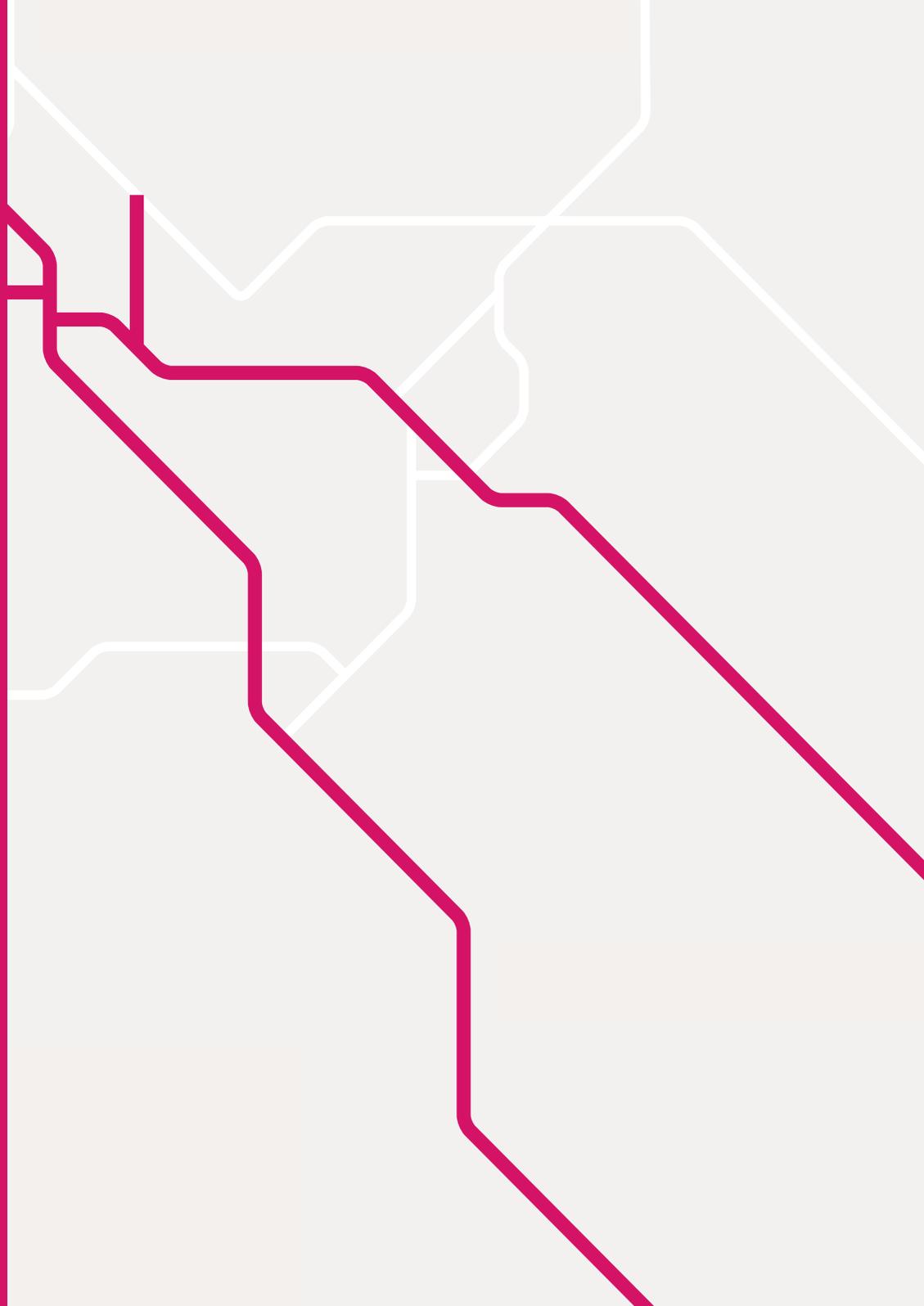


West Midlands Key Route Network

Solihull to Birmingham



Transport for
West Midlands



The Solihull to Birmingham route is a 16 miles/26km section of the West Midlands Key Route Network (KRN), providing strategic link access through South Birmingham and Solihull to the centre of Birmingham.

The route provides an important strategic link, particularly for suburban areas where it allows surrounding communities' access to retail, leisure and employment opportunities in Birmingham City Centre, Solihull Town Centre and business parks along the M42 such as Blythe Valley Park. Across the region the route provides a strategic link to Warwickshire and Worcestershire, whilst also providing access to Tyseley Locomotive Works, a tourism attraction.

This route is formed of the A34, A41, A4167 and B4145.

