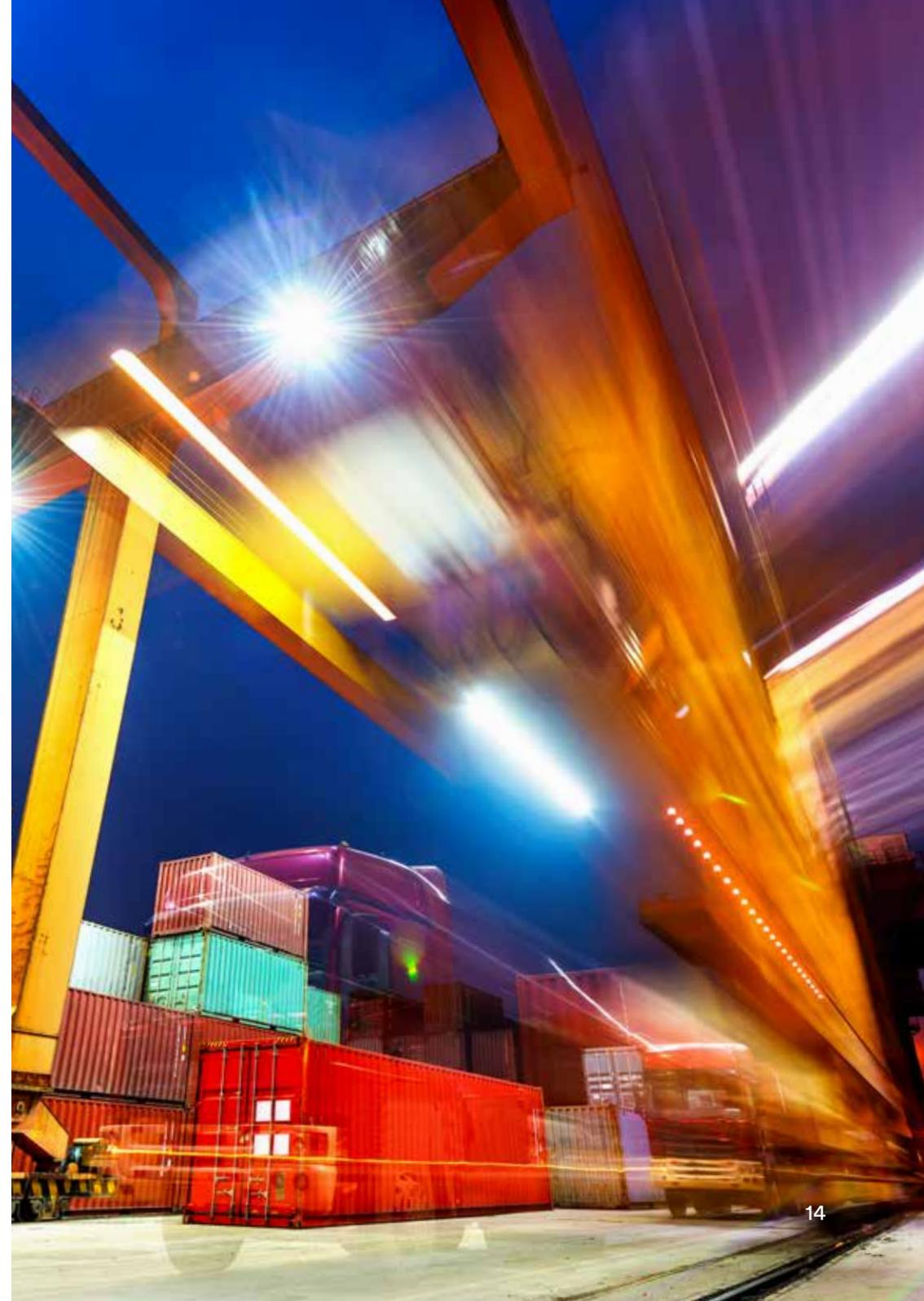
- Coseley
- Tipton
- Dudley Port
- Sandwell & Dudley

The HS2 Connectivity Package included extension of the Midland Metro from Wednesbury to Brierley Hill via Dudley Port and Dudley. The package also includes development of improved rail services between Birmingham and Stourbridge – serving the corridor between Birmingham and the Hawthorns.

