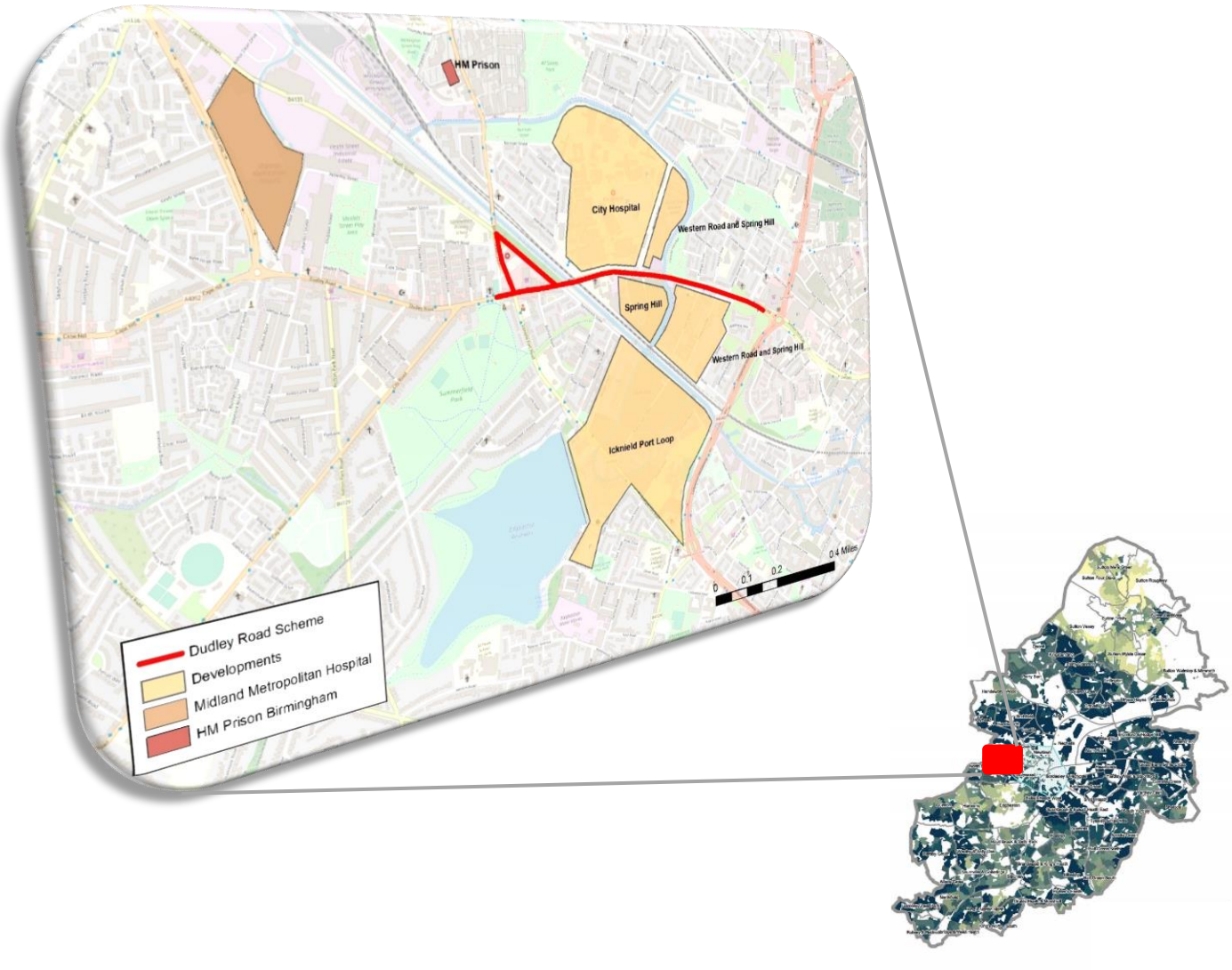
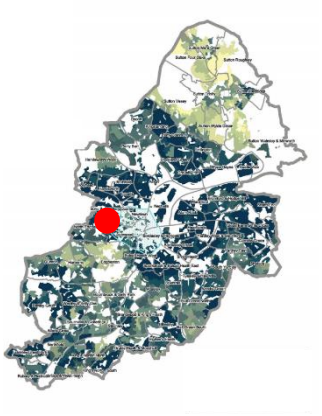
BIRMINGHAM CITY COUNCIL

A457 Dudley Road Improvement
Levelling Up Fund



Version 1 – March 2021

Executive Summary



Investing in infrastructure has the potential to improve lives by giving people pride in their local communities; bringing more places across the UK closer to opportunity; and demonstrating that government can visibly deliver against the diverse needs of all places and all geographies. Communities across Birmingham and the links between them are fundamental parts of our shared economy, culture and society.

As set out within the Levelling Up Fund Prospectus, "economic differences remain between different parts of the UK, including our cities, ex-industrial towns, and rural and coastal communities. These economic differences have real implications: they affect people's lives through their pay, work opportunities, health and life chances. Tackling these economic differences and driving prosperity as part of 'levelling up' left behind regions of the UK is a priority for this Government". The Levelling Up Fund provides an opportunity for investment into targeted locations across Birmingham to level up longstanding local economic differences that have stifled the broader regional economy, but also significantly impact the local communities and their ability to thrive.

Following a review of potential Tranche 1 schemes across Birmingham against the funding criteria, the A457 Dudley Road Improvement Scheme was deemed a priority for the city. The following application form sets out a clear case for investing into this much needed transport scheme. Throughout the document, the four following priorities of the Levelling Up Fund have been highlighted:

Characteristics of the place – setting out a clear narrative for why investment is needed within the specific location and how the associated characteristics align to the broader Levelling Up objectives.

Deliverability – setting out the financial, management and commercial cases for investment, with capital expenditure in 2021/22 that will quickly unlock the benefits aligned to the Levelling Up objectives.

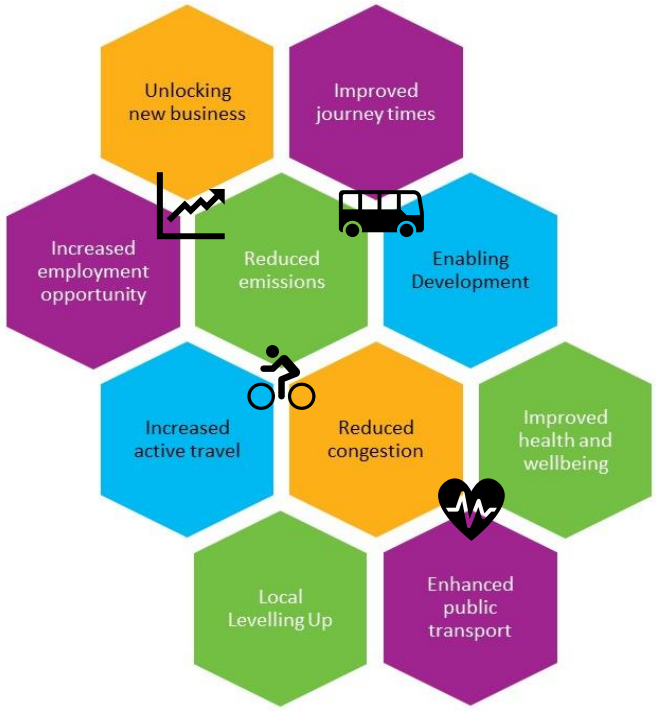
Strategic fit with local and Fund priorities – clearly identifying how the scheme contributes to local, regional and national priorities.

Value for money – an economic case, explaining the benefits of the scheme and how it represents value for money.

Birmingham City Council are delighted to have the opportunity to receive capital investment into a scheme that will provide a step-change in transport provision, enabling growth and improved connectivity.

The A457 forms part of **Birmingham's Strategic Highway Network** and provides a **key arterial route** from the Black Country into central Birmingham. The A457 corridor is approximately 2km long and is heavily used by both local and through traffic and forms part of the emergency vehicle route to the M5 Motorway.

The section of the **Dudley Road corridor** proposed for improvement is from the Spring Hill junction to the Sandwell boundary. The **poor standard and inefficient operation** of this section of the Dudley Road, together with associated **environmental deterioration** and **poor accessibility** for users, makes the corridor an unattractive route to and from the city centre, particularly at peak times. Delays due to **congestion** significantly add to business costs and discourage businesses from investing and locating in this area, as well as adversely impacting on access to employment opportunities for local residents.



Birmingham City Council's (BCC) aspirations and objectives for the scheme are focused on **improving journey times, reducing congestion, and enhancing public transport and active modes along the corridor**. Improved journeys for a variety of modes will also improve the attractiveness of the area, stimulating economic growth through **enabling access to key development sites** which will bring forward approximately 3,000 new homes along with other local facilities and **employment opportunities**. This in turn will support and protect the city's **growth objectives** within the Greater Icknield area.[1]

This will be achieved by **improving the operation of existing junctions, widening the carriageway** (to create a standard dual carriageway), introducing **bus lanes** and **priority at junctions** and making enhancements to develop continuous **pedestrian and cycling facilities**.

These benefits will align with the local, regional, and national objectives, including those of the **Greater Birmingham and Solihull LEP,** the **Emergency Transport Plan,** and **Active Travel Plan** introduced following Covid-19 and aspires towards the longer-term priorities of the Council in terms of sustainable transport and working towards **net zero carbon by 2030**.

The scheme is planned for delivery by **March 2024** and has a total estimated capital cost of **£30.135m**. The financial approval sought by this proposal totals **£19,941,000**. The requested funding will enable BCC to improve the Dudley Road corridor and prepare the corridor for future growth through high quality transport infrastructure. Without the investment, BCC cannot respond to the accessibility and congestion issues along the corridor which hinder economic growth in the area.

[1] Greater Icknield: Masterplan | Birmingham City Council

Levelling Up Fund Application Form

Applicant & Bid Information

Local authority name / Applicant name(s):

Birmingham City Council

Bid Manager Name and position:

[redacted]

Contact telephone number:

[redacted]

Email address:

[redacted]

Postal address:

Birmingham City Council, 1 Lancaster Circus Queensway, PO Box 14439, B2 2JE

Nominated Local Authority Single Point of Contact:

Phil Edwards

Senior Responsible Officer contact details:

Phil Edwards

Philip.edwards@birmingham.gov.uk

0121 303 6467

Chief Finance Officer contact details:

Rebecca Hellard

Rebecca.hellard@birmingham.gov.uk

0121 303 4233

Country:

☒ **England**

☐ **Scotland**

☐ **Wales**

☐ **Northern Ireland**

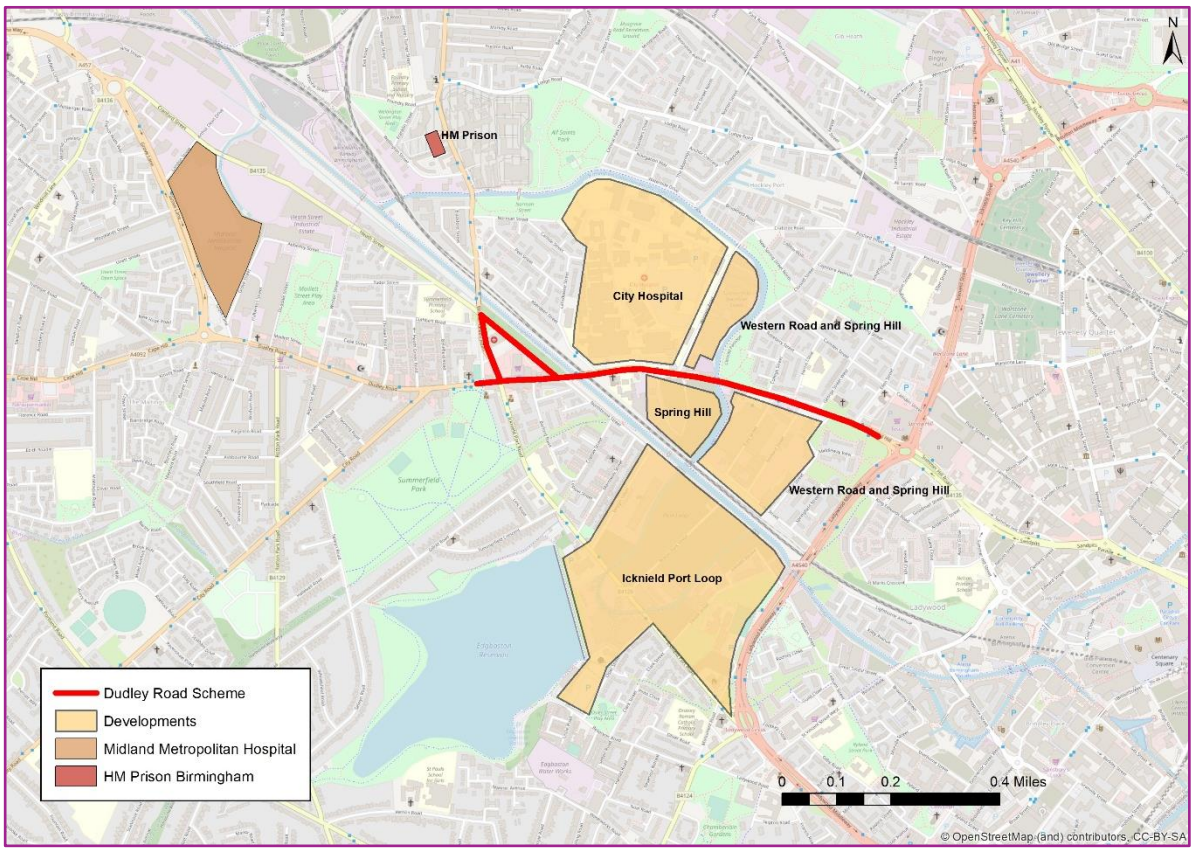
Please provide the name of any consultancy companies involved in the preparation of the bid**:** Arcadis Consulting UK Ltd, Jacobs UK Ltd

PART 1 GATEWAY CRITERIA Failure to meet the criteria below will result in an application not being taken forward in this funding round	
1a Gateway Criteria for **all bids** Please tick the box to confirm that your bid includes plans for some LUF expenditure in 2021-22 *Please ensure that you evidenced this in the financial case / profile.*	☒ Yes ☐ No
1b Gateway Criteria for private and third sector organisations in **Northern Ireland bids only** (i) Please confirm that you have attached last two years of audited accounts.	☐ Yes ☐ No
(i) **Northern Ireland bids only** Please provide evidence of the delivery team having experience of delivering two capital projects of similar size and scale in the last five years. (Limit 250 words)	

PART 2 EQUALITY AND DIVERSITY ANALYSIS

2a Please describe how equalities impacts of your proposal have been considered, the relevant affected groups based on protected characteristics, and any measures you propose to implement in response to these impacts. (500 words)

The equalities impact of the scheme has been assessed against the Public Sector Equality Duty. The A457 Dudley Road scheme aims to improve connectivity between the city centre and the Black Country, resulting in improved access to economic opportunity and social benefits for those living to the west of central Birmingham, which has some of the city-region's most disadvantaged communities.