It provides important connections to the Highways England's Strategic Road Network (SRN) via the:

- A34 to M42 Junction 4
- A41 to M42 Junction 5

These connections facilitate access to London and the regions via the wider motorway network. The route also forms crucial connections with three other routes on the KRN, these are:-

Birmingham Cross City

- A34 Stratford Road/A4540 Bordesley Middleway
- A4167/A435/A4540 Haden Circus

Birmingham Outer Circle

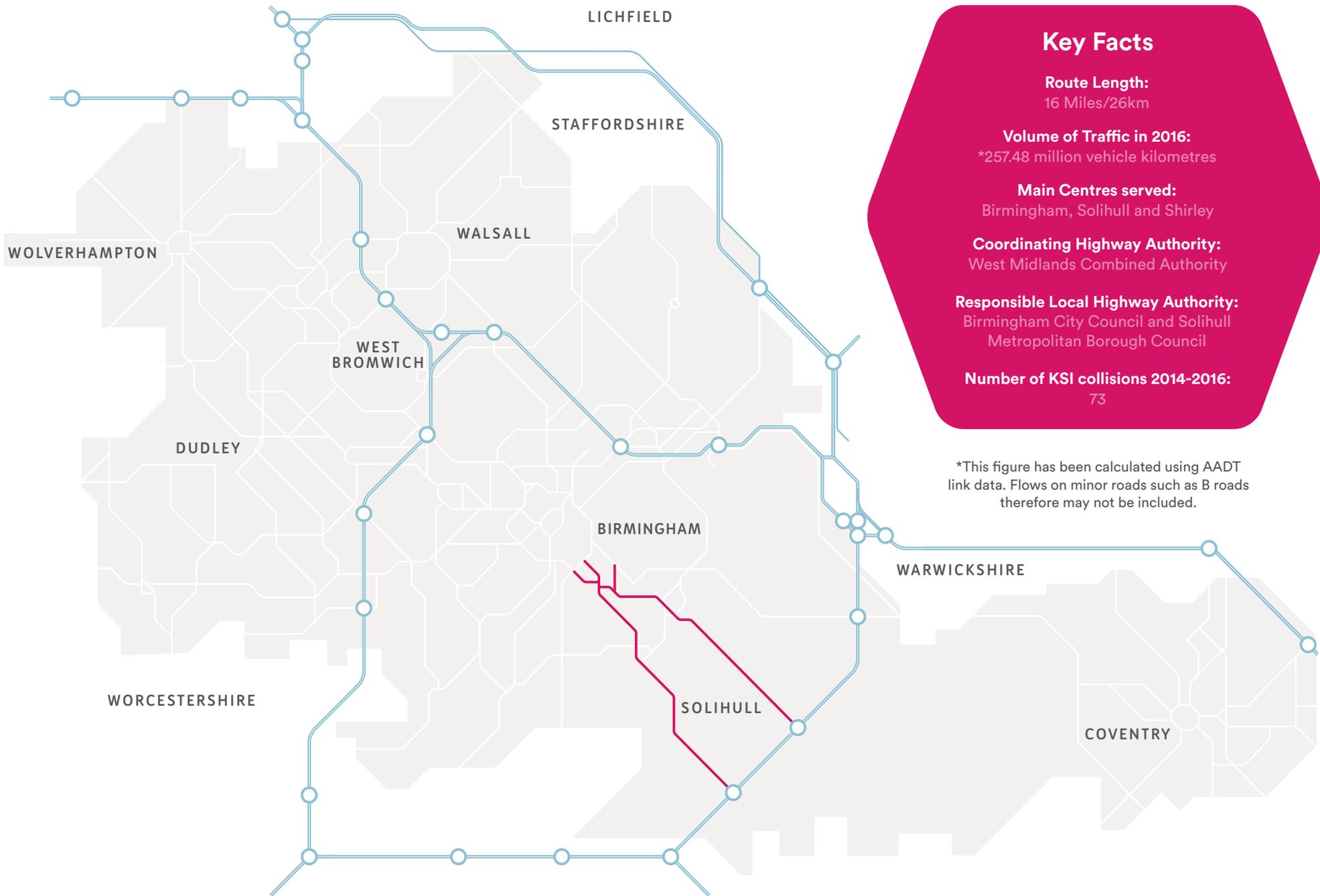
- A34 Stratford Road/B4146 School Road
- A34 Stratford Road/A4040 Fox Hollies Road
- A41 Warwick Road/B4146 Yardley Road
- A41 Warwick Road/A4040 Stockfield Road

Coventry to Birmingham

- B4145 Golden Hillock Road/A45 Small Heath Highway

The A41, A4167, B4145 and A34 between Birmingham and Fox Hollies are single carriageway roads. Sections of the A34 between Fox Hollies and M42 Junction 4 are dual carriageway, linking directly to the motorway and on into Warwickshire. The route passes through mainly residential areas and local shopping centres. The A34 section between Shirley and M42 Junction 4 provides strategic links to employment at Bythe Valley Park and Monkspath Business Park.

There are Red Route restrictions in place along the A34.