The Black Country to Birmingham Route is a crucial route for the operations of freight and logistics within the region.

Analysis conducted for Midlands Connect concluded that Sandwell is one of the largest origins of road freight in the Midlands. Therefore, this route is key in the distribution of goods to Birmingham City Centre and Staffordshire. It is also of national significance, linking to junction 1 of the M5 to distribute goods to the South West and onto the M6/M42.

Fleet data on road haulage companies was obtained from UK Trade and Investment (UKTI) and GIS mapping illustrated that a substantial proportion of road haulage companies in the Midlands are dotted along this corridor for ease of access to the M5. This is reflected in AADF traffic flow data for HGVs where along this route, HGV flows are in excess of 1,000 per day. The average number of Heavy Goods Vehicles using the route on a daily basis was 1,025, which represents 5% of all vehicular traffic. According to Cambridge Econometrics data, Sandwell employs large numbers in the metal industry, wholesale and retail trade and construction sectors, all of which rely on freight and logistics for effective operations.



Resilience

The route has parallel strategic roads including the M6 / M54 for end to end journeys, A456/ A4123 Birmingham New Road between Wolverhampton and Birmingham and A457 in Birmingham. There is limited network resilience except in the middle of the route in peak. There is reasonable intermodal network resilience provided by the West Coast Main Line and local rail services in the corridor as well as Midland Metro; however, there is a lack of parking capacity at stations.

Given the existing capacity constraints in the peaks in the Birmingham and Black Country highway 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.

