

Uppingham Town Council

# Uppingham Bypass Study

Bypass Options Appraisal

0001RP

Draft 1 | 14 May 2021



Uppingham Town Council  
**Uppingham Bypass Study**  
Bypass Options Appraisal

0001RP

Draft 1 | 14 May 2021

This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 279631-00

**Ove Arup & Partners Ltd**  
The Arup Campus  
Blythe Gate  
Blythe Valley Park  
Solihull B90 8AE  
United Kingdom  
[www.arup.com](http://www.arup.com)

**ARUP**

## Contents

---

	Page
<b>1 Introduction</b>	<b>3</b>
<b>2 Planning Policy and Background</b>	<b>4</b>
2.1 Rutland Local Transport Plan 4	4
2.2 Rutland Local Plan	4
2.3 Corby Local Plan and North Northamptonshire Joint Core Strategy	5
2.4 Uppingham Neighbourhood Plan (2013-2026)	5
2.5 Oakham and Uppingham Strategic Transport Assessment (2010)	6
2.6 Uppingham First Community Partnership Briefing Note	7
<b>3 Baseline Conditions</b>	<b>8</b>
3.1 Highway Network	8
3.2 Public Transport	10
3.3 Environmental Constraints	11
3.4 Topographic Constraints	11
3.5 Baseline Traffic Data	12
<b>4 Design Options and Assessment</b>	<b>15</b>
4.1 Options	15
4.2 A6003 Public Realm Enhancements	19
4.3 7.5 tonne Weight Restrictions	20
4.4 RAG Assessment	20
4.5 Cost Estimates	23
4.6 Risks	24
4.7 Other considerations	25
<b>5 Summary, Recommendations and Next Steps</b>	<b>26</b>
5.1 Summary	26
5.2 Recommendations	27
5.3 Next Steps	28

## Tables

Table 1: Bus Services in Uppingham

Table 2: RAG Assessment of Proposed Bypass Options

Table 3: Scheme Cost Estimates

Table 4: Risks associated with each option

## Table 5: Overall Option Summary

### Figures

Figure 1: Uppingham Neighbourhood Plan Development Sites

Figure 2: Known Environmental Constraints

Figure 3: Topographic Model of Uppingham

Figure 4: Survey Locations

Figure 5: Peak hour traffic volumes (total vehicles) on key highways surrounding  
Uppingham

### Appendices

#### Appendix A

Option Drawings

#### Appendix B

Cost Estimate Summary

#### Appendix C

Traffic Data

## Executive Summary

---

Ove Arup and Partners were commissioned by Uppingham Town Council to undertake a feasibility study and desktop assessment into the provision of a north-south oriented bypass of Uppingham Town Centre, running between the A47 to the north of the town, and a point on the A6003 to the south.

Three options were considered, as follows:

- Option 1: Western Bypass between A6003 and A47 (severing Leicester Road);
- Option 1A: Western Bypass between A6003 and A47 (avoiding Leicester Road); and
- Option 2: Eastern Bypass between A6003 and A47.

At the outset of the project consideration was given to an alignment to the west of Uppingham and one to the east of Uppingham. As the project developed it was apparent that there was more scope for variation along the western alignment, and therefore two options were developed for a western alignment and one for an eastern alignment.

Before proceeding to the option appraisal, draft options were shared with representatives from Uppingham Town Council. Following these discussions refinements were made to the options, and consensus was reached on the concept designs to be taken forward to the appraisal stage.

An indicative / outline design was prepared for all three options, which sought to avoid sensitive environmental areas and took into consideration plots of land covered by the current Neighbourhood Plan, and aspirational areas of residential extension as identified by representatives of the town council.

An appraisal process was undertaken for all three options, which identified advantages and disadvantages against a number of criteria, and which provided a broad estimate of the cost and identification of risks to delivery.

Option 1A, which proposed a western bypass that avoids severance of Leicester Road, is considered to provide the largest overall benefit whilst minimising impacts and providing a deliverable solution. The alignment could be constructed in a phased approach, and could tie into aspirational future residential expansion to the south-west side of Uppingham town centre. At this early feasibility stage, Option 1A is anticipated to cost approximately £13.2M (see basis of cost estimate in section 4.4), subject to design development.