Key Facts

Route Length:
16 Miles/26km

Volume of Traffic in 2016:
*257.48 million vehicle kilometres

Main Centres served:
Birmingham, Solihull and Shirley

Coordinating Highway Authority:
West Midlands Combined Authority

Responsible Local Highway Authority:
Birmingham City Council and Solihull Metropolitan Borough Council

Number of KSI collisions 2014-2016:
73

*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 4% 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 11,800 vehicles, a maximum of 39,300 with an average of 22,400 AADF. The route experiences large volumes of traffic, particularly on:

- the A34 between its junctions with the A4540 Bordesley Middleway and the B4146 School Road;
- the A41 Warwick Road between its junctions with the A34 Stratford Road and the A4040 Stockfield Road and;
- the A41 Warwick Road/Solihull Bypass from its junction with Dovehouse Lane, Olton, to M42 junction

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
A34	Stratford Road, A4540 Bordesley Middleway to Shaftmoor Lane, Sparkhill	Inbound to City and Outbound from City
A34	Stratford Road, B4146 School Road to A4040 Fox Hollies Road, Hall Green	Inbound to City and Outbound from City
A34	Stratford Road, Stanway Road to Longmore Road, Shirley	Inbound to City and Outbound from City
A34	Stratford Road, Dog Kennel Lane to Monkspath Hall Road, Monkspath	Outbound from City
A34	Stratford Road, M42 Junction 5 to Monkspath Hall Road, Monkspath	Inbound to City
A4167	Belgrave Middleway/Highgate Road, A4540 Haden Circus to A34 Stratford Road	Inbound to City and Outbound from City
B4145	Golden Hillock Road, A41 Warwick Road to A45 Coventry Road, Sparkbrook	Northbound and Southbound
A41	Warwick Road, A34 Stratford Road to B4145 Golden Hillock Road, Sparkbrook	Inbound to City and Outbound from City
A41	Warwick Road, A4040 Fox Hollies Road to Percy Road, Sparkhill	Inbound to City
A41	Warwick Road, Manor Farm Road to B4146 Wharfdale Road, Tyseley	Outbound from City
A41	Warwick Road, Reservoir Road to B4514 Olton Boulevard East, Olton	Inbound to City
A41	Warwick Road, Richmond Road to B425 Warwick Road, World's End	Outbound from City
A41	Solihull Bypass, B425 Lode Lane to B4102 Hampton Lane/Marsh Lane	Outbound from City
A41	Solihull Bypass, B4025 Warwick Road link road to B4102 Hampton Lane/Yew Tree Lane	Inbound to City

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 Solihull Hospital, Moseley Hall Hospital, Jaguar Land Rover at Elmdon which relies on just-in-time deliveries and industrial areas in Moseley, Highgate, Deritend, Monkspath Business Park, Greet and Tyseley where other businesses may also supply or rely on just-in-time deliveries.

Table 2: PM Peak Congestion-Related Delays

Road	Location	Direction
A34	Stratford Road, A4540 Bordesley Middleway to Shaftmoor Lane, Sparkhill	Inbound to City and Outbound from City
A34	Stratford Road, B4146 School Road to B4146 Cole Bank Road, Hall Green	Inbound to City and Outbound from City
A34	Stratford Road, B4025 Solihull Lane, Hall Green, to B4102 Marshall Lake Road, Shirley Heath	Outbound from City
A34	Stratford Road, B4102 Marshall Lake Road to Haslucks Green Road, Shirley	Inbound to City
A34	Stratford Road, M42 Junction 5 to Monkspath Hall Road, Monkspath	Inbound to City
A4167	Belgrave Middleway/Highgate Road, A4540 Haden Circus to A34 Stratford Road	Inbound to City and Outbound from City
B4145	Golden Hillock Road, A41 Warwick Road to A45 Coventry Road, Sparkbrook	Northbound and Southbound
A41	Warwick Road, A34 Stratford Road to B4146 Wharfdale Road, Tyseley	Inbound to City and Outbound from City
A41	Warwick road, B425 Warwick Road, World’s End, to Dovehouse Lane, Olton	Inbound to City
A41	Solihull Bypass, B425 Lode Lane to B4102 Hampton Lane/Marsh Lane	Outbound from City
A41	Solihull Bypass, B4025 Warwick Road link road to B4102 Hampton Lane/Yew Tree Lane	Inbound to City

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 Solihull Town Centre are particularly slow during the morning and evening peaks and speed can be as low as less than 10 mph. The worst performing sections where average speeds are below 10 mph are as follows:

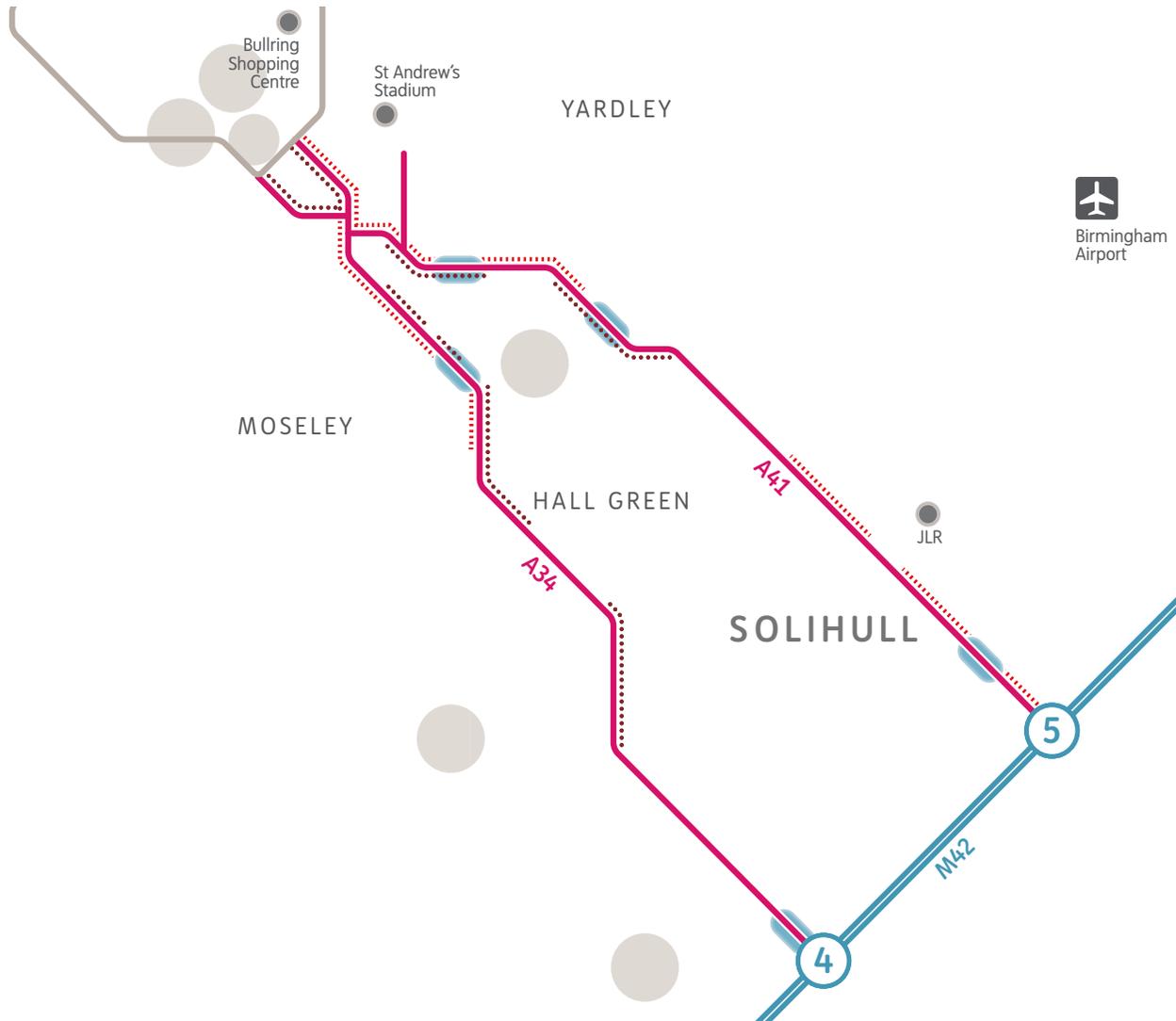
- B4145 Golden Hillock Road A41 to A45 (Northbound Only)
- A34: A4167 to Ladypool Road
- A4167: A34 to Ladypool Road
- A34: Fulham Road to St Johns Road
- A34: Formans Road to Shaftmoor Lane
- A34 Dog Kennel Lane to Monkspath Hall Road
- A41: B4146 to A4040
- A41: Richmond Road to Dovehouse Lane

Junction Capacity Issues

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

- A34 Stratford Road/A4540 Bordesley Middleway
- A41 Warwick Road/A4040 Stockfield Road
- A41 Warwick Road/B4146 Westley Road
- A41 Warwick Road/St. Bernard's Road
- A41 Solihull Bypass/B425 Lodge Lane
- A34 Stratford Road/B4146 School Lane
- A34 Stratford Road/A4040 Highfield Road
- A34 Stratford Road/Olton Road

West Midlands Key Route Network Solihull 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
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