The A457 lies within Ladywood Metropolitan District Ward. Ladywood has the third highest population density of the 10 constituencies within Birmingham at 49 people per hectare. 44.8% of the population are aged 24 and under, resulting in the Ladywood constituency having the highest proportion of young people compared with the other constituencies. Furthermore, the data shows that 26.3% of residents aged 16-24 have no qualifications, higher than England's 22.5%.

2011 Census data reveals an **unemployment rate of 9.1% for Ladywood** which is higher than the values of 7.1% for Birmingham, 5.1% for the West Midlands county, and **4.4% for England.**

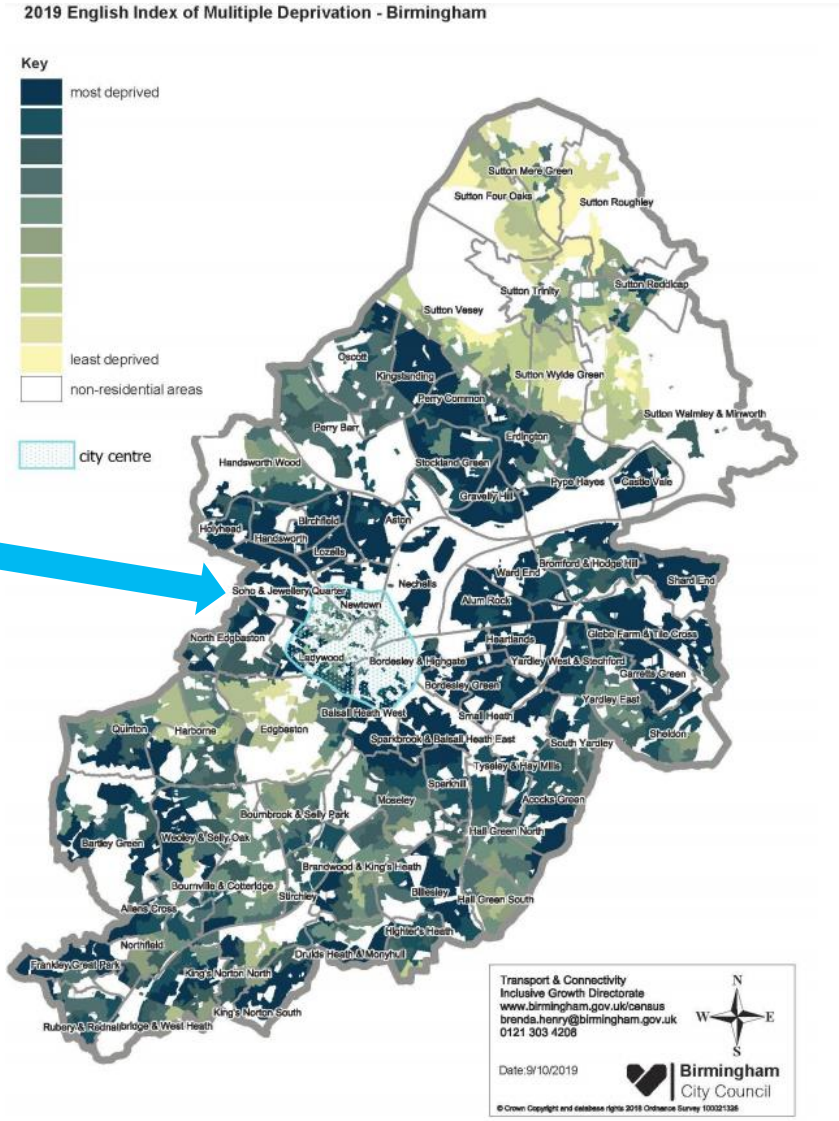
According to the 2020 Labour Market Statistics, Ladywood's unemployment has risen by 3.5% (to 12.6%) while the West Midland's unemployment has only risen by 0.5% (to 5.6%). The percentage of residents aged 16-64 with no qualifications has fallen to 14.5%, however this is still higher compared to the overall value for Birmingham at 9.2% and the value for Great Britain of 6.4%. This demonstrates the need for wider access to jobs within Birmingham city centre.

The table below depicts average earnings for full time workers (Annual Survey of Hours & Earnings 2019). On average, Ladywood residents are earning 3% less than residents in Birmingham, 6% less than West Midlands, and 12% less than the UK.

Area	Weekly Pay - gross (£)	Annual Pay - gross (£)
Ladywood	533.0	26,522
Birmingham	536.6	27,426
West Midlands	550.8	28,262
UK	584.9	30,353

Ladywood is the second most deprived constituency in Birmingham. The image below shows IMD deciles for LSOAs in Birmingham. LSOAs in Ladywood are among the most deprived areas in the city, whereas areas such as Edgbaston to the south are much less deprived.

The Ladywood Constituency has an Index of Multiple Deprivation (IMD) decile of 1, according to 2019 data, meaning it is in the top 10% most deprived areas in England.



The table below is the Appraisal Summary Table entry for the Social and Distributional Impact categories and their statements for various social and user groups.

AST entry												
	Social Groups							User groups				Qualitative Statement
Impact	Children	Young people	Older people	Carers	Women	Disabled	BME	Pedestrians	Cyclists	Motorcyclists	Young male drivers	
Noise												Neutral impacts expected
Air Quality												Slight positive impacts expected
Accidents	✓ ✓ ✓	✓	✓					✓ ✓ ✓	✓ ✓ ✓			All assessed social groups will experience a benefit or neutral effect from the scheme with children, pedestrians and cyclists experiencing the largest benefit from the scheme.
Security												Neutral impacts expected.
Severance	✓ ✓	✓	✓	✓	✓	✓	✓	✓ ✓	✓ ✓	✓	✓	Positive impacts expected as active mode travel will be more accessible to all groups.

The area surrounding the A457 Dudley Road scheme experiences a higher level of deprivation and barriers to growth than the rest of the region. This area is in significant need of levelling up to bridge the gap between the rest of Birmingham and the West Midlands, otherwise existing conditions will continue to worsen. The scheme aims to reduce these barriers and improve accessibility between the Black Country and Birmingham City Centre by improving junctions, improving the layout of the carriageway and making enhancements to public transport facilities and for active modes. As a result, the resilient network will allow economic growth and regeneration within the scheme area, improving quality of life and bringing prosperity for its residents to an area of low productivity and connectivity.

When authorities submit a bid for funding to the UKG, as part of the Government's commitment to greater openness in the public sector under the Freedom of Information Act 2000 and the Environmental Information Regulations 2004, they must also publish a version excluding any commercially sensitive information on their own website within five working days of the announcement of successful bids by UKG. UKG reserves the right to deem the bid as non-compliant if this is not adhered to. Please specify the weblink where this bid will be published:

Levelling up fund

PART 3 BID SUMMARY

3a Please specify the type of bid you are submitting	☒ Single Bid (one project) ☐ Package Bid (up to 3 multiple complimentary projects)

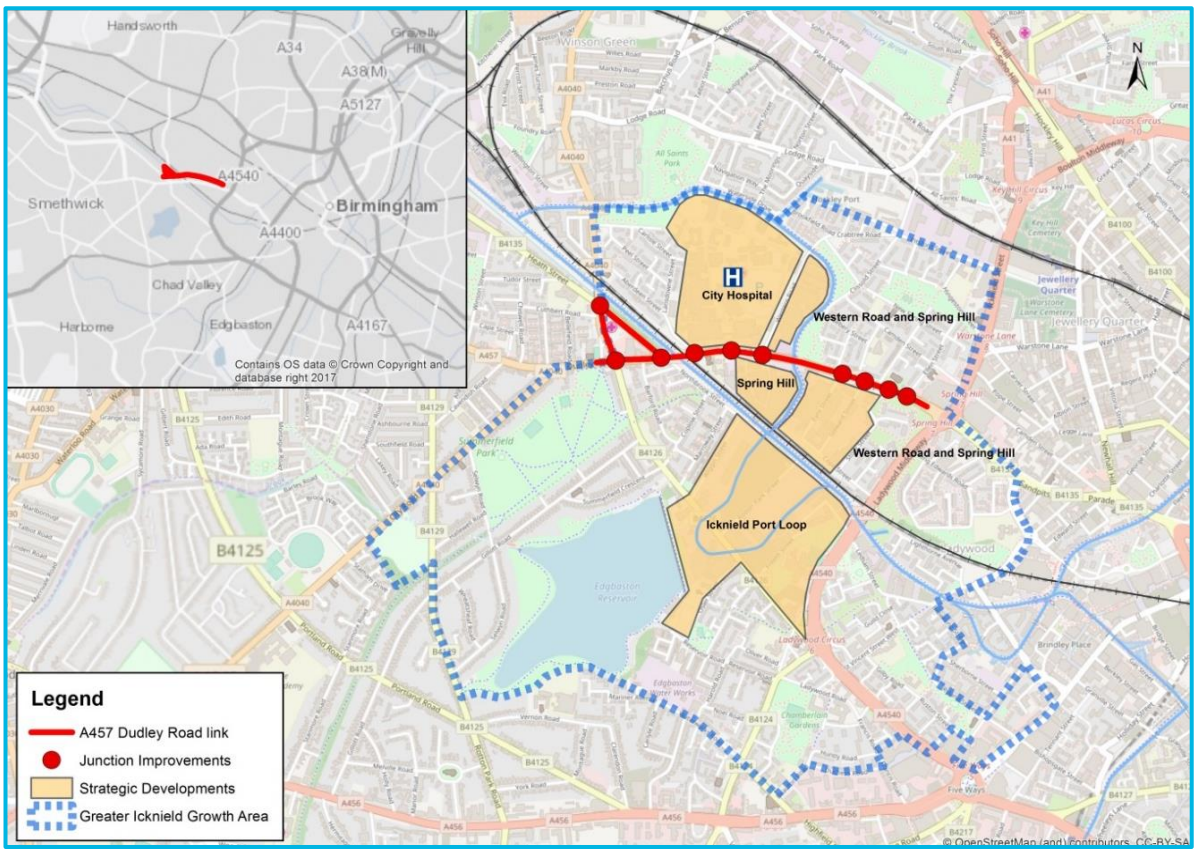
3b Please provide an overview of the bid proposal. Where bids have multiple components (package bids) you should clearly explain how the component elements are aligned with each other and represent a coherent set of interventions (Limit 500 words).

The A457 Dudley Road Improvement scheme is a major highway intervention along a key arterial route from M5 Junction 2 and Smethwick into central Birmingham. The scheme encompasses the section between Spring Hill roundabout A4540 Ladywood Middleway, west of Birmingham City Centre, and A4040 City Road, 1 mile to the west. The road serves City Hospital and crosses a rail line and the Birmingham Canal.

The scheme aims to achieve the following Council aspirations and objectives:

- Deliver a programme of high-quality infrastructure improvements to support the regeneration of Greater Icknield area;
- Provide increased capacity at key junctions;
- Improve accessibility into Birmingham City Centre;
- Provide safer infrastructure in line with the Birmingham Connected hierarchy of road users;
- Provide facilities for cyclists including; segregated tracks along links, provisions at side roads and improved provisions at junctions & signals to reduce conflicts with vehicles;
- Reduce existing congestion that acts as a major barrier to growth both in Birmingham and the Black Country.
- Provide improved access to new and existing development sites along the A457 and wider area;
- Improve north - south linkages for pedestrians and cyclists across the highway routes;
- Improve journey time reliability (including for public transport); and
- Provide safer infrastructure for all road users.

Benefits will be realised by improving junctions, improving the layout of the carriageway and making enhancements to public transport facilities and for active modes. The image below highlights which junctions have planned improvements and shows strategic developments within the area.



With High Speed 2 (HS2) opening in central Birmingham in 2026 and the 2022 Commonwealth Games providing opportunities for a step change in transport use and provision across the West Midlands, connectivity between strategic centres will be critical to the success of the region.

Drivers for change and why they need to happen now

- Business survival and growth – a key factor for employment and the economy. Developments such as the Greater Icknield masterplan proposal for 3,000 homes and 1,000 new jobs will require a robust transport corridor to access employment, retail and leisure facilities.
- Network resilience must be maintained for the 'blue light' route for the hospital and A&E.
- Major issues related to journey time, reliability, and connectivity – an issue which must be resolved for those travelling to work and education. Lack of an efficient and reliable journey impedes accessibility to/from key economic hubs.
- A lack in facilities for walking and cycling needs to be resolved to encourage sustainable transport use; which is an integral objective of transport planning policy and strategy in the Birmingham Transport Plan.
- The COVID-19 pandemic and its long-lasting impact on the local economy must be addressed through improved access to employment and training in this corridor. This is particularly important for the impact of a recession on the local economy and businesses.
- The area is in need of major regeneration due to dereliction and lack of development despite being within 1-mile of the city centre.

3c Please set out the value of capital grant being requested from UK Government (UKG) (£). This should align with the financial case:		£19,941,000
3d Please specify the proportion of funding requested for each of the Fund's three investment themes	Regeneration and town centre	0%
	Cultural	0%
	Transport	100%

PART 4 STRATEGIC FIT

4.1 Member of Parliament Endorsement (GB Only)

See technical note section 5 for Role of MP in bidding and Table 1 for further guidance.

4.1a Have any MPs formally endorsed this bid? If so confirm name and constituency. Please ensure you have attached the MP's endorsement letter.	☒ Yes ☐ No

See **Appendix A**. The scheme is located within Ladywood Constituency and has support from the MP Shabana Mahmood

4.2 Stakeholder Engagement and Support

See technical note Table 1 for further guidance.

4.2a Describe what engagement you have undertaken with local stakeholders and the community (communities, civic society, private sector and local businesses) to inform your bid and what support you have from them. (Limit 500 words)

A list of stakeholders consulted as part of the Scheme development process is summarised below. It incorporates local and regional stakeholders, plus the regional offices of several national organisations. It also includes environmental interests, transport users and operators, as well as community representatives and local community groups.