Option 1, which also proposes a western bypass alignment, is considered to offer the second-best approach overall, but results in increased detrimental impacts in terms of disruption to existing residential properties through the severance of Leicester Road. It also impacts the plots of land highlighted by Uppingham Town Council for potential residential uses.

Option 2, which proposes an eastern bypass alignment, is expected to result in significantly increased impacts in terms of cut / fill requirements and the requirement

for an elevated structure to bridge the valley north of Seaton Road. This would result in increased severance of plots, where access to either side of the bypass would be restricted due to the scale of excavation necessary.

Draft

# 1 Introduction

---

Arup have been commissioned by Uppingham Town Council to undertake a feasibility study and desktop assessment, for consideration of options for the provision of a bypass of Uppingham town centre. The assessment considers existing issues with volumes of traffic passing through Uppingham along the A6003, and seeks to identify the most suitable north-south bypass alignment when appraised against a series of criteria.

As part of the exercise a high-level, broad cost estimate for construction has been provided, together with the identification of risks to delivery and potential opportunities.

The remainder of this report is set out as follows:

- Chapter 2: Planning Policy and Background;
- Chapter 3: Baseline Conditions;
- Chapter 4: Design Options and Assessment; and
- Chapter 5: Summary, Recommendations and Next Steps.

## 2 Planning Policy and Background

---

Uppingham Town Council identified an existing problem with volumes of traffic passing through the town centre, in particular HGV traffic, a situation that is anticipated to worsen in the future given plans for further development south and north of Uppingham, particularly in and around Corby and Oakham. Sections of highway within the town centre are constrained in width, which at peak times can lead to congestion and problems with two-way HGV manoeuvres.

The study has been prepared with consideration to documents including the Uppingham Neighbourhood Plan (2013-2026), and the Arup prepared report 'Oakham and Uppingham Strategic Transport Assessment' (2010).

### 2.1 Rutland Local Transport Plan 4

'Moving Rutland Forward 2018-2036' is the title of Rutland County Council's Local Transport Plan 4 (LTP4), which provides the county wide vision for the transport network. It sets out a number of strategic aspirations and policies related to the delivery of sustainable population and economic growth.

LTP4 highlights the A6003 as providing the main north-south route between Oakham, Uppingham and Corby, which also acts as the main public transport corridor between these areas. The document makes no mention of the provision of specific new infrastructure within Uppingham, but highlights the likelihood of increased volumes of HGV traffic throughout Rutland county.

### 2.2 Rutland Local Plan

The Rutland Local Plan 2018-2036 has been prepared with consideration to the contents of the Uppingham Neighbourhood Plan. The local plan sets out a number of strategic aims, including 'Delivering Sustainable Development' and 'Vibrant Communities'.

It goes on to refer to proposed housing developments in neighbouring local authorities, and notes that some 2,340 houses are planned to be developed within Rutland itself within the period 2018-2036. Mention is made of "*...some modest growth in the towns of Oakham and Uppingham...*" (para 4.10), in addition to the planned garden town at St. Georges Barracks.

Policy SD2 notes that in order to meet the strategic objectives of the Local Plan, allocations of land will provide for new homes and employment opportunities, in accordance with the Uppingham Neighbourhood Plan.

Policy E1 also highlights various sites throughout Rutland as being strategic employment allocations, including a 6.8ha site at Uppingham Gate (policy ref. E1.1).



### 2.2.1 St. Georges Barracks Masterplan

Oakham is located around 6 miles north of Uppingham on the A6003. As part of the emerging Rutland County Council (RCC) Local Plan, a new settlement at St. Georges Barracks is proposed, which will comprise:

- Approximately 2,215 new dwellings;
- 14 hectares of employment land; and
- Community facilities and a local centre, amongst others.

The masterplan and associated Transport Assessment proposes a number of junction improvements along the A6003 and A47, none of which are local to Uppingham.

## 2.3 Corby Local Plan and North Northamptonshire Joint Core Strategy

As noted previously, Corby is located some 8.6 miles to the south of Uppingham along the A6003. Continuing south along the A6003, Kettering is located 18 miles south of Uppingham on the A14 east-west route which provides ongoing access to Felixstowe and Harwich.