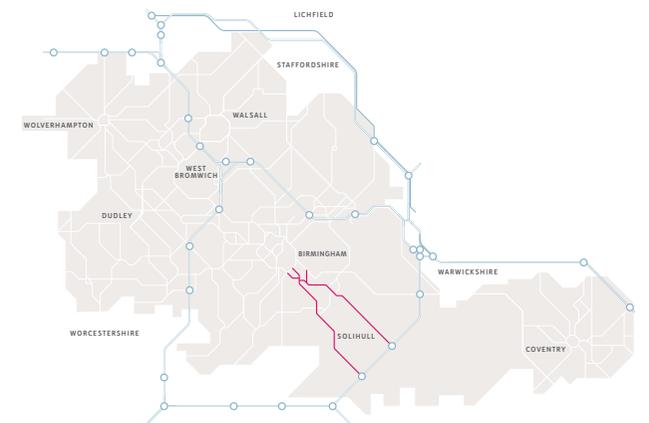


Figure 3

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

- 168 collisions, involving 299 vehicles
- Main contributory factor: Failed to look properly (pedestrian) (20% of all collisions)
 - The Killed and Seriously Injured (KSI) ratio for this group is 21% with 25% of all serious collisions being attributed to this group.
- Main contributory factors
 - Careless or Reckless or In a hurry (Driver) (7% of all collisions)
 - Failed to look properly (driver) (7% of all collisions)

Casualties

- Total casualties: 220
- Killed and Seriously Injured: 31
(14% of all casualties, up 4% when compared to 2015 figure of 25 of 251)
 - Killed: 1 (0.5% of all casualties, up by 0.1%)
 - Seriously injured: 30 (13.5% of all casualties, up by 4%)
- Slight: 189 (86% of all casualties)

Casualty Types

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

- Pedestrians: 72 (an increase of 12% compared to 2015)
- Powered Two wheel vehicles: 17 (a reduction of 2% compared to 2015)
- Pedal cyclists: 11 (a reduction of 1% compared to 2015)
- Car occupants: 120 (a reduction of 9% compared to 2015)

KSI Clusters

The main KSI cluster on the A34 is in the Hall Green area, between the B4146 and Robin Hood Lane Roundabout, and includes 2 fatal collisions. There are a number of other clusters on the A34 between the A4540 and the B4146 containing serious collisions.

On the A41 (Warwick Rd) there is a KSI cluster between the B4145 Golden Hillock Road Roundabout and Boscombe Road, which is a built up area.

CYCLING

There are no direct interactions with national cycle paths on this route; however, Cycle Route 5 on the National Cycle Network runs parallel to the A41 from Olton Station to Catherine-de-Barnes.

The Sustainable Transport Delivery Excellence Programme (STDEP) for the West Midlands has defined a number of 'Priority Corridors' for a Strategic Cycle Network in the region.

The West Midlands Cycling Charter acknowledges that cycling levels are currently significantly below those many other metropolitan core cities across the UK. The Charter sets a vision to raise levels of cycling across the West Midlands Metropolitan area to 5% of all trips by 2023. This represents a 400% increase in cycling journeys from the 1% baseline.



With the exception of the A41 beyond Solihull, this route is well served by high frequency bus services operating every 5-20 minutes. These services provide access to Birmingham City Centre; local centres along the route including Moseley, Kings Heath, Druids Heath, Sparkhill, Hall Green, Shirley, Acocks Green and Solihull; leisure destinations including Hall Green Stadium, retail including the Touchwood Centre; employment sites including JLR Elmdon, Blythe Valley Business Park and Monkspath Business Park; Greet and Highgate, and the surrounding communities.

The average bus speed along this route is 11.5mph (data taken from the 6/6A bus route).

The average total number of daily bus trips is 49,704.

There are long sections of bus lanes throughout the Stratford Road introduced in the bus showcase programme. There are no bus priorities on the Warwick Road section.

Table 3: Main Bus Routes

Road(s) Served	Frequency	Route No.
A34 Sparkbrook - Springfield	Every 20 mins	5
A34 Sparkbrook - Hall Green - Shirle - Cranmore	Every 6-10 mins	6/6A
A34 Sparkbrook - Hall Green - Shirley	Every 20 mins	31
A34 Sparkbrook - Hall Green - Shirley - Blythe Valley (M42 Jct. 4)	Every 60 mins	X20
A34 Shirley - Cranmore	Every 20 mins	5
A34 Shirley - Cranmore	Every 20 mins	76
A41 Sparkbrook - Tyseley - Acocks Green - Solihull	Every 5 mins	37
A41 Acocks Green - Olton	Every 60 mins	96
A41 Solihull - Copt Heath (M42 Junction 5)	Every 60 mins	87
A41 Solihull - Copt Heath (M42 Junction 5)	Every 60 mins	88
A41 Solihull - Copt Heath (M42 Junction 5)	Every 60 mins	S3

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

The roads on this route are identified within the West Midlands Strategic Transport Plan – Movement for Growth. Core Bus Network and services on the Alcester Road and Stratford Road are identified for Sprint investment. A further Sprint corridor is identified linking Solihull to Birmingham Airport / NEC / Interchange via JLR.

The Birmingham Snow Hill to Solihull, Warwick and London Marylebone railway line runs within the corridor of the A41 element of route with intermediate stations at Tyseley, Acocks Green and Olton, whilst a branch line from Tyseley to Shirley and Stratford upon Avon follows the A34 section of the route with intermediate stations at Spring Road, Hall Green and Yardley Wood.