Stakeholder	Stakeholder management
Local councillors	Informed of the project via email.
City Council/ PFI contractor	
Department for Transport (Funding Body (part))	Progress update meetings submitted quarterly via email.
NHS - Birmingham City Hospital	Consultation event carried out to brief the hospital of the scheme. Comments provided have been taken into consideration.
National Express	
Push Bikes	
West Midlands Ambulance Service Public	

West Midlands Fire Service	
West Midlands Police	
Birmingham Taxi Co-operative Limited	
Birmingham Focus on Blindness	
Birmingham Institute for the Deaf	
Midlands Heart	

Public consultation was undertaken in November / December 2020 and the findings reported in BCC's internal Cabinet report and within **Appendix B** to this application form. Consultation was designed to address any adverse impact upon service users, providers and those within the scope of the scheme. Questions were asked to assist in identification of adverse impacts contrary to the equality duty and to engage people in a dialogue to identify ways in which adverse impacts might be avoided or reduced. Following stakeholder engagement, key stakeholders are generally in support of the scheme and there is no organised objection to the scheme.

4.2b Are any aspects of your proposal controversial or not supported by the whole community? Please provide a brief summary, including any campaigns or particular groups in support or opposition? (Limit 250 words)

There are no formal objections to the scheme through consultation. The scheme has been developed to comply with Push Bikes, incorporating continuous and direct cycling facilities, and with TfWM to include bus priority and bus lanes.

The CPO process is mostly complete. Further details are set out within the Risk Register.

The scheme has generally been accepted by businesses, access groups, and travelling community. It is well developed; designs have been refined through consultation with these groups to meet expectations with no objections.

A summary of key changes following points/clarifications raised through feedback are:

- Provision of segregated cycle lanes/footway throughout the corridor to address comments regarding the comfortability, efficiency, and continuation of the cycle route.
- Provision of priority crossings for pedestrians and cyclists at George Street junction, Ellen Street junction and College Street junction.
- New segregated cycle way/footpath to be constructed on the frontage of Birmingham City Hospital as a mitigation measure to retain 15 trees, following comments to liaise with Sandwell NHS Trust & Homes England (landowners).
- Double yellow lines on Heath Street for a length of ~160m to increase highway capacity following complaints received for queueing caused by the on-street parking.

- Provision of new signals for right turn on Northbrook Street junction to address comments regarding traffic flow, particularly traffic turning right into and out of junctions.

Negotiations with Tara Motors are ongoing, however if that is not successful, a CPO process will be initiated. This process does not affect the early implementation of Western Road junction changes.

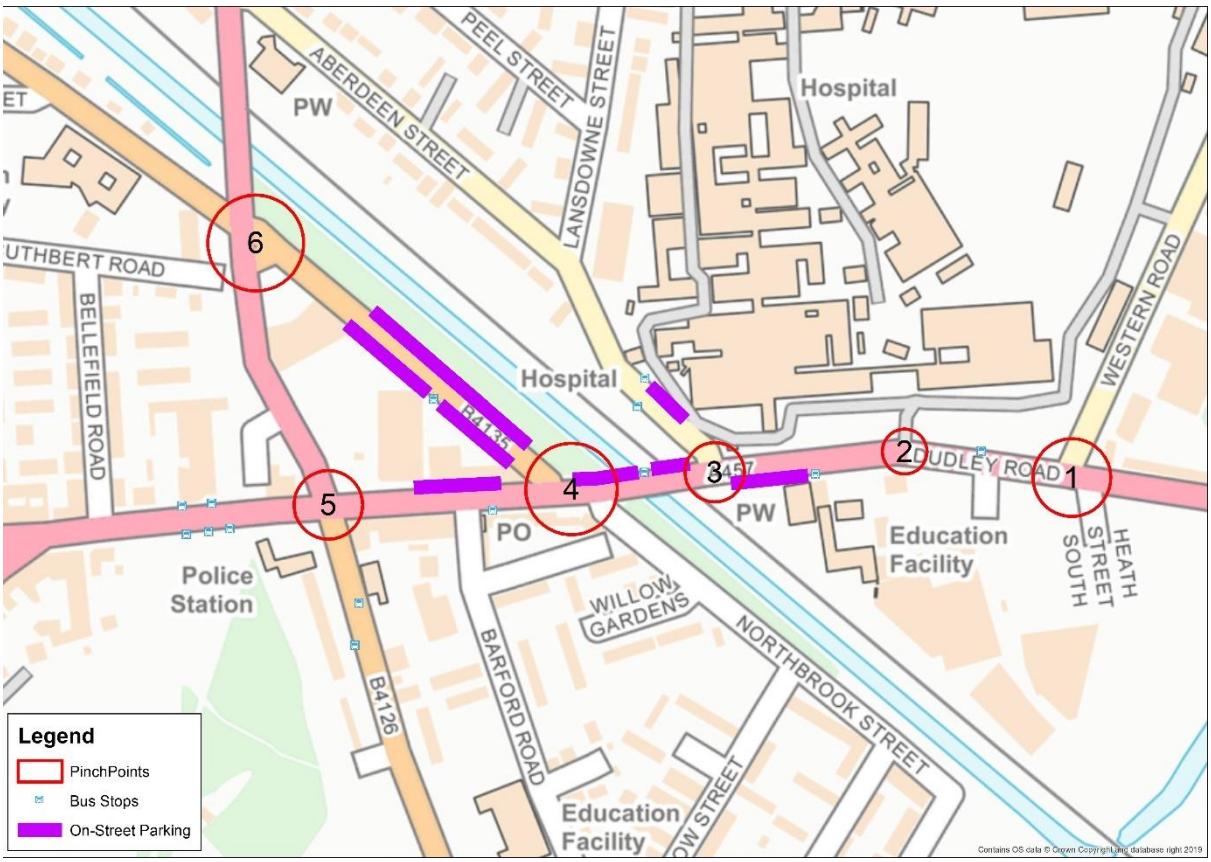
4.2c Where the bidding local authority does not have the statutory responsibility for the delivery of projects, have you appended a letter from the responsible authority or body confirming their support?	☐ Yes ☐ No ☒ N/A
For Northern Ireland transport bids, have you appended a letter of support from the relevant district council	☐ Yes ☐ No ☒ N/A

4.3 The Case for Investment

See technical note Table 1 for further guidance.

4.3a Please provide evidence of the local challenges/barriers to growth and context that the bid is seeking to respond to. (Limit 500 words)

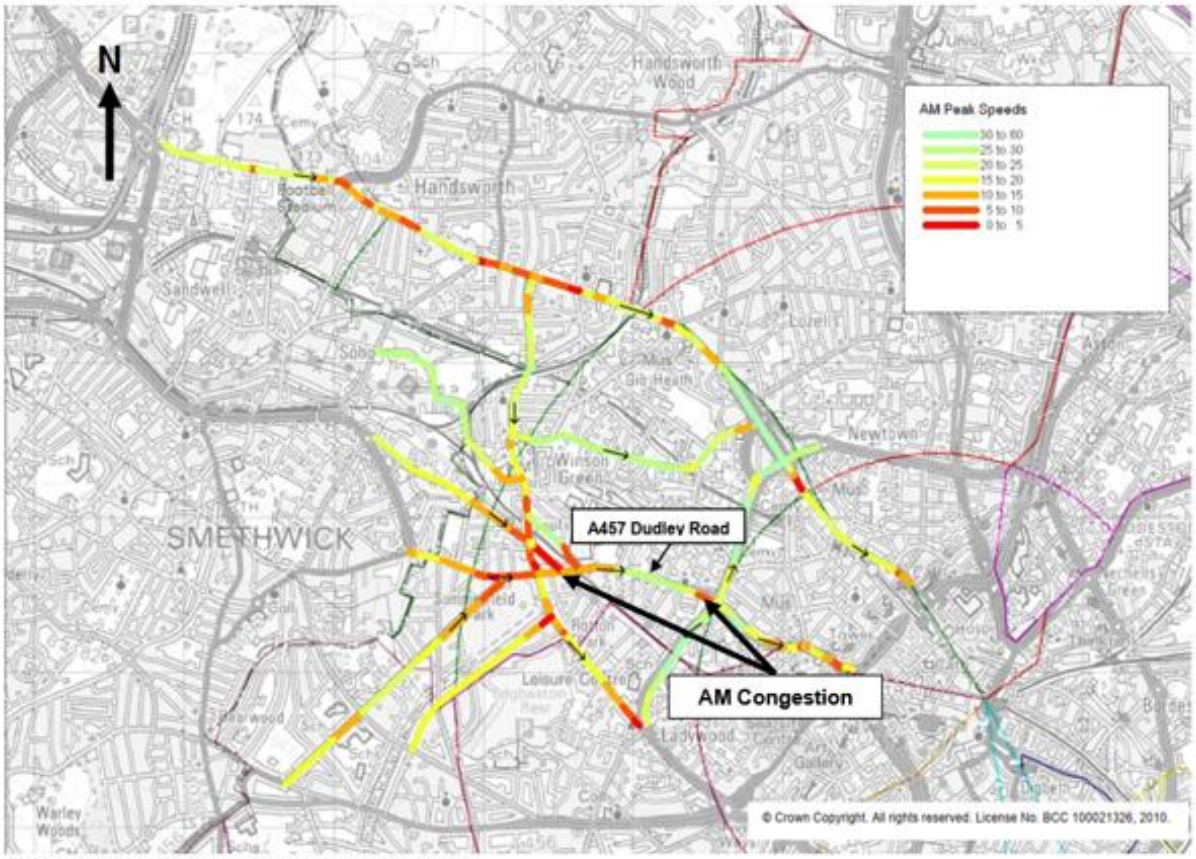
Without improvements along the A457 Dudley Road, existing issues will be exacerbated, including congestion for all modes, health issues related to harmful air pollutants, low levels of physical activity, casualties from traffic collisions and social exclusion from poor accessibility to jobs and education opportunities. Poor standards of this section of the road, in addition to high levels of traffic, are resulting in long queues and delays on the network and inefficient operation for most of the day. Furthermore, associated environmental deterioration and poor accessibility for public transport, freight operations, cyclists, pedestrians and private vehicle users occur due to congestion. The image below highlights the proximity of major pinch points and on-street parking which are likely to worsen without intervention.



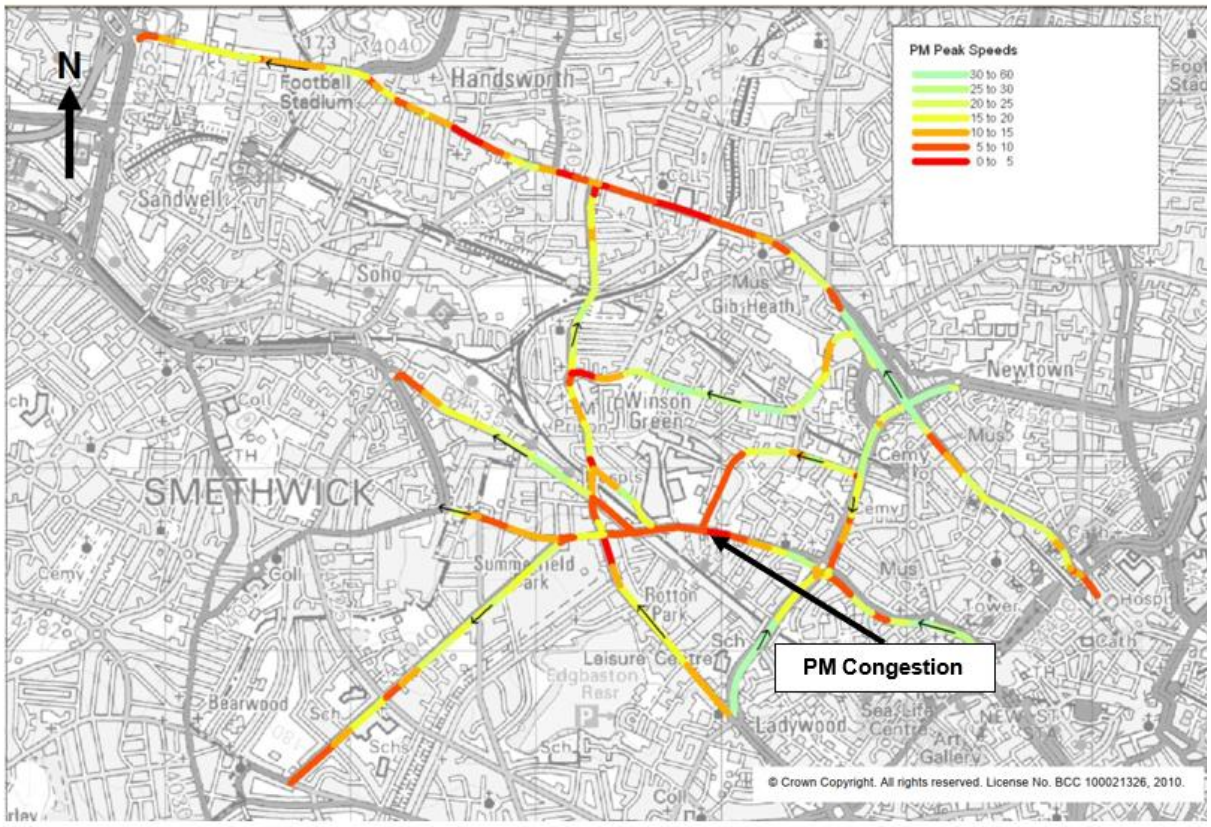
The figures below show general traffic speeds during the AM and PM peaks.

The AM peak period has prime traffic flows towards Birmingham City Centre, with an average speed of 18mph for trips between City Road and the A4540 Ring Road. The average journey time during the AM peak period in the eastbound direction is under 4 minutes (217s). The same trip during the non-congested (off-peak) period takes an average of around 140 seconds.

During the PM peak, the average speed of traffic moving in the westbound direction between the Ring Road and City Road is around 14mph. This means the average journey time for these trips is just under 4 minutes (231s). The average journey time for the same westbound trips during the non-congested (off-peak) period is around 142 seconds.



AM Peak Inbound Speeds (mph)



PM Peak Inbound Speeds (mph)

The route is not reliable during either peak, demonstrated by journey time data from 2007 which shows that in the AM peak, journey times vary to approximately 36% of the mean journey time (217s + 76s). Journeys are even more unreliable in the PM peak period with the trips varying by as much as 50% of the mean journey time (231

+ 115 s). 2016 data shows the average journey time along the corridor to be 303s in AM peak and 340s in PM peak, which demonstrates a worsening situation without intervention. This is a major issue, as Dudley Road is a Blue Light route for the hospital. Severe delays and unreliable journey times will negatively impact those in need of urgent care.

A Major Scheme Business Case was originally completed in 2004 and revised in 2009 to improve this section of the Dudley Road. However, during this time the major schemes of the Northfield Relief Road and Selly Oak Relief Road to the south of Birmingham City Centre and Chester Road improvements to the East were taken forward and there was limited resource to deliver these in parallel with the Dudley Road scheme.

Following the completion of these wider schemes that are similar in scope, the need to deliver the A457 Dudley Road Improvement scheme is extremely important for this key strategic route linking Birmingham City Centre, the Black Country and residential and employment areas along this section of the corridor.