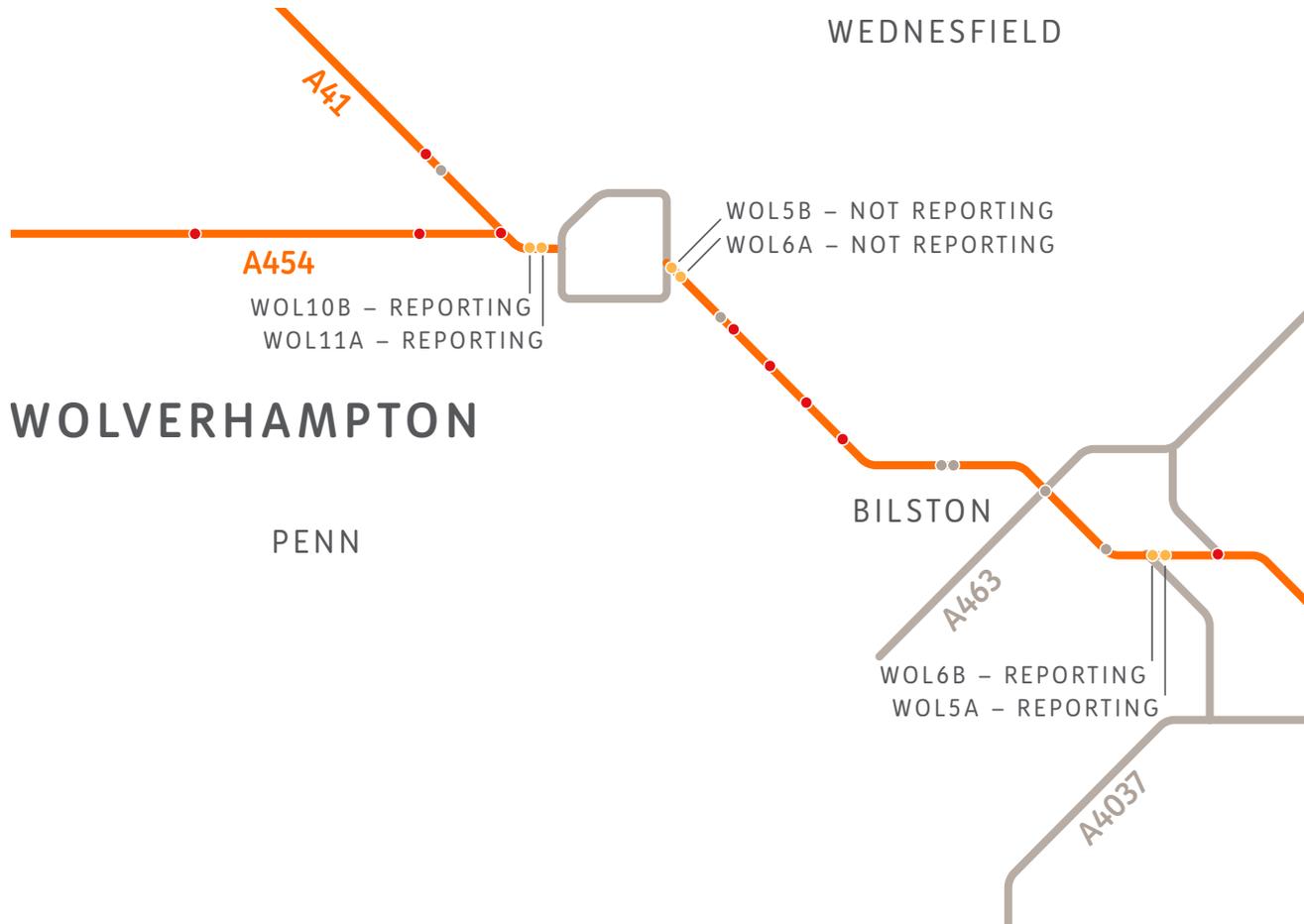
Diversion Route

The A41 in Wednesbury and West Bromwich is used as an Emergency Diversion Route by Highways England when there are closures or incidents on the Strategic Road Network. In conjunction with the Black Country Route KRN Route it connects M6 junction 10 to M5 junction 1 avoiding the M5/M6 interchange at Ray Hall.

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, of which two are north of Wolverhampton on the A41 and A454 respectively and three south of Wolverhampton on the A41.

West Midlands Key Route Network Black Country to Birmingham



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



Figure 4 – 1 of 2

KRN 6 – Black Country to Birmingham

West Midlands Key Route Network Black Country 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
	● Automatic Number Plate Recognition (ANPR) / Journey Time Monitoring System (JTMS) locations
	● Traffic Camera locations