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

- Hall Green
- Yardley Wood
- Shirley
- Whitlocks End
- Earlswood
- Danzey
- Henley-in-Arden
- Stratford-upon-Avon Parkway
- Stratford-upon-Avon
- Acocks Green
- Olton
- Solihull
- Widney Manor
- Dorridge
- Lapworth

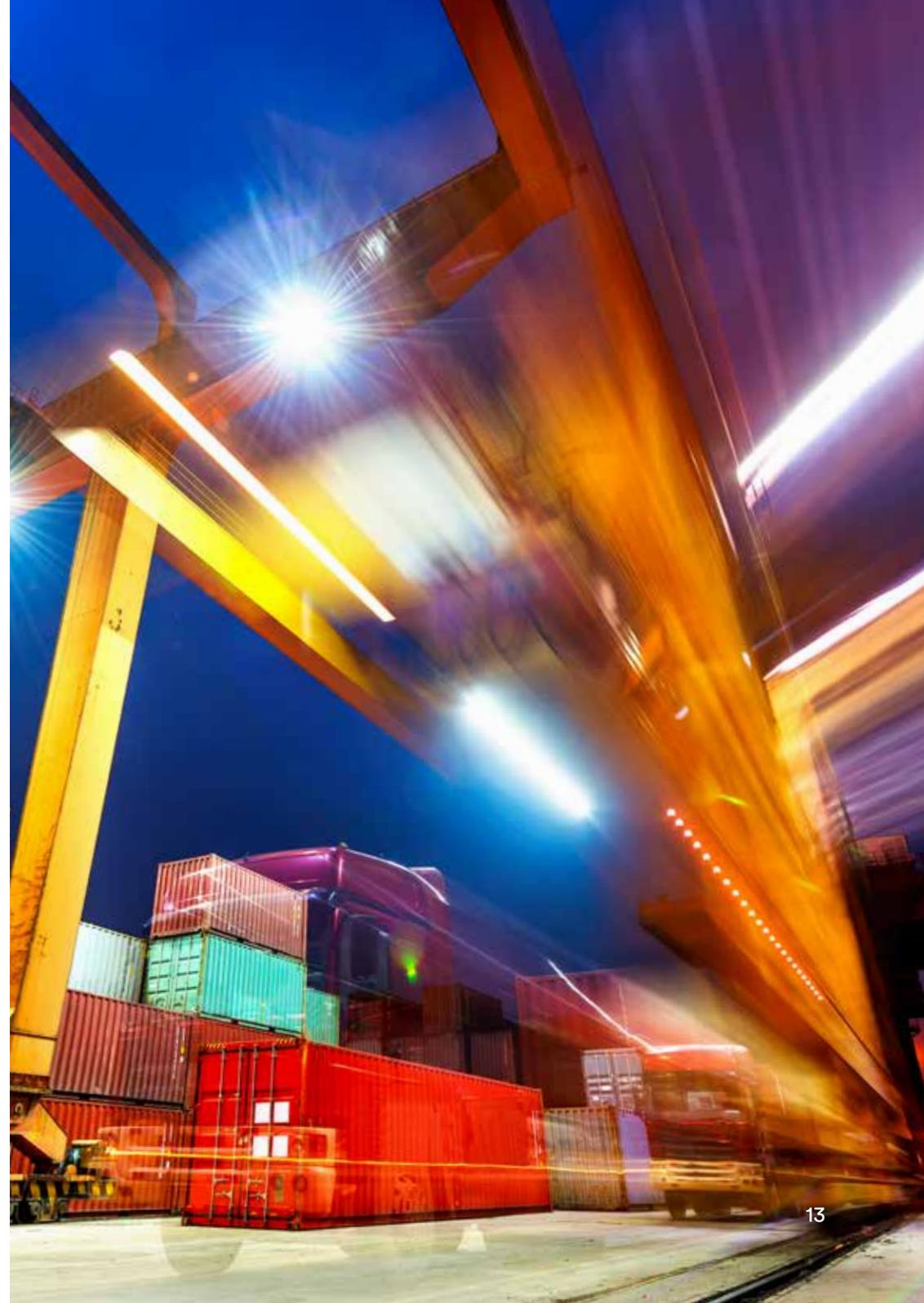
The West Midlands Strategic Transport Plan – Movement for Growth identifies the existing lines in the Snow Hill services frequency improvement scheme, which is included in the HS2 Connectivity Package. Movement for Growth also identifies the introduction of passenger rail services on the Camp Hill line in this corridor with stations at Hazelwell, Kings Heath and Moseley connected to Birmingham Moor Street via new chord lines at Bordesley. This is a key element of the Midlands Rail Hub scheme that Midlands Connect is taking forward.

There are no plans to extend Midland Metro services in this corridor.