4.3b Explain why Government investment is needed (what is the market failure)? (Limit 250 words)

The lack of capacity along the highway and at junctions limits the ability of the transport system to operate efficiently. There is a poor environment for pedestrians and cyclists with high levels of motor traffic and high level of conflicts between pedestrians/cyclists and motor vehicles. As a result, there is a poor accident record. 2016-2018 accident data shows 60 accidents within 50m of the scheme location with 135 casualties; 6 of which involved cyclists and a further 15 involved pedestrians.

Bus passengers suffer from delays and journey time variability and businesses also suffer from delays to supplies and services and getting their goods to market which has led to under investment in the corridor. The highway congestion and delays also affect the operation of emergency services in the Blue Light Corridor serving City Hospital with impacts on health and wellbeing.

Overall, transport inaccessibility to the areas surrounding Dudley Road has contributed to low education attainment levels and deprived neighbourhoods.

The Levelling Up Fund will enable the implementation of the Dudley Road highway scheme which will address the needs of all transport modes and thereby aid improved accessibility to the city centre, providing opportunities for further education and access to a wider job market which will help to reverse the market failure and promote economic growth.

4.3c Please set out a clear explanation on what you are proposing to invest in and why the proposed interventions in the bid will address those challenges and barriers with evidence to support that explanation. As part of this, we would expect to understand the rationale for the location. (Limit 500 words)

The scheme will utilise investments to improve junctions, implement extensive direct and continuous bus and cycle lanes and crossing facilities for pedestrians. Access will be supported for the relocation of City Hospital. Sustainable travel options will be available for access to housing growth areas in Greater Icknield. Options have been developed and assessed against key policies and EAST criteria. The preferred options have demonstrated compliance in the policy context and still provided a good economic return. Therefore, the preferred option has been selected accordingly.

The scheme drawings can be found in **Appendix C**.

The works are:
Zone A: Shenstone Road to Bellefield Road

- Rationalisation of parking provision.

Zone B from Bellefield Road to Northbrook Street (east side)

- Carriageway upgraded to standard lane widths, realignment of junctions and side roads;
- Junction realignment to increase capacity at all 3 signalised junctions, incorporate bus priority, upgrade pedestrian crossings to cycling and pedestrian crossings;
- Upgrade bus shelters and relocate (7 no.); and
- New cycle and pedestrian facilities on existing wide footways/carriage way connecting to local cycle routes and NCN Route 5. Primarily in the form of a segregated cycling route and shared facilities where highway space is limited and will include cycling and pedestrian crossing facilities to create north-south link;

Zone C from Northbrook Street (east side) to Spring Hill Canal Bridge (Clissold Passage)

- Carriageway upgraded to standard lane widths, with realignment of junctions and side roads;
- Upgrade junction Western Road/Dudley Road, all movements signalised junction with a segregated control crossing for cyclists/pedestrians, increase capacity and realign;
- New signalised pedestrian crossing - Dudley Road. 4-metre-wide toucan with 3-metre-wide stagger, upgrade pedestrian crossings to cycling and pedestrian crossings;
- Upgrade bus shelters and relocate (3 no.);
- New cycle and pedestrian facilities on existing wide footways/carriageway. Primarily in the form of a segregated cycling route and shared facilities where highway space is limited and will include cycling and pedestrian crossing facilities to create an east-west link;
- Incorporate bus priority at traffic signal junctions; and
- New pedestrian & cycle footbridge and canal access.

Zone D from Spring Hill Canal Bridge (Clissold Passage) to Spring Hill Roundabout

- Carriageway upgraded to standard lane widths, with realignment of junctions and side roads;
- New signalised junction – Spring Hill/Steward Street, all movements signalised junction, increased capacity;
- Upgrade bus shelters and relocate (3 no.);
- New cycle and pedestrian facilities on existing wide footways/carriageway along Spring Hill Road;

- Local cycle route, primarily in the form of a segregated cycling route and shared facilities where highway space is prohibited; and
- Incorporate bus priority at traffic signal junctions.

Zone E – Barford Road Estate

- Closure of vehicle access to Northbrook Street from Dudley Road. Modal filter on Northbrook Street north of Coplow Street, meaning motorised vehicles cannot drive through;
- Junction of Barford Road and Northbrook Street opened to vehicles. Full access maintained for pedestrians and cyclists;
- Raised road surface at key junctions to slow vehicles down as they approach; and
- New Toucan crossing (for pedestrians and cyclists) on Barford Road near Barford Primary School.

4.3d For Transport Bids: Have you provided an Option Assessment Report (OAR)	☒ Yes ☐ No

The Option Assessment Report can be found in **Appendix D.**

4.3e Please explain how you will deliver the outputs and confirm how results are likely to flow from the interventions. This should be demonstrated through a well-evidenced *Theory of Change*. Further guidance on producing a Theory of Change can be found within HM Treasury's Magenta Book (page 24, section 2.2.1) and MHCLG's appraisal guidance. (Limit 500 words)

The Logic Map can be found in **Appendix E**.

4.4 Alignment with the local and national context

See technical note Table 1 for further guidance.

4.4a Explain how your bid aligns to and supports relevant local strategies (such as Local Plans, local economic strategies or Local Transport Plans) and local objectives for investment, improving infrastructure and levelling up. (Limit 500 words)

BCC Emerging DRAFT Transport Plan

The scheme supports the policy objectives outlined in the City Council Plan including:

- 'An entrepreneurial city to learn, work and invest in', particularly 'develop our transport infrastructure, keeping the city moving through walking, cycling and improved public transport.'
- 'A great, clean and green city to live in', particularly 'improve the environment and tackle air pollution'.
- Strive to maximise the investment in the city and engage local employers to create quality jobs and opportunities for citizens.

Birmingham Development Plan (BDP) / Big City Plan (BCP)
The scheme helps to support and deliver key objectives of the BDP including: 'To create a prosperous, successful and enterprising economy with benefits felt by all' and 'to provide high quality connections throughout the City and with other places and encourage the increased use of public transport, walking and cycling'. This is achieved by improving accessibility to employment, reducing congestion, improving safety and encouraging investment in this deprived area of the City.

This section of the A457 Dudley Road forms part of Birmingham's Strategic Highway Network (SHN). The SHN are the roads that are critical in maintaining good accessibility within the City, be it directly to the City Centre or key areas within the City. The City Council will protect capacity and target investment to increase accessibility along selected elements of the SHN, whilst ensuring a primacy for environmental improvement and road safety. As part of this, within the Investment Delivery Plan are various Highway Improvement Lines, identified land that will be protected for transport improvements. – one of which is "A457 Dudley Road - Spring Hill to City Road".

Other relevant adopted plans / strategies

- The project supports the Council's Business Plan 2013+ priorities and Sustainable Community Strategy outcomes to Succeed Economically, Stay Safe and Tackle Inequality and Deprivation.
- The project supports and is a key contributing factor to the delivery of the Icknield Port Loop Development Plan.
- The A457 Dudley Road forms part of the Sedgley to Birmingham route of the Key Route Network (KRN), which was adopted in the legislation as part of the creation of the West Midlands Combined Authority (WMCA). Routes identified as part of the KRN have been identified as essential for serving strategic flows of people, goods, and services, serving large traffic volumes, and providing key connections to the national Strategic Road Network.
- Enables sustainable travel with continuous footways/cycle lanes which supports benefits.

4.4b Explain how the bid aligns to and supports the UK Government policy objectives, legal and statutory commitments, such as delivering Net Zero carbon emissions and improving air quality. Bids for transport projects in particular should clearly explain their carbon benefits. (Limit 250 words)

The scheme supports key points in the National Planning Policy Framework (NPPF, July 2018), including:

- 'achieving well designed places' by improving junctions
- 'building a strong, competitive economy' by improving connections to key economic hubs such as Birmingham city centre, and 'promoting sustainable transport' by improving the efficiency and reliability of public transport.

The proposed scheme would reduce congestion and improve vehicle flow within the study area. This will increase the fuel efficiency of the vehicles travelling along the route and marginally reduce overall greenhouse gas emissions, compared with existing emissions. Furthermore, the scheme is providing improved active travel infrastructure which support modal shift from travelling by private vehicle towards walking and cycling. The combination of these two elements should have a positive impact on air quality.

The TUBA monetised benefit output for greenhouse gases is £379,000 for the 60-year appraisal period.

The table below depicts the BCC SATURN model output of CO_2 emissions (in kg) in the Do Minimum and Do Something scenarios for the 2037 forecast year. The data shows that while there is a 9% increase in AM traffic and a 5% increase in PM traffic from the base year, there will be a 1% decrease in CO_2 in the AM peak and 2% decrease in PM. This demonstrates that overall, carbon emissions will be lower due to increased network capacity and reduced queueing.

	AM Peak	PM Peak
Do Nothing	8349	9563
Do Something	8291	9397
% Change in CO_2	**-1%**	**-2%**
% Change in Traffic	9%	5%

4.4c Where applicable explain how the bid complements / or aligns to and supports other investments from different funding streams. (Limit 250 words)

The new Midland Metropolitan hospital is currently under construction, west of the A457 Dudley Road Improvement scheme, and will see the majority of hospital services relocated from the existing City Hospital site, which, in turn, will be redeveloped.

GBSLEP has already provided £5m scheme development funding. This has enabled the scheme to be developed, a contractor has been appointed and the scheme is ready to be implemented.

Soho Loop Development accessing onto Dudley Road via improved Western Road Junction. Section 278 Developer Contribution of £1.15m towards delivery of junction improvement works.

Both GBSLEP Development Funding and Soho Loop Development S278 Contribution support the bringing together of investment and infrastructure in line with the policy for the Levelling Up agenda.

4.4d Please explain how the bid aligns to and supports the Government's expectation that all local road projects will deliver or improve cycling and walking infrastructure and include bus priority measures (unless it can be shown that there is little or no need to do so). Cycling elements of proposals should follow the Government's cycling design guidance which sets out the standards required. (Limit 250 words)

In its current form, the A457 Dudley Road within the scheme area is a wide single-carriageway with no public transport priority, wide crossings for pedestrians and no cyclist provision. Several bus routes operate within the area. The route is impacted by narrow lane widths (averaging ≩ 3m per lane) and the lack of separate provision for right turn movements at closely spaced junctions along the route. This results in delays, unreliable journeys and poor environmental conditions.

Buses are the primary form of public transport for the corridor. Approximately 88 buses one-way use the A457 between 9am and 5pm during weekdays. Bus journeys are generally slow, with the average speeds for buses being around 10mph during both the AM peak (City Centre inbound) and the PM peak (outbound).

Data from 2007 shows that poor reliability impacts bus operation between City Road and Ladywood Middleway. During the AM peak the average journey time is around 514seconds with variation by as much as a 36% (514+ 184s). The same trip in the westbound direction during the PM peak takes an average of 503seconds with the variation of up to 48% (503 + 243secs). 2016 data shows journey times on the corridor have increased, which worsens bus service reliability.

There will be continuous cycle lanes through entirety of scheme, as well as widened footways and DDA compliant crossings. Additionally, the scheme will provide continuous bus lanes and bus priority at signal-controlled junctions. The scheme also provides cycling benefits assessed through AMAT assessment (**Appendix F**).

PART 5 VALUE FOR MONEY

5.1 Appropriateness of data sources and evidence

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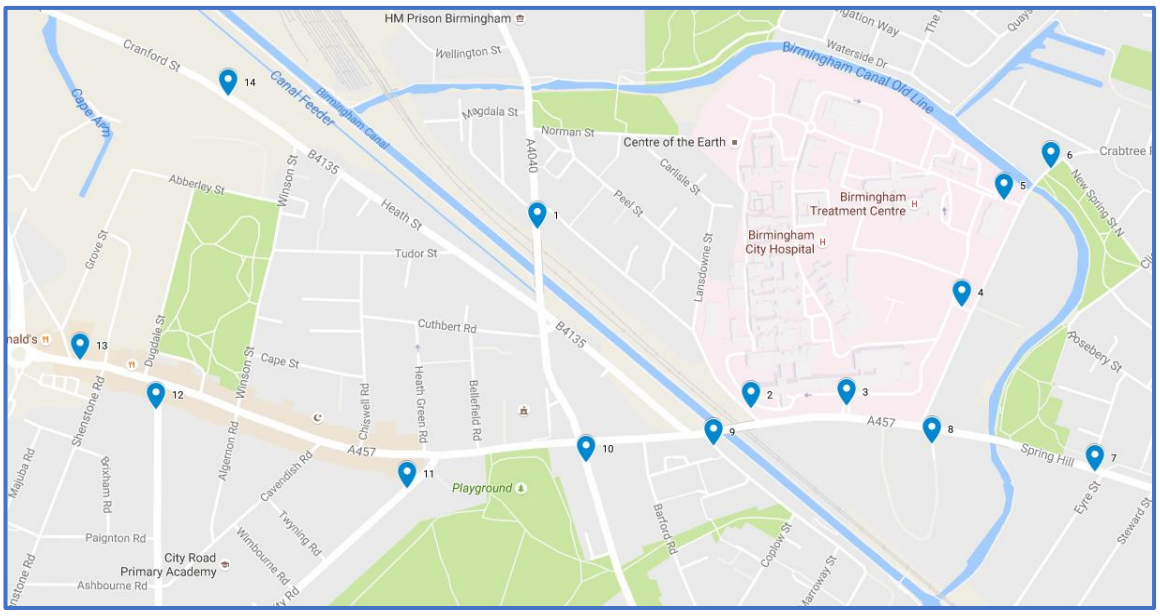
5.1a Please use up to date evidence to demonstrate the scale and significance of local problems and issues. (Limit 250 words)

The figure and tables below are locations of ANPR surveys in September 2016 and a summary of their data.