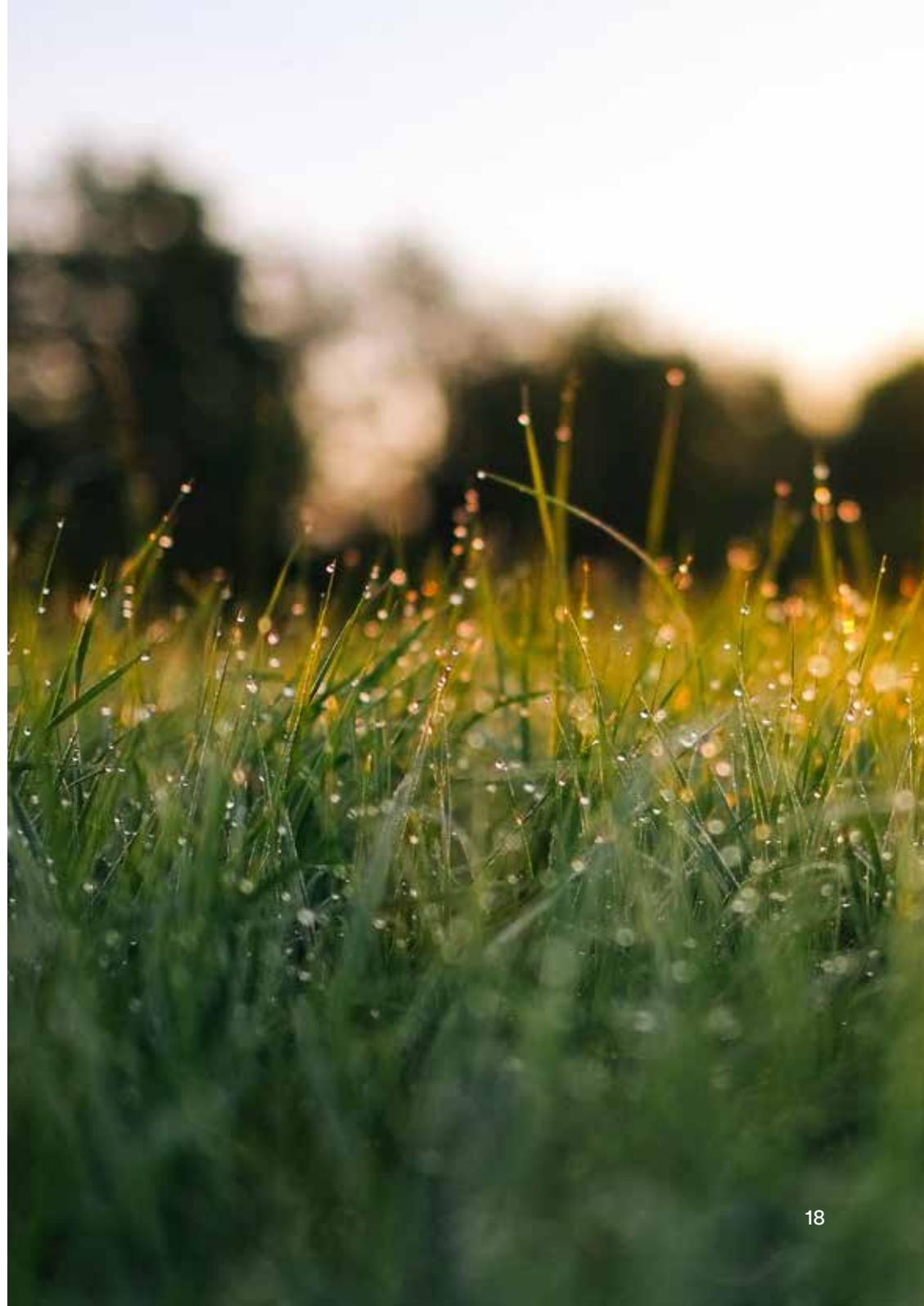
Figure 4 – 2 of 2

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.

There are particular health issues close to the A463/A41 junction. Although this area does not have a high proportion of residents over the age of 65, a large proportion of people report limited day to day activities; and households around the junction are less likely to have an adult in work. Healthy life expectancies are also low in communities close to the A34 compared to the national average of 83; between the A4040 and Birmingham, where there are high levels of childhood obesity by year 6.

The route falls within the Birmingham and Wolverhampton Air Quality Management Areas (AQMA) declared for Nitrogen Oxide (NO₂) and Particulate Matter (PM₁₀). Some parts of the route also fall within the Sandwell and Walsall AQMAs, 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 this route varies along its length, minor deterioration is beginning to show through. Over the past six years a programme of capital maintenance has been carried out at various sites along the A454 and A41.

Footway Condition

The footway condition across this route is generally in a good and safe condition. Over the past six years only localised repairs have been carried out in response to defects identified as part of our on-going programme of highway safety inspections.

Structures

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



Development proposals directly affecting this route

Housing

- Cable Street 100 dwellings (2017-20)

Employment

- West Bromwich 3500 jobs (2025-30)

Development proposals indirectly affecting this route

Housing

- Bilston Urban Village 478 dwellings (2017-25)
- Ward Street/Polypipe 620 dwellings (2017-25)
- Dixon Street 100 dwellings (2020-25)

Employment

- Dale Street/Citadel junction 650 jobs (2017-20)
- Wider Wednesbury Area 4800 jobs (2017-30)
- West Bromwich 8000 jobs (2017-25)
- Wider Handsworth area 3000 jobs (2017-30)

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

- Bilston Road Metro Track Replacement Phase 2 – Completed.

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>