The AADF data for 2016 has been used to analyse HGV flows on each respective route. Overall, the route experiences relatively low HGV flows; this is with the exception of a small section between Shirley and the M42 on the A34. The average number of Heavy Goods Vehicles using the route on a daily basis was 388, which represents 2% of all vehicular traffic.

The route passes through Tyseley, identified as an Environmental Enterprise District by Birmingham City Council. Much of this area remains industrial with many companies including Klaxon, SCC, Western Pegasus Limited and Bakelite Limited, based here. The area is now a popular furniture retail destination with over a dozen furniture retail outlets which will need to accept large deliveries as well as deliver locally.

On the A34 there are numerous business parks such as Solihull Business Park, Green Business Park and Monkspath Business Park - containing industrial/ warehousing units, which will be of relevance to freight. Blythe Valley Business Park, located off the M42 is also in close proximity to the A34.



Resilience

The route has parallel strategic roads, the A45 to the east and parallel local roads such as Yardley Wood Road and Sarehole Road/Cole Valley Road and Spring Road/Olton Boulevard. There is a degree of resilience contained within the Birmingham networks for radial journeys. However, certain critical sections with a risk of causing grid-lock including the motorway network at M42 junctions 3 and 5.

The high frequency Cross City and Snow Hill lines, rail services along the route with station parking, provide a good level of intermodal network resilience for the A34 and A41 parts of the route. The West Midlands Strategic Transport Plan – Movement for Growth proposes introducing passenger rail services on the Camp Hill Line with stations at Hazelwell, Kings Heath and Moseley. Stations need to provide sufficient parking capacity to provide intermodal resilience.

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 A34 between Hall Green and M42 junction 4, and the A41 between Lode Heath and M42 junction 5 are both used as sections of an Emergency Diversion Route (EDR) by Highways England when there are closures or incidents between junctions 4 and 5 of the motorway.

The same length of the A41 is also used as an EDR when there are closures or incidents on the M42 between junctions 5 and 6 (in conjunction with part of the A45 Coventry to Birmingham KRN route).

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 four areas on this route that pose flood risk. Along the route three flooding zones have been identified on the A41 and a further two zones identified on the A34:

- A41: A34 Birchfield Road - A4040 Boulton Road
- A41: B4514 Olton Boulevard East - Olton
- A41: Damson Parkway - M42
- A34: College Rd/Shaftmoor Ln
- A34/M42 junction

West Midlands Key Route Network Solihull 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