Average AM Peak (7:00am to 9:00am) journey times between ANPR sites

	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6	Site 7	Site 9	Site 10	Site 11	Site 12	Site 13	Site 14
Site 1			06:23	05:40	07:32	10:07	08:00	04:52	02:22	03:48	03:53	05:28	01:45
Site 2	02:55		01:07	02:11	02:40	02:57	02:18	02:00	02:23	02:04	09:12	02:44	03:34
Site 3	-	01:23			02:25	02:01	00:57	01:53	-	02:00	-	03:23	03:41
Site 4	-	02:29	01:39		00:34	00:49	01:43	03:52	-	03:26	-	04:43	04:39
Site 5	-	-	02:22	01:03		00:24	02:27	-	-	03:13	-	04:24	04:43
Site 6	06:13	02:39	03:01	00:50	00:19		04:25	04:02	03:30	03:35	10:14	04:36	04:48
Site 7	05:18	01:43	01:50	02:38	03:14	04:02		04:31	03:41	02:34	02:46	04:11	03:56
Site 9	01:35	00:49	01:08			01:58	02:17		08:22	00:40	09:06	03:12	01:35
Site 10	02:13	03:46	04:14	05:26	06:08	05:10	04:45	07:05		01:57	05:37	02:35	02:28
Site 11	02:50	03:39	04:06	04:26	04:44	05:00	04:25	04:43	02:03		08:48	-	03:01
Site 12	04:43	-	-	06:43	-	05:46	06:53		06:27	02:18		00:21	01:39
Site 13	04:52	05:39	05:45	05:43	06:51	06:22	06:20	07:04	03:21	03:50	00:19		09:07
Site 14	02:53	04:56	07:16	06:42	06:47	07:11	07:27	07:51	04:07	04:36	-	-	

PART 5 VALUE FOR MONEY

5.1 Appropriateness of data sources and evidence

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Average PM Peak (16:00-18:00) journey times between ANPR sites

	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6	Site 7	Site 9	Site 10	Site 11	Site 12	Site 13	Site 14
Site 1		02:58	-	-	-	08:41	06:43	04:22	02:10	04:03	05:11	05:51	01:56
Site 2	12:42		00:43	01:35	01:55	02:12	01:48	02:19	03:14	03:43	-	04:43	04:22
Site 3	04:16	01:56		-	-	03:01	01:18	04:47	03:46	04:30	-	06:13	05:19
Site 4	06:28	04:16	01:52		00:43	00:49	03:57		07:19	07:43	-	08:57	09:19
Site 5	-	08:26	-	-		00:21	04:23	09:32	10:50	09:56	-	10:11	08:35
Site 6	09:16	05:52	02:58	01:28	00:20		05:52	06:57	08:15	09:22	-	10:25	09:10
Site 7	05:53	03:16	02:27	01:37	02:04	03:33		05:41	05:55	05:53	09:09	08:07	06:32
Site 9	01:35	00:19	01:46	02:51	03:36	01:50	02:15		05:32	01:44	04:37	03:52	02:16
Site 10	02:41	04:02	02:42	04:27		04:27	03:47	04:26		01:57	-	03:24	03:09
Site 11	03:01	02:16	03:05	03:29	05:05	03:39	03:26	03:29	04:21		10:12	05:14	03:16
Site 12	05:36	-	08:50	-	-	06:18	-	-	08:32	06:16		00:45	04:54
Site 13	04:25	04:34	04:22	-	05:42	05:48	05:34	05:16	03:30	03:55	00:40		06:21
Site 14	01:51	03:41	03:20	04:05	04:44	04:52	04:04	04:18	03:29	04:34	01:56	06:31	

Average Inter-Peak (10:00-15:00) journey times between ANPR sites

	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6	Site 7	Site 9	Site 10	Site 11	Site 12	Site 13	Site 14
Site 1		06:40	03:56	03:25	-	06:45	04:49	04:11	01:51	02:30	05:12	05:17	01:45
Site 2	05:32		00:58	01:41	02:14	02:35	01:56	02:07	02:18	02:21	11:18	05:03	03:18
Site 3	04:40	01:30		01:16	01:16	02:02	01:22	02:31	02:11	02:32	04:45	04:44	03:34
Site 4	07:11	03:35	02:45		00:47	00:45	02:18	-	03:49	04:12	-	06:13	05:15
Site 5	06:51	03:26	02:23	01:13		00:24	02:42	04:17	04:38	04:50	-	06:51	05:41
Site 6	07:34	03:00	03:12	00:43	00:19		04:18	04:59	04:53	04:36	08:06	07:01	05:31
Site 7	05:38	02:07	01:38	01:40	02:04	03:48		03:53	04:11	03:30	05:51	06:06	04:15
Site 9	01:23	03:14	00:53	01:21	01:26	01:44	01:22		04:36	01:09	01:17	02:24	01:25
Site 10	02:46	02:25	02:33	03:07	03:32	04:31	04:06	04:16		01:55	03:01	03:34	03:20
Site 11	03:04	02:33	02:33	03:37	03:57	03:57	03:25	03:02	02:13		13:43	04:16	05:03
Site 12	06:00	11:00	04:52	06:11	04:46	07:36	07:36	05:53	04:38	04:08		00:44	02:53
Site 13	06:28	05:27	04:21	05:21	05:53	06:11	05:51	05:56	03:24	03:38	00:46		07:32
Site 14	01:42	02:47	03:13	04:34	04:53	04:58	04:14	03:50	02:46	03:14	12:37	07:59	

Large differences in **journey time** can be seen between the peaks; site 13 to site 6 (along Dudley Road) taking approximately 6 minutes in the inter-peak, but over 10 minutes in the PM peak. The tidal nature of the flows can also be seen, the variability of journey times between sites 7 and 13 (along the length of Dudley Road); taking around 6 minutes westbound in the AM peak (towards Birmingham) but 4 minutes eastbound, whereas in the PM peak the reverse is true (8.5 minutes eastbound, 5 minutes westbound).

The figures and tables below provide a snapshot of **queue lengths** at two main junctions, where data was collected to inform the scheme appraisal. There are

PART 5 VALUE FOR MONEY

5.1 Appropriateness of data sources and evidence

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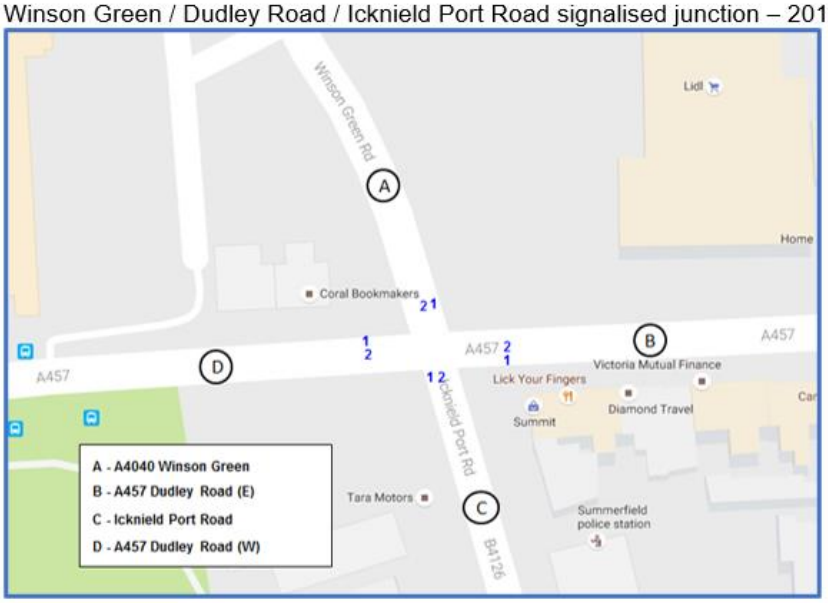
5.1a Please use up to date evidence to demonstrate the scale and significance of local problems and issues. (Limit 250 words)

long queues during both peak periods, particularly on the A457 westbound at the Western Road junction, and at Icknield Port Road northbound at the A457 junction (left lane only, for left and straight-ahead movements).

Winson Green / Dudley Road / Icknield Port Road signalised junction – 2016 queue length surveys



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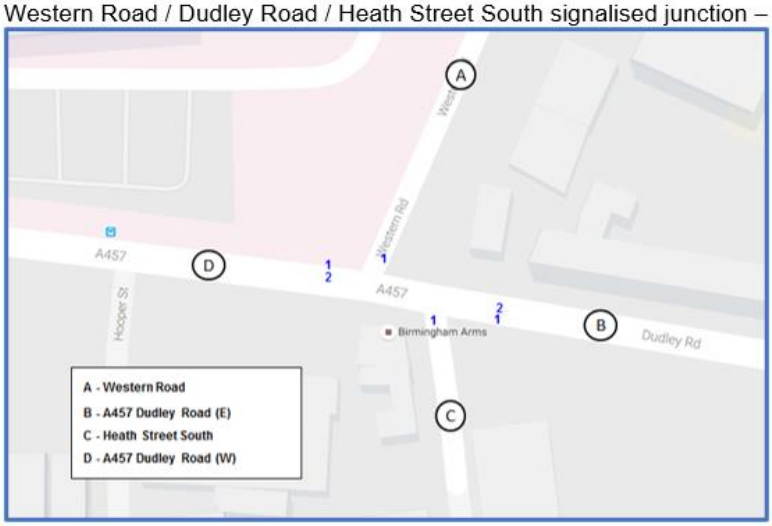
Vehicle queues on Winson Green / Dudley Road / Icknield Port Road signalised junction

Arm-Lane	Queue length	AM Peak (07:30-08:30)			PM Peak (16:30-17:30)		
		Total Vehicles	HGVs	Total PCU	Total Vehicles	HGVs	Total PCU
A-1	Maximum	18	4	19	18	1	18
	Average	16	1	16	13	0	11
A-2	Maximum	13	1	12	15	0	13
	Average	8	0	6	10	0	9
B-1	Maximum	9	1	8	7	1	7
	Average	5	0	5	5	0	5
B-2	Maximum	8	1	8	16	3	17
	Average	5	0	5	15	1	15
C-1	Maximum	29	4	29	33	3	35
	Average	23	1	22	25	1	29
C-2	Maximum	9	1	5	4	0	4
	Average	4	0	3	3	0	3
D-1	Maximum	22	2	23	21	2	16
	Average	19	0	22	9	0	9
D-2	Maximum	25	1	26	18	1	18
	Average	20	0	21	8	0	10

Western Road / Dudley Road / Heath Street South signalised junction – queue length surveys



PART 5 VALUE FOR MONEY

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5.1a Please use up to date evidence to demonstrate the scale and significance of local problems and issues. (Limit 250 words)

Vehicle queues on Western Road / Dudley Road / Heath Street South signalised junction

Arm-Lane	Queue length	AM Peak (07:30-08:30)			PM Peak (16:30-17:30)		
		Total Vehicles	HGVs	Total PCU	Total Vehicles	HGVs	Total PCU
A-1	Maximum	17	2	10	19	1	18
	Average	10	1	8	18	0	18
B-1	Maximum	14	2	16	18	4	19
	Average	7	0	8	12	1	14
B-2	Maximum	16	1	7	17	1	17
	Average	7	0	5	13	0	14
C-1	Maximum	0	0	0	0	0	0
	Average	0	0	0	0	0	0
D-1	Maximum	21	1	20	21	1	19
	Average	19	0	19	15	0	16
D-2	Maximum	20	1	20	21	1	22
	Average	20	0	20	10	0	11

Recent data (2016 to 2018) from Data Insight Tableau shows **accidents** within 50m of the scheme location. The 60 accidents involved 135 recorded casualties. Of these, 24 were serious and 111 slight. 6 of the accidents involved cyclists, with a further 15 pedestrians involved. One of the greatest barriers to cycling is safety. The junctions are complicated high speed, high traffic volume gyratories that are extremely hazardous and unsuitable for cycling.

PART 5 VALUE FOR MONEY

5.1 Appropriateness of data sources and evidence

See technical note Annex B and Table 1 for further guidance.

All costs and benefits must be compliant or in line with HMT's Green Book, DfT Transport Analysis Guidance and MHCLG Appraisal Guidance.

5.1a Please use up to date evidence to demonstrate the scale and significance of local problems and issues. (Limit 250 words)

5.1b Bids should demonstrate the quality assurance of data analysis and evidence for explaining the scale and significance of local problems and issues. Please demonstrate how any data, surveys and evidence is robust, up to date and unbiased. (Limit 500 words)

To provide scientific evidence in demonstrating the benefits of the scheme, an extensive traffic modelling exercise was carried out. Traffic modelling is standard practice to assess highway schemes. For the Dudley Road scheme, the Birmingham City SATURN Variable Demand Model (VDM) traffic model was used. This enables the dynamic changes between modes of transport in response to the changes in congestion. This is a good practice application as well as a requirement of TAG Module M2.

BCC has developed a city-wide SATURN model to enable development of highway scheme options, traffic management and business cases. The model is calibrated and validated to the TAG requirements, with VDM element and forecast years of 2022 and 2037. For the Dudley Road application, the Area of Influence was established through change in modelled flows and the model is cordoned and run through the variable demand model to test the proposed scheme benefits,

PART 5 VALUE FOR MONEY

5.1 Appropriateness of data sources and evidence

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5.1a Please use up to date evidence to demonstrate the scale and significance of local problems and issues. (Limit 250 words)

through developing skim matrices and incorporating into TUBA as a standard application.

Before undertaking a forecasting assessment of the scheme proposal, a robust 2016 Base year model was developed to ensure that the model provides a realistic and unbiased representation of existing traffic conditions and can be used as a base to assess 2022 and 2037 forecasting scenarios. The model data collection and subsequent model development dates to 2016. As the matrix data is sufficiently recent enough and there has been no significant change in population or land use, the data is suitable for the purposes of transport modelling (as per Department for Transport, TAG module M2.2). The base year calibration and validation is reported in TAG compliant Local Model Validation Report produced in 2019 (see **Appendix G**).

The Base model is developed through utilising the WMCA held data from the "data-insight" system. The data is the same data which is utilised to develop the WMCA PRISM strategic model. Origin-Destination data sets are utilised through PRISM prior matrices which covered the Birmingham area. The network and zoning structure are consistent with PRISM model. However, the zoning structure is disaggregated to establish appropriate network loading points in the scheme area. All of the network in the model is simulated within the Birmingham area. Public transport (mainly bus routes and journey times) are coded utilising Remix data sets.

Over 900 sets of link counts have been utilised for the model production, calibration and validation. Model reliability for the journey time for model development and validation is also utilised through Trafficmaster Data. All bus operations within the modelled area have been coded with timetable information and validated as part of the calibration and validation process for flows and journey times.

The base year model was calibrated and validated on link flows and for journey times. Comparison of modelled flows against observed flows shows a high level of correlation. Journey time validation also represents a good match with observed journey times for both AM, IP and PM models. Given the good validation, the base model is deemed to be robust and fit for purpose.

5.1c Please demonstrate that data and evidence chosen is appropriate to the area of influence of the interventions. (Limit 250 words)

The Birmingham City model has been cordoned to capture the lack of benefits of the scheme, which has been utilised to test the Do-Nothing scenario and proposed scheme to establish benefit. The figure below is a map of the SATURN network superimposed with a background map to show the extent of the cordon.

PART 5 VALUE FOR MONEY

5.1 Appropriateness of data sources and evidence

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5.1a Please use up to date evidence to demonstrate the scale and significance of local problems and issues. (Limit 250 words)

The area of influence was identified through analysis of the Do-Something scheme changes in flows and all areas with flow change of 2.5% were included.