The Local Plan for Corby comprises two main documents:

- North Northamptonshire Joint Core Strategy (JCS); and
- The Part 2 Local Plan for Corby, noting that this document is currently at examination stage awaiting the Inspector's report.

The Local Plan for Corby notes that: *“Corby is a well-established growth area, with an agenda to double the population toward 100,000 people by 2030.”* Reference is made to the A6003 as one of several *“excellent strategic connections”*. Additionally, the Local Plan and JCS outline the following growth proposals:

- Over 160 hectares of land to meet strategic employment requirements;
- At least 9,200 new dwellings; and
- A Strategic Opportunity of 5,000 dwellings (based on population targets).

For Kettering, the JCS includes strategic development allocations of:

- At least 6,190 new dwellings (between 2011 and 2031); and
- A job creation target of 8,100 to include strategic logistics and a 40-70 hectare employment site.

## 2.4 Uppingham Neighbourhood Plan (2013-2026)

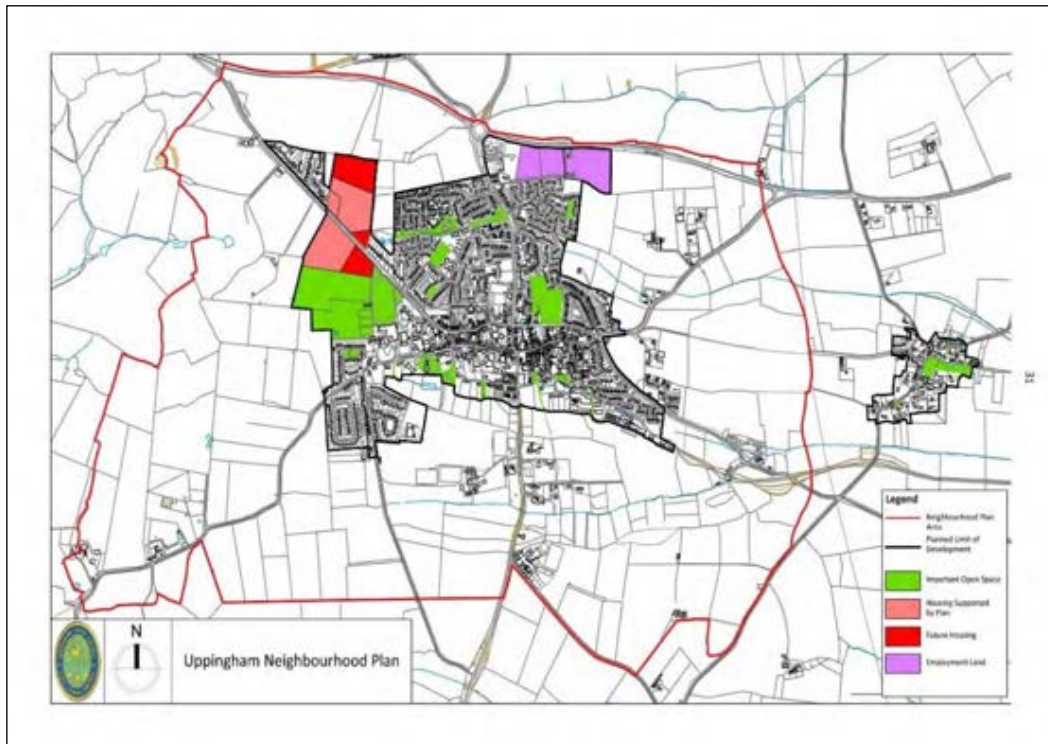
The Uppingham Neighbourhood Plan<sup>1</sup> (UNP) sets out a number of policies which are designed to retain and enhance the town's values. These policies, amongst others,

---

<sup>1</sup> <https://www.rutland.gov.uk/my-services/planning-and-building-control/planning/neighbourhood-planning/uppingham-neighbourhood-plan/>

include plans to construct additional areas of housing and commercial development as set out in Figure 1 below.

Figure 1: Uppingham Neighbourhood Plan Development Sites



The plan, shown in Figure 1, highlights areas