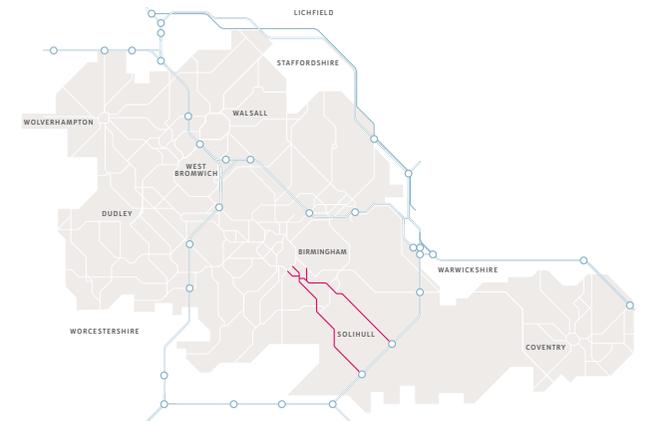


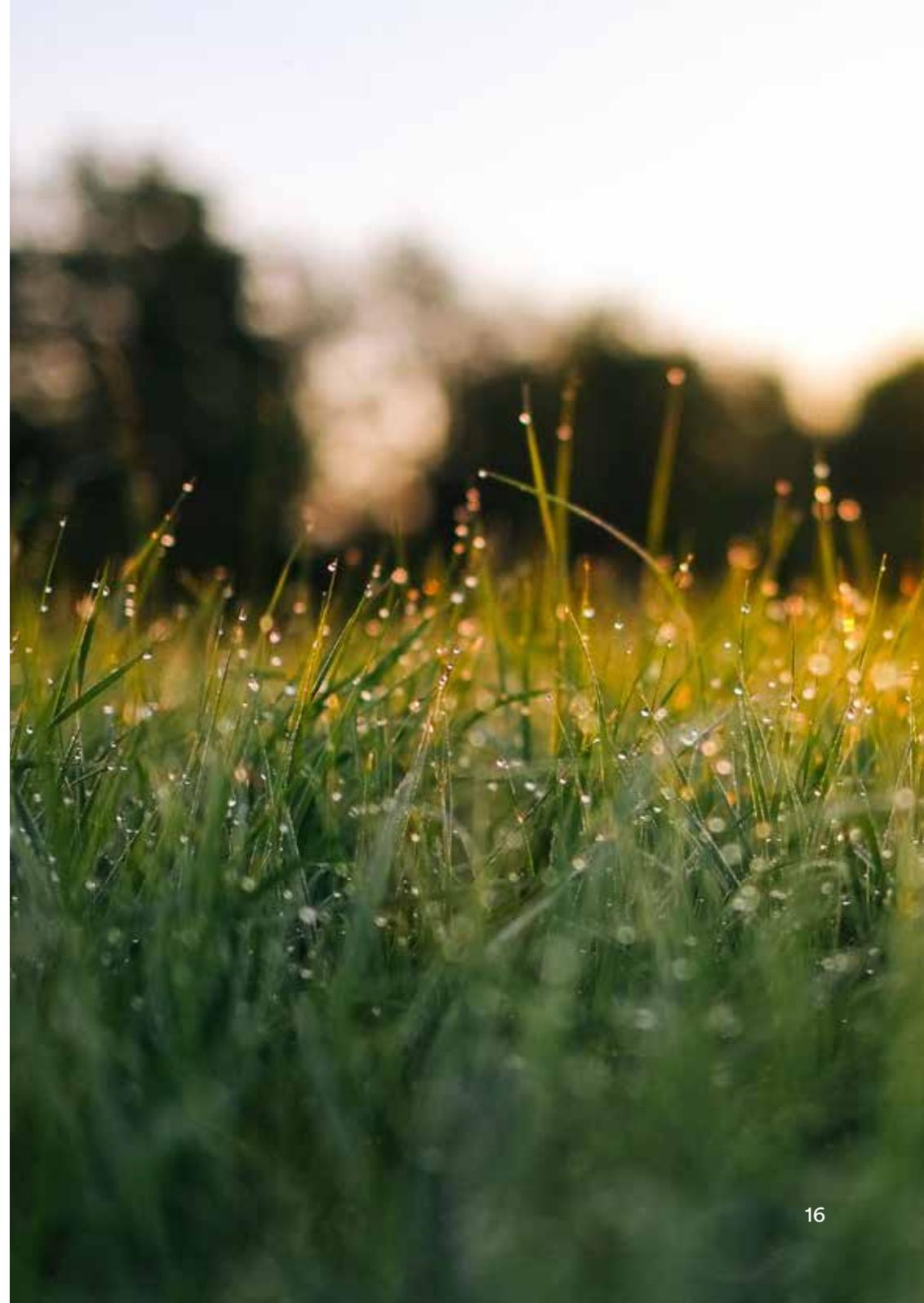
Figure 4

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.

Both the A34 and A41 between Birmingham and the A4040 run through deprived communities with relatively low healthy life expectancy; in particular, there are lower rates of female healthy life expectancy. This is particularly pronounced in the community close to the junction of the A34 and A41 where there are higher levels of childhood obesity and a younger population.

The Birmingham Air Quality Management Zone (AQMA) - declared for Nitrogen Oxide (NO₂) and Particulate Matter (PM₁₀) partially covers the northern parts of the A41 and A34.

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

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



Development proposals directly affecting this route

Housing

- Dog Kennel Lane/Land South of Shirley 1500 dwellings (2017-25)
- Emily Street / Darwen Street 225 dwellings (2025–30)
- Barford Street Area 1100 dwellings (2025–30)
- Wholesale Markets 1000 dwellings (2025–30)
- Cheapside/Bradford Street Area 1100 dwellings (2025–30)

Employment

- No significant proposals.

Development proposals indirectly affecting this route

Housing

- Land East of Solihull 600 dwellings (2020–30)
- Belgrave Middleway 100 dwellings (2017–20)
- Lombard Street 310 dwellings (2017–20)
- Pershore Street 650 dwellings (2017–20)
- Blythe Valley Business Park 750 dwellings (2017-20)
- Land South of Knowle 250 dwellings (2020-25)
- Land at Dickens Heath 660 dwellings (2017-25)

Employment

- Wider Tyseley Area 3000 Jobs (2017–25)
- Damson Parkway 21000 Jobs (2017–30)
- Arena Central 4500 jobs (2017– 2030)
- Paradise Circus 4000 jobs (2017 – 2025)
- Great Barr Street 2000 jobs (2017 – 2020)
- Beorma Quarter 4000 jobs (2017 – 2020)
- Eastside Locks 3500 jobs (2017 - 2020)
- Solihull Town Centre 5000 jobs (2017-25)
- Blythe Valley Business Park 6000 jobs (2017-25)
- Wider Digbeth Area 7000 jobs (2020 – 2030)
- Exchange Square/Masshouse Circus 8500 jobs (2020 – 2025)
- Small Heath Business Park 500 jobs (2025 – 2030)
- UK Central 20,000 jobs (2025 – 2030)
- Masshouse Circus 8,500 jobs (2025 – 2030)
- Solihull Business Park 600 jobs (2020-25)

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

- Metro: East Birmingham to Solihull Tramway
- Journey Time Reliability Improvements to Growth - BCC/Solihull
- SPRINT: Hall Green to Birmingham Interchange HS2 via Solihull

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>