Road space reallocation conducted in line with emerging Birmingham Transport Plan to ensure that access for all is achieved by walking, cycling and public transport, as well as managing residual traffic through more efficient junctions. This will comprise of upgrading current signals to more adaptive strategies to minimise unnecessary delays while providing priority to buses.

The Birmingham City model has been calibrated and validated to TAG guidance, the model enables assessment of AM and PM peak and average Interpeak in line with TAG. This model has been cordoned for the area of influence and has been utilised in testing the scheme option leading to economic assessment. The LMVR for the model has been appended to this submission (**Appendix G**). In addition, the forecast model report can be found in **Appendix H.**

5.2 Effectiveness of proposal in addressing problems

PART 5 VALUE FOR MONEY

5.1 Appropriateness of data sources and evidence

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5.1a Please use up to date evidence to demonstrate the scale and significance of local problems and issues. (Limit 250 words)

5.2a Please provide analysis and evidence to demonstrate how the proposal will address existing or anticipated future problems. Quantifiable impacts should usually be forecasted using a suitable model. (Limit 500 words)

Forecasting models (including the scheme) for 2022 and 2037 were developed to assess the scheme benefits. For each forecasting year, two model scenarios were developed representing Do-nothing and Do-Something scenarios respectively. Background traffic growth rates of 10% for year 2022 and 28% for year 2037 were applied as per development plans, constrained to DfT TemPRO forecasts, proportioned in correspondence to the uncertainty log produced and modelled time periods (see **Appendix H**). Additional traffic generated from future development was included in the forecasting models. The model network was also updated to represent future years.

Comparison of the Do-Nothing and Do-Something forecast years are based on turning flows, journey times and overall network performance incorporating flows, Journey times and network speed. While turning flows and journey times focus on junctions and routes, network performance establishes the change in key performance parameters such as total travel time, average speed and average delay for the network as a whole.

The network performance results for the AM peak model can be summarised as follows:

- With the application of 10% growth under the 2022 Do-Nothing AM scenario, the capacity constraints of the existing network are clearly demonstrated with increases to average delay and reduced average speeds.
- With the introduction of the scheme under a 2022 Do-Something scenario, average delay times and average speeds represent an improvement compared to the Do-Nothing conditions. The scheme improves the throughput along the route by 6%, a considerable difference.
- The 2037 Do-Something continues to demonstrate scheme benefits in terms of reductions to average delay and increased average speeds when compared with the respective Do-Nothing scenario. The scheme improves the throughput along the route by 9%, a considerable difference. A table detailing these results in Passenger Car Units (PCUs) is below.

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5.1a Please use up to date evidence to demonstrate the scale and significance of local problems and issues. (Limit 250 words)

Model	DN	DS	% Change
2022 Traffic in to proposed scheme (PCUs)	3940	4175	6%
2022 Traffic out of the proposed scheme (PCUs)	3930	4161	6%
2022 Combined (PCUs)	7871	8336	6%
2037 Traffic in to scheme (PCUs)	3761	4188	11%
2037 Traffic out of scheme (PCUs)	3908	4142	6%
2037 Combined (PCUs)	7669	8330	9%

Journey times have been analysed for the proposed scheme area for with and without the proposed scheme for the forecast year of 2037. For the AM model this shows a maximum average benefit of 108 seconds.

The network performance results for the PM peak model can be summarised as follows:

- With the application of 8% growth under the 2022 Do-Nothing PM scenario, the capacity constraints of the existing network are clearly demonstrated with increases to average delay and reduced average speeds.
- With the introduction of the scheme under a 2022 Do-Something scenario, average delay times and average speeds represent an improvement compared to the Do-Nothing conditions. The scheme improves the throughput along the route by 5%, considered to be a considerable difference.
- The 2037 Do-Something continues to demonstrate scheme benefits in terms of reductions to average delay and increased average speeds when compared with the respective Do-Nothing scenario. These changes are detailed in the table below.

PART 5 VALUE FOR MONEY

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5.1a Please use up to date evidence to demonstrate the scale and significance of local problems and issues. (Limit 250 words)

Model	DN	DS	% Change
2022 Traffic in to proposed scheme (PCUs)	3532	3685	4%
2022 Traffic out of the proposed scheme (PCUs)	3908	4091	5%
2022 Combined (PCUs)	7440	7776	5%
2037 Traffic in to scheme (PCUs)	3830	4030	5%
2037 Traffic out of scheme (PCUs)	4164	4347	4%
2037 Combined (PCUs)	7995	8377	5%

Journey times have been analysed for the proposed scheme area for with and without the proposed scheme for the forecast year of 2037. For the PM model this shows a maximum average benefit of 85 seconds.

5.2b Please describe the robustness of the forecast assumptions, methodology and model outputs. Key factors to be covered include the quality of the analysis or model (in terms of its accuracy and functionality) (Limit 500 words)

Forecasts for the BCC model have been developed in accordance with TAG guidelines (see **Appendix H**). Growth in the demand matrices is based on PRISM 5 growth.
The assessment methodology is based on comparison of assignment statistics and network performance between the base year 2016 and the reference case forecast years of 2022 and 2037.

The PRISM 5 uncertainty log provided the base for the BCC uncertainty log. Developments from PRISM 5 were filtered to provide the developments relevant to the BCC model. Birmingham City Council provided additional advice on the likelihood and year each individual development will be completed. Any developments not included in PRISM but considered to exist in the forecast years are included in the BCC model.

The PRISM forecast matrices have additional zones to the base year zones to accommodate land use changes expected in the forecast years. The additional zones are added to the BCC Base Year and reference case forecast model networks and demand matrices. This maintains matrix dimensional compatibility between all years.

The absolute growth 'within the A4040' between 2016 and the forecast years from the PRISM model was added to the BCC model base year demand matrices. The growth in trips crossing the A4040 and external to A4040 was applied using growth

PART 5 VALUE FOR MONEY

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factors. This is due to the excessive demand crossing the A4040 experienced when developing the BCC model. Effectively, the proportional growth in demand crossing the A4040 and external to the A4040 was included without inheriting excessive demand.

PRISM does not produce 2020 forecasts and therefore the 2021 forecast matrices needed to be adjusted to 2020 for the CAZ modelling analysis. This required an adjustment to NTEM background growth effectively 2016 to 2020 and the removal of any additional developments included in 2021 but not existing in 2020.

Birmingham City Council required additional land use changes which could be accommodated in the reference case networks and demand matrices such as Battery Park and Battery Way. A review of the PRISM uncertainty log and development included in the PRISM forecast matrices provided an additional source of land use changes to include either in the reference case or future year test scenario.

CAZ analysis was required involving user classes to be segmented into compliant and non- compliant vehicle types with the appropriate CAZ charges applied to the networks.

Additional demand from developments not included in the PRISM demand matrices were added to the 'growthed' matrices.

5.3 Economic costs of proposal

5.3a Please explain the economic costs of the bid. Costs should be consistent with the costs in the financial case, but adjusted for the +. This should include but not be limited to providing evidence of costs having been adjusted to an appropriate base year and that inflation has been included or taken into account. In addition, please provide detail that cost risks and uncertainty have been considered and adequately quantified. Optimism bias must also be included in the cost estimates in the economic case. (Limit 500 words)

There has been a successful development funding application to GBSLEP to develop the scheme. Design and build contract by McPhillips has already produced detailed designs for delivery and the final cost estimate. During a Quantified Risk Assessment (QRA), conducted from earlier stages of work to this FBC stage, the risk cost has significantly reduced and so has optimism bias, at this stage we are utilising risk cost based on Mott MacDonald independent assessment and McPhillips costing.

PART 5 VALUE FOR MONEY

5.1 Appropriateness of data sources and evidence

See technical note Annex B and Table 1 for further guidance.

All costs and benefits must be compliant or in line with HMT's Green Book, DfT Transport Analysis Guidance and MHCLG Appraisal Guidance.

5.1a Please use up to date evidence to demonstrate the scale and significance of local problems and issues. (Limit 250 words)

Mott MacDonald are commissioned to produce scheme costs independently.

Costs are adjusted to assessment year 2010 prices for economic appraisal in line with TAG.

For this FBC stage the optimism bias is in line with TAG, which is 3% applied to costs.

The table below shows the scheme cost breakdown in today's prices.

Western Rd Advance Works Included	**Prior Yrs**	**2020/ 2021**	**2021/ 2022**	**2022/ 2023**	**Future Years**	**Total**
	£'000	**£'000**	**£'000**	**£'000**	**£'000**	**£'000**
CAPITAL EXPENDITURE						
Developing a Shelf Ready Scheme (Inc Land Costs)	1,533	3,982	979			6,494
<u>Western Road</u>						
Junction Construction			3,338	400		3,738
Statutory Undertakers		979	721			1,700
<u>Main Scheme</u>						
Development Fees			930	300	300	1,530
Construction				1,373	7,865	9,238
Lee Bridge Structural Improvements				1,000	1,500	2,500
Spring Hill Bridge				500	500	1,000
Statutory Undertakers				1,500	1,000	2,500
Land				1,000		1,000
Monitoring & Evaluation					100	100
Landscaping					150	150

PART 5 VALUE FOR MONEY

5.1 Appropriateness of data sources and evidence

See technical note Annex B and Table 1 for further guidance.

All costs and benefits must be compliant or in line with HMT's Green Book, DfT Transport Analysis Guidance and MHCLG Appraisal Guidance.

5.1a Please use up to date evidence to demonstrate the scale and significance of local problems and issues. (Limit 250 words)

TfWM Bus Shelters					185	185
Total Capital Expenditure	**1,533**	**4,961**	**5,968**	**6,073**	**11,600**	**30,135**

The scheme costs in 2010 prices, including optimism bias used for the economic appraisal, is £15,221k.

5.4 Analysis of monetised costs and benefits

5.4a Please describe how the economic benefits have been estimated. These must be categorised according to different impact. Depending on the nature of intervention, there could be land value uplift, air quality benefits, reduce journey times, support economic growth, support employment, or reduce carbon emissions. (Limit 750 words)

In accordance with the Capital Investment Manual and requirements of HM Treasury's Green Book (A Guide to Investment Appraisal in the Public Sector) the most economically advantageous offer has been selected for the scheme, which best fulfils the strategic objectives and optimises VfM.

The quantitative transport modelling only includes the impact to vehicles on the highway network and does not include the wider benefits through improvements to walking, cycling and public transport reliability.

The modelling, economic benefits and TUBA outputs are based upon work undertaken by Jacobs using a SATURN model developed for BCC.

The use of TUBA is TAG compliant and acts as the DfT's appraisal software for calculating benefits to transport users and providers.

For the purpose of the assessment of the A457 Dudley Road Improvement scheme, DfT's TUBA 1.9.13 (Transport users benefit appraisal) has been used to calculate the economic benefits associated with the scheme from the traffic model runs. This is the latest version of the software at time of the model runs incorporating the TAG Databook values of time as of August 2019. The appraisal has been conducted over a 60-year period.

The Transport Economic Efficiency Table (TEE Table) is an output from TUBA which incorporates the majority of the monetised benefits. It considers the benefits to the user of the transport system due to the scheme. The TEE Table is a standard TAG appraisal table which shows the monetised changes to the transport economy The TEE table showing the journey time and vehicle operating cost benefits is shown below. All values are in £'000s.

Economic Efficiency of Transport System

		ALL MODES	ROAD		
Non-business: Commuting					
User benefits		Total £000s	All Road Users		
Travel time		£15,149	£15,149		
Vehicle operating costs		£595	£595		
User charges		£0			
During Construction & Maintenance		£0			
NET NON-BUSINESS BENEFITS: COMMUTING	*(1a)*	**£15,744**	**£15,744**		
Non-business: Other		**ALL MODES**	**ROAD**		**CYCLING**
User benefits		Total £000s	All Road Users		
Travel time		£13,119	£13,119		
Vehicle operating costs		£778	£778		
User charges		£0			
During Construction & Maintenance		£0			
Additional Cycling Benefits (AMAT)		£1,395			£1,395
NET NON-BUSINESS BENEFITS: OTHER	*(1b)*	**£15,292**	**£13,897**		
Business					
			Road Personal	Road Freight	
User benefits					
Travel time		£900	-£326	£1,226	
Vehicle operating costs		£554	£359	£195	
User charges		£0			
During Construction & Maintenance		£0			
Subtotal	*(2)*	**£1,454**	**£33**	**£1,421**	
		Total £000s	Road		
Private sector provider impacts					
Revenue		£0			
Operating costs		£0			
Investment cost		£0			
Grant/subsidy		£0			
Subtotal	*(3)*	**£0**	£0.00		
Other business impacts					
Developer contributions	*(4)*	£0			
NET BUSINESS IMPACT	(5) = (2) + (3) + (4)	£1,454			
TOTAL					
Present Value of Transport Economic Efficiency Benefits (TEE)	(6) = (1a) + (1b) + (5)	**£32,490.00**			

Notes: Benefits appear as positive numbers, while costs appear as negative numbers.

All entries are discounted present values, in 2010 prices and values

The Analysis of Monetised Costs and Benefits (AMCB) table is shown below. This draws in the information from TEE and Public Accounts and also includes other monetised benefits which for the purposes of this appraisal are Accidents and Greenhouse Gases. All values are in £'000s.

Analysis of Monetised Costs and Benefits (AMCB)

		Total	Road
Noise	*(12)*	£0	
Local Air Quality	*(13)*	£0	
Greenhouse Gases	*(14)*	£379	£379
Journey ambience (incl. rolling stock quality and crowding)	*(15)*	£0	
Physical Activity	*(16)*	£0	
Accidents	*(17)*	£3,428	£3,428
Economic Efficiency: Consumer Users (Commuting)	*(1a)*	£15,744	£15,744
Economic Efficiency: Consumer Users (Other)	*(1b)*	£15,292	£15,292
Economic Efficiency: Business Users and Providers	*(5)*	£1,454	£1,454
Wider Public Finances (Indirect Taxation Revenues)	*-(11) - sign changed from PA table, as PA table represents costs, not benefits*	-£785	
Central PVB		£35,512	
Present Value of Benefits (see notes) (PVB)	*(12)*	**£35,512**	
Broad Transport Budget	*(10)*	**£15,221**	
Present Value of Costs (see notes) (PVC)	*(PVC) = (10)*	**£15,221**	
OVERALL IMPACTS			
Net Present Value (NPV)	*NPV=PVB-PVC*	**£20,291**	
Benefit to Cost Ratio (BCR)	*BCR=PVB/PVC*	**2.33**	

Wider economic benefits are not assessed for this scheme.

A low growth sensitivity test has been conducted for the scheme, the BCR for this sensitivity and core scenario are detailed in the table below.

2010 prices (£'000s)	**Core Scenario**	**Low Growth Scenario**
PVB	£35,512	£27,972
PVC	£15,221	£15,221
BCR	2.33	1.84

High growth scenario has not been progressed to completion. The modelling has demonstrated that the high growth demand for Do-Nothing scenario could not cope with the volume of traffic. Therefore, the Do-Nothing model would not converge and as a result, the high growth scenario benefits would be unrealistically high.

5.4b Please complete Tab A and B on the **appended excel spreadsheet** to demonstrate your:

Tab A - Discounted total costs by funding source (£m)
Tab B – Discounted benefits by category (£m)

See **Appendix I**.

5.5 Value for money of proposal

5.5a Please provide a summary of the overall Value for Money of the proposal. This should include reporting of Benefit Cost Ratios. If a Benefit Cost Ratio (BCR) has been estimated there should be a clear explanation of how this is estimated ie a methodology note. Benefit Cost Ratios should be calculated in a way that is consistent with HMT's Green Book. For non-transport bids it should be consistent with MHCLG's appraisal guidance. For bids requesting funding for transport projects this should be consistent with DfT Transport Analysis Guidance. (Limit 500 words)

The scheme detailed design for Full Business Case is nearing completion. The scheme designs have been coded into Birmingham City Council's detailed SATURN model in line with the TAG Guidance. The modelled scheme outputs are then coded into TUBA for economic benefits and COBA-LT for accident savings. The Benefit Cost Ratio has been calculated by a combination of user benefits from TUBA and accident savings from COBA-LT in line with TAG.

The Core Scenario analysis results are identified as follows:

PVB (Present Value Benefits): £30,689k (TUBA) + £3,428k (COBA-LT) + £1,395 (AMAT)= £35,512k total
PVC (Present Value Costs) *: £15,221k
NPV (Net Present Value) *: £20,291k
BCR: 2.33
A BCR of greater than 2 is considered to be **high value for money**.

The analysis results for the Low Growth scenario are:
PVB (Present Value Benefits): £27,972k
PVC (Present Value Costs) *: £15,221k
NPV (Net Present Value) *: £12,751k
BCR: 1.84

*2010 prices

5.5b Please describe what other non-monetised impacts the bid will have, and provide a summary of how these have been assessed. (Limit 250 words)

Aside from the monetised benefits, it is expected there will be the following qualitative outcomes as a result of the A457 Dudley Road Improvement scheme:

- Remove the single carriageway bottleneck from the network and replace with a continual standard of links and junctions to improve network efficiency and reduce congestion as part of the corridor designation;
- Improve efficiency in the operation of buses through network improvement and junction priority, delivering significant benefits to public transport operations;
- Improve bus interchange between bus services near the City Hospital to improve the level of service between the outer circle and the main routes on Dudley Road;
- Improve safety through network improvement and controlled crossings at junctions and providing better standard links;

- Support Dudley Road/West Birmingham regeneration initiatives through improved accessibility to the existing developments, the Cape Hill development area and assist in improving the Soho Road Centre through transferring A41 status to Dudley Road;
- Reduce the existing severance caused and social exclusion by the lack of facilities for crossing the Dudley Road;
- Improved reliability on 'blue light' routes;
- Contribute to the retention of existing business in the area as well as encouraging interest and investment;
- Aesthetical improvements through the upgrade of bus shelters and improve accessibility through relocation;
- Improve usability of cycling facilities through segregated cycling route and shared facilities;
- Severance will be reduced due to lack of crossing facilities and dedicated cycle routes, and;
- Environmental benefits: Improved air quality and noise reduction

5.5c Please provide a summary assessment of risks and uncertainties that could affect the overall Value for Money of the bid. (Limit 250 words)

There are risks around Compulsory Purchase Orders and associated costs, however, the scheme has been designed to avoid additional CPO requirements. The main risk remains as funding (see attached risk register in **Appendix J**).

There are no planning risks.

5.5d For transport bids, we would expect the Appraisal Summary Table, to be completed to enable a full range of transport impacts to be considered. Other material supporting the assessment of the scheme described in this section should be appended to your bid.

Appraisal Summary Table can be found in **Appendix K**.

PART 6 DELIVERABILITY

6.1 Financial

See technical note Table 1 for further guidance.

6.1a Please summarise below your financial ask of the LUF, and what if any local and third party contributions have been secured (please note that a minimum local (public or private sector) contribution of 10% of the bid costs is encouraged). Please also note that a contribution will be expected from private sector stakeholders, such as developers, if they stand to benefit from a specific bid (Limit 250 words)

Western Rd Advance Works Included	**Prior Yrs**	**2020/ 2021**	**2021/ 2022**	**2022/ 2023**	**Future Years**	**Total**
	£'000	**£'000**	**£'000**	**£'000**	**£'000**	**£'000**
CAPITAL EXPENDITURE						
Developing a Shelf Ready Scheme (Inc Land Costs)	1,533	3,982	979			6,494
Western Road						
Junction Construction			3,338	400		3,738
Statutory Undertakers		979	721			1,700
Main Scheme						
Development Fees			930	300	300	1530
Construction				1,373	7,865	9,238
Lee Bridge Structural Improvements				1,000	1,500	2,500
Spring Hill Bridge				500	500	1,000
Statutory Undertakers				1,500	1,000	2,500
Land				1,000		1,000
Monitoring & Evaluation					100	100
Landscaping					150	150
TfWM Bus Shelters					185	185
Total Capital Expenditure	**1,533**	**4,961**	**5,968**	**6,073**	**11,600**	**30,135**
CAPITAL FUNDING:						
DfT	500					500
GBSLEP		5,043				5043
ITB	9					9
Prudential Borrowing	1,024	-82	2,003	297		3242
Transportation & Highways Capital Programme			250			250
Section 278 Contribution*			1,150			1150
Levelling Up Fund			2,565	5,776	11,600	19941
Total Capital Funding	**1,533**	**4,961**	**5,968**	**6,073**	**11,600**	**30,135**

6.1b Please also complete Tabs C and D in the **appended excel spreadsheet**, setting out details of the costs and spend profile at the project and bid level in the format requested within the excel sheet. The funding detail should be as accurate as possible as it will form the basis for funding agreements. Please note that we would expect all funding provided from the Fund to be spent by 31 March 2024, and, exceptionally, into 2024-25 for larger schemes.

See **Appendix I.**

6.1c Please confirm if the bid will be part funded through other third-party funding (public or private sector). If so, please include evidence (i.e. letters, contractual commitments) to show how any third-party contributions are being secured, the level of commitment and when they will become available. The UKG may accept the provision of land from third parties as part of the local contribution towards scheme costs. Where relevant, bidders should provide evidence in the form of an attached letter from an independent valuer to verify the true market value of the land.

☒ Yes

☐ No

See **Appendix L.**

6.1d Please explain what if any funding gaps there are, or what further work needs to be done to secure third party funding contributions. (Limit 250 words)

The only gap is the funding requested in this Levelling Up Fund application. Funding has been granted through GBSLEP for the scheme to Full Business Case stage and remaining funds are from Birmingham City Council Prudential Borrowing and private sector contribution which are already achieved and banked.

6.1e Please list any other funding applications you have made for this scheme or variants thereof and the outcome of these applications, including any reasons for rejection. (Limit 250 words)

Previously, £560,000 was paid and an OBC application was granted with project development funds of £5,042,750. The approved levels of third-party contribution and prudential borrowing are £1,800,000 and £5,675,000 respectively (16th March 2021 Cabinet Report).

There have been no failed funding bids thus far.

6.1f Please provide information on margins and contingencies that have been allowed for and the rationale behind them. (Limit 250 words)

In the event that this project fails, the following arrangements are in place to support the continued delivery of the required outputs:

- Carry out Post Implementation Review;
- Identify where improvements / changes are required to be made;
- Put in place a delivery strategy to implement the identified improvements / changes; and

- Seek approval and funding, if required.

The Risk Assessment process will record delivery risks throughout the life of the project with associated mitigation measures. Therefore, in terms of delivery risk, the risk assessment process is essentially the control document that would flag up the requirement for a contingency plan and against which task.

6.1g Please set out below, what the main financial risks are and how they will be mitigated, including how cost overruns will be dealt with and shared between non-UKG funding partners. (you should cross refer to the Risk Register). (Limit 500 words)

A full risk register can be found in **Appendix J**. The table below demonstrates a selection of key financial risks associated with the delivery of the programme, the associated consequences, and mitigation where required.

If scheme costs escalate beyond the forecast costs which include risk allowance, Birmingham City Council will be responsible for the additional costs. However, the scheme has been developed to detailed design stage and the costs have been developed by the design and build contractor therefore we have a strong degree of certainty.

The proposed delivery approach for this project follows the same methodology that Birmingham City Council has recently delivered such as Ashtead Circus, which was completed on time and within budget.

Risk	Risk Event	Consequences	Mitigation
Operational Risk	Operating costs vary from budget, poor performance standards or the service cannot be provided.	Additional revenue would be required in the longer term.	Develop detailed operation schedules. Identify service performance standards before additional services are contracted.
Inflation Risk	Actual inflation differs from assumed inflation rates.	Additional costs required to deliver completed programme.	Develop robust financial forecasts. Adjust forecasts to account for any predicted rate change.
Contributions	Failure to secure necessary contributions from partners.	Lower than expected funding, with further importance placed upon the LGF fund.	Ensure funding from diverse range of sources. Continued engagement with partners.
Costing	Project costs are underestimated.	Costs overrun.	Detailed design and robust costing. Contingency fund implemented.

Residual Value Risk	Uncertainty of the value of physical assets at the end of the contract.	Long term reduction in asset value.	Identify value of junction upgrades and possible depreciation at initial design stage.

6.2 Commercial

See technical note Section 4 and Table 1 for further guidance.

6.2a Please summarise your commercial structure, risk allocation and procurement strategy which sets out the rationale for the strategy selected and other options considered and discounted. The procurement route should also be set out with an explanation as to why it is appropriate for a bid of the scale and nature submitted.

Please note - all procurements must be made in accordance with all relevant legal requirements. Applicants must describe their approach to ensuring full compliance in order to discharge their legal duties. (Limit 500 words)

The procurement strategy for delivery was approved by Cabinet on 26th June 2018 as part of the PDD. The works will be procured as a single, two phased (design and construction) contract under the terms and conditions of contract of the NEC3 ECC (dated April 2013), Main Option C – Target Contract with Activity Schedule, through Council's Highways and Infrastructure Works Framework 2014 to 2018, Lot 4 (£500,000+). Note that this framework finished on 30th September 2019 but has been extended by a period for 18 months so that there is a delivery mechanism for all BCC projects until a new framework agreement is arranged. Jacobs support is procured through new 4-year framework operational from September 2020.

The procurement process consisted of Stage 1 - Expression of Interest (EoI) and Pre-Qualification (PQQ) and Stage 2 - Further competition for A457 Dudley Road Improvement scheme. All tendering and communication were carried out on the Council's IN-TEND system.

Seven Lot 4 framework contractors submitted an EoI for the scheme:

Following a PQQ exercise, four contractors were invited to tender on 5th July 2019 under the Council's Highways and Infrastructure Framework Agreement, Lot 4;
- Dawnus Construction Ltd (went into administration on 15th March 2019);
- McPhillips (Wellington) Ltd;
- VolkerFitzpatrick Ltd; and
- Fitzgerald Contractors Ltd.

Tenders were evaluated based on the framework model of 60% Price, 30% Quality and 10% Social Value.

A submission was received from McPhillips (Wellington) Limited by the closing date of 27th August 2019. The other two companies withdrew from the process or did not respond with no reasons given.

McPhillips (Wellington) Limited was the only contractor to submit a tender which was evaluated by representatives from the Council in line with the procurement strategy. The quality and social value were generally compliant, above threshold

and with no issues arising from the evaluation. The basis for the price evaluation was the total of the costs quoted within the Activity Schedule and Compensation Event Scenario (excluding the risk allowances).

An in-depth review of the Activity Schedule was undertaken to understand the pricing. Numerous tender queries were issued and responded to by the tenderer to enable a detailed analysis of the pricing to be undertaken. A value for money exercise was carried out and the rates were compared against similar type projects currently being constructed within the Council to conclude that the tenderer has submitted a compliant tender, validated by the Council's professional technical advisors.

6.3 Management

See technical note Section 4 and Table 1 for further guidance

Delivery Plan: Places are asked to submit a delivery plan which demonstrates:

- Clear milestones, key dependencies and interfaces, resource requirements, task durations and contingency.
- An understanding of the roles and responsibilities, skills, capability, or capacity needed.
- Arrangements for managing any delivery partners and the plan for benefits realisation.
- Engagement of developers/ occupiers (where needed)
- The strategy for managing stakeholders and considering their interests and influences.
- Confirmation of any powers or consents needed, and statutory approvals eg Planning permission and details of information of ownership or agreements of land/ assets needed to deliver the bid with evidence
- Please also list any powers / consents etc needed/ obtained, details of date acquired, challenge period (if applicable) and date of expiry of powers and conditions attached to them.

6.3a Please summarise the delivery plan, with reference to the above (Limit 500 words)

Outline the proposed project management structure including roles and responsibilities.

Task	Completion Date
Compulsory Purchase Order	September 2022
Land Acquisition	September 2022
BCC Approval	FBC for Western Rd Junction Phase 1 Approved 16/3/21 with delivery from June 2021. The main scheme will be delivered following the Commonwealth Games starting in Autumn 2022 at the earliest (subject to funding confirmation) with completion in March 2024.
Detail Design	March 2021
GBSLEP Approval	October 2020 (for OBC)
Scheme Construction	Western Rd Junction Phase 1 is to be delivered from June 2021. The main scheme will be delivered following the Commonwealth Games starting Autumn 2022 at the earliest (subject to funding confirmation) with completion in March 2024.
NWR Approvals	20-Oct-21
CRT Approvals	December 2021
Demolition of necessary buildings	Jan 2022
Services	Start June 2021
TRO	May 2021
High lever overview CPO and Land Acquisition	March 2021, with remaining land subject to CPO
Dudley Road improvement scheme programme (without public inquiry)	Following Commonwealth Games (Autumn 2022 at the earliest) with 18-month delivery programme

The A457 Dudley Road Improvement scheme will be managed at senior level by a Project Board indicated in the above figure including key roles and identified people responsible.

The Project Manager's responsibilities will include:

- Rigorous project monitoring throughout the life of the programme and reporting to the Project Board;
- Monthly review meetings will be held between the Project Manager, Framework Contract Manager and the appointed contractor, to ensure effective delivery against Key Performance Indicators (KPIs), Project Milestones, Objectives and Financial targets; and
- The Project Manager will ensure the detailed monitoring and reporting of any risks, issues or exceptions to the Project Board, throughout the duration of the scheme.

The Project Board will meet with pre-defined regularity and together they will be responsible for project control. They will make decisions within the scope of Cabinet approval and make appropriate decisions on any minor scope alterations. Any exceptional decisions, including decisions outside of the approved scope of the scheme, will be referred to the relevant Cabinet Member and if necessary, the full Cabinet.

Two well established officer groups within the authority, the Transport & Highways Group (THG) and Transport & Highways Board (THB), will provide project assurance. They will scrutinise delivery, finances and procedures, providing

challenge to the Project Manager and Project Board and recommendations for improvements where appropriate.

The project will be managed in accordance with the council's standing orders, financial regulations and governance arrangements as set out in The Constitution. The project management arrangements will be in accordance with the Quality Management System which complies with the requirements of ISO 9001. The Transport Projects team within the Transport and Connectivity section of the Inclusive Growth Directorate will take the project management lead, and Transport Projects team holds Certificate Number: FS 506677 with the BSI for the "Provision of consulting and supervisory services for highway, road safety and transportation schemes, embracing design, project management and site supervision".

To ensure the successful delivery of the contract within the available budget, an up to date scope for each stage of the commission will be agreed by the Project Board, with amendments agreed only in reasonable circumstances. Any changes to scope will be managed through formal change control procedures, as required by the contract.

6.3b Has a delivery plan been appended to your bid? See **Appendix M.**	☒ Yes ☐ No
6.3c Can you demonstrate ability to begin delivery on the ground in 2021-22?	☒ Yes ☐ No

6.3e Risk Management: Places are asked to set out a detailed risk assessment which sets out (word limit 500 words not including the risk register):

- the barriers and level of risk to the delivery of your bid
- appropriate and effective arrangements for managing and mitigating these risk
- a clear understanding on roles / responsibilities for risk

The strategy, framework and plan for dealing with the management of risk are set out in Birmingham City Council's Risk Management Policy, Strategy and Methodology. The risk management process has five key stages to it:

1. Risk / Opportunity Identification;
2. Risk / Opportunity Analysis;
3. Risk / Opportunity Prioritisation;
4. Management of Risks / Opportunities; and
5. Monitoring of Progress and Reviewing Risk Registers.

The Project Manager, with support from the project team, including specialist support, contractors and statutory undertakers, will lead the risk assessment process.

With respect to construction health and safety there is a legal requirement to comply with the Construction (Design and Management) Regulation 2015.

A Risk Management Assessment (Risk Register) has been completed and can be found in **Appendix J.**

6.3f Has a risk register been appended to your bid? See **Appendix J**.	☒ Yes ☐ No

6.3g Please evidence your track record and past experience of delivering schemes of a similar scale and type (Limit 250 words)

Ashted Circus

An example of previous work by BCC is the Ashted Circus project. This was part of the "Pinch Points Ring Road" programme aiming to reduce congestion at key junctions on the Ring Road as well as enhancing facilities for pedestrians and cyclists and improving access to the Enterprise Zone in Birmingham. Total project cost of £8.1m, funded by Local Growth Fund (LGF) and Enterprise Zone (EZ) money. This removed existing roundabout and pedestrian / cyclist subway facilities and replaced them with traffic signal-controlled junction and at grade crossings for pedestrians and cyclists. It was procured using NEC3 Contract Main Option C and delivered as Design and Construct with McPhillips as Contractor and Jacobs as their Designer.

The scheme has improved connectivity and reduced congestion levels, thereby improving journey time reliability.

This project delivered below the allocated budget.

Selly Oak New Road

This scheme comprised of the construction of Selly Oak New Rd through existing Railway/Canal embankments to the south of University Station, Selly Oak. Two tender options were developed – a two bridge option & a tunnel option with the 2-bridge selected as the preferred solution. This alternative provided a more aesthetically pleasing design with substantial whole life cost savings and less risk to Rail and Canal.

The project was successfully handed over to Amey on completion with agreement of final account on completion.

Public and stakeholder feedback was very complimentary. In addition, the scheme won numerous industry awards.

6.3h Assurance: We will require Chief Financial Officer confirmation that adequate assurance systems are in place.

For larger transport projects (between £20m - £50m) please provide evidence of an integrated assurance and approval plan. This should include details around planned health checks or gateway reviews. (Limit 250 words)

Two well established officer groups within the authority, the Transport & Highways Group (THG) and Transport & Highways Board (THB), will provide project assurance. They will scrutinise delivery, finances and procedures, providing challenge to the Project Manager and Project Board and recommendations for improvements where appropriate. A DfT Gateway Review was undertaken in March 2020 by Local Partnerships which provided a positive assessment of the deliverability of the scheme.

6.4 Monitoring and Evaluation

See technical note Section 4 and Table 1 for further guidance.

6.4a Monitoring and Evaluation Plan: Please set out proportionate plans for M&E which should include (1000 word limit):

- Bid level M&E objectives and research questions
- Outline of bid level M&E approach
- Overview of key metrics for M&E (covering inputs, outputs, outcomes and impacts), informed by bid objectives and Theory of Change. Please complete Tabs E and F on the **appended excel spreadsheet**
- Resourcing and governance arrangements for bid level M&E

A completed Monitoring and Evaluation Plan is in **Appendix N**. The monitoring of inputs will consist of scheme build and costs. It is proposed to undertake 6-monthly reviews against each of the elements during scheme construction. The Birmingham City Hospital should be completed in 2022, meaning that the development is likely to be moved around the same time this scheme is completed. Therefore, it is likely that the baseline and outputs will be affected by this change.

The monitoring of scheme build will address the following, (as defined in DfT 2012 Evaluation Framework) and detailed in the table below:

- Programme/project plan assessment, including measures of delivery at key milestones (e.g. implementation log);
- Stakeholder management approaches and lessons learnt from this;
- Risk management effectiveness (assessing impacts from the risk register); and
- Assessment of whether the scheme is on track to deliver the anticipated benefits and details of any benefits realised.

Scheme Build Metric	Monitoring Details	Frequency of Assessment
Programme	• Changes in programme delivery and milestones and how were they mitigated. • Causes of programme slippage or change and how the risks were managed. • Accuracy of SPI forecasts.	6-monthly
Stakeholder management	• Effectiveness of management activities. • Views of statutory and other stakeholders.	Annual
Risk Management	• Main risks encountered during the scheme delivery. • New risks identified post the start of implementation. • Mitigation procedures and measures. • Measures successful in mitigation. • Risks requiring escalation.	6-monthly
Scheme Benefits	• Changes in casual pathways since the baseline logic mapping. • Short term outcomes attributable to the Dudley road improvement scheme. • Comparison of post-delivery outcomes with scheme projections. • Lessons learnt on the relative effectiveness of each scheme element.	Annual

The scheme delivery process and timetable will be monitored against the programme established in the Full Business Case. Key milestones and deliverables will be used to track progress, identifying key issues and reasons for variance from plan.

The scheme cost monitoring will address the following and is detailed in the table below:

- Outturn investment costs broken down into elements in a similar form as for the Major Scheme funding bid; Analysis of risk manifestation in the elements of investment costs;
- Identification of cost elements with savings and identification of the reasons for cost savings;
- Analysis of cost elements with overruns and identification of the reasons for cost overruns;
- Outturn operating costs; including evidence of differences between outturn and forecasts and identification of any reasons for the differences, and
- Outturn maintenance or other capital costs compared with forecasts and any unanticipated costs identified and cause.

Cost Metrics	Monitoring Details	Frequency of Assessment
Outturn Costs	• Cost by scheme element and period. • Comparison with forecast costs.	6-monthly
Risk Manifestation	• Cost of manifest risks. • Scheme elements with manifest risks.	
Cost Element Savings	• Scheme elements generating cost savings. • Reasons for savings materialising.	
Cost Element Overruns	• Scheme elements generating cost overruns. • Reasons for overruns materialising.	
Maintenance/Capital Costs	• Identification of maintenance and operating costs. • Comparison with forecast costs.	

Monitoring Outcomes

The monitoring of the short-term outcomes and impacts of the scheme will be focussed around the assessment of key indicators of change. The approach is summarised as:

- Review of scheme delivery (outputs) as defined in the scheme delivery evaluation;
- Analysis of the change in defined outcome indicators;
- Consideration of the change in scheme context and the likely impact on observed changes;
- Assessment of alternative explanations of observed change (and the counterfactual); leading to;
- The definition of the A457 Dudley Road Improvement scheme contribution to observed changes.

Baseline (pre-construction) and year one post opening monitoring will be undertaken to identify changes in indicators. This will include the assessment of observed changes in travel demand and an increase in active travel. Analysis will include, for each indicator, the assessment of pre-baseline trends, baseline and ex-post values. The logic mapping will be used to track progress following construction, using all available datasets to consider the impacts of the scheme and alternative explanations.

Monitoring requirements will be in line with the DfT's 2012 guidance. Monitoring and data collection is intended to be synchronised with wider BCC data collection where possible, to be undertaken at regular intervals, associated with LTP and wider planning exercises

Resourcing Plan

Although the majority of data is already collected as part of routine monitoring activities, there are areas of additional expenditure required for evaluation. These include process monitoring, additional primary data collection and collation/analysis of data annually. The revenue budget required to deliver the monitoring and evaluation is set out below.

- Process Evaluation Reporting (including End of Construction Report): £22,500
- Baseline Reporting: £27,000

    - Primary data collection: £10,000
- One Year Post Opening Reporting: £29,000
    - Primary data collection: £10,000
- Meetings and Project Management: £8,700

The estimated total cost for undertaking the above monitoring and evaluation activities is estimated to be £87,200. These costs are indicative and should be further refined prior to commencement of works. The figures include a nominal 2.5% annual rate of inflation. The figures are budgeted within the scheme costs.

PART 7 DECLARATIONS

7.1 Senior Responsible Owner Declaration

As Senior Responsible Owner for A457 Dudley Road Improvement Scheme I hereby submit this request for approval to UKG on behalf of Birmingham City Council and confirm that I have the necessary authority to do so.

I confirm that Birmingham City Council will have all the necessary statutory powers and other relevant consents in place to ensure the planned timescales in the application can be realised.

Name: Signed:

7.2 Chief Finance Officer Declaration

As Chief Finance Officer for Birmingham City Council I declare that the scheme cost estimates quoted in this bid are accurate to the best of my knowledge and that A457 Dudley Road Improvement Scheme

- has allocated sufficient budget to deliver this scheme on the basis of its proposed funding contribution
- accepts responsibility for meeting any costs over and above the UKG contribution requested, including potential cost overruns and the underwriting of any funding contributions expected from third parties
- accepts responsibility for meeting any ongoing revenue requirements in relation to the scheme
- accepts that no further increase in UKG funding will be considered beyond the maximum contribution requested and that no UKG funding will be provided after 2024-25
- confirm that the authority commits to ensure successful bids will deliver value for money or best value.
- confirms that the authority has the necessary governance / assurance arrangements in place and that all legal and other statutory obligations and consents will be adhered to.

Name: Signed:

7.3 Data Protection

Please note that the The Ministry of Housing, Communities and Local Government (MHCLG) is a data controller for all Levelling Up Fund related personal data collected with the relevant forms submitted to MHCLG, and the control and processing of Personal Data.

The Department, and its contractors where relevant, may process the Personal Data that it collects from you, and use the information provided as part of the application to the Department for funding from the Levelling Up Fund, as well as in accordance with its privacy policies. For the purposes of assessing your bid the Department may need to share your Personal Data with other Government departments and departments in the Devolved Administrations and by submitting this form you are agreeing to your Personal Data being used in this way.

Any information you provide will be kept securely and destroyed within 7 years of the application process completing.

You can find more information about how the Department deals with your data here.

ANNEX D - Check List Great Britain Local Authorities

Questions	Y/N	Comments
4.1a Member of Parliament support		
MPs have the option of providing formal written support for one bid which they see as a priority. Have you appended a letter from the MP to support this case?	Y	See **Appendix A**
Part 4.2 Stakeholder Engagement and Support		
Where the bidding local authority does not have responsibility for the delivery of projects, have you appended a letter from the responsible authority or body confirming their support?	N/A	Local Authority have responsibility for delivery
Part 4.3 The Case for Investment		
For Transport Bids: Have you provided an Option Assessment Report (OAR)	Y	See **Appendix D**
Part 6.1 Financial		
Have you appended copies of confirmed match funding?	Y	Section 278 Agreement is signed and can be found in **Appendix L**. Prudential borrowing by the Authority of the value of £3.242 million.
The UKG may accept the provision of land from third parties as part of the local contribution towards scheme costs. Please provide evidence in the form of a letter from an independent valuer to verify the true market value of the land. Have you appended a letter to support this case?	N/A	
Part 6.3 Management		
Has a delivery plan been appended to your bid?	Y	See **Appendix M**.
Has a letter relating to land acquisition been appended?	Y	See **Appendix L.**
Have you attached a copy of your Risk Register?	Y	See **Appendix J**.
Annex A-C - Project description Summary (only required for package bid)		
Have you appended a map showing the location (and where applicable the route) of the proposed scheme, existing transport infrastructure and other points of particular interest to the bid e.g. development sites, areas of existing employment, constraints etc.		

Questions	Y/N	Comments
Part 1 Gateway Criteria		
You have attached two years of audited accounts		
You have provided evidence of the delivery team having experience of delivering two capital projects of similar size and in the last five years		
Part 4.2 Stakeholder Engagement and Support		
For transport bids, have you appended a letter of support from the relevant district council		
Part 6.1 Financial		
Have you appended copies of confirmed match funding The UKG may accept the provision of land from third parties as part of the local contribution towards scheme costs. Please provide evidence in the form of a letter from an independent valuer to verify the true market value of the land.		
Part 6.3 Management		
Has a delivery plan been appended to your bid?		
Has a letter relating to land acquisition been appended?		
Have you attached a copy of your Risk Register?		
Annex A-C - Project description Summary (only required for package bid**)**		
Have you appended a map showing the location (and where applicable the route) of the proposed scheme, existing transport infrastructure and other points of particular interest to the bid e.g. development sites, areas of existing employment, constraints etc.		

List of Appendices

Appendix A – MP Support Letter

Appendix B – Consultation Outcome

Appendix C – Scheme Drawings

Appendix D – Option Assessment Report

Appendix E – Logic Map

Appendix F – AMAT Assessment

Appendix G - LMVR

Appendix H – Forecast Model Report

Appendix I – Supplementary Tables

Appendix J – QRA June 2021

Appendix K - Appraisal Summary Table

Appendix L – Section 278 Agreement

Appendix M – Delivery Plan

Appendix N – Monitoring and Evaluation Plan

Appendix O – Regional Mayor Support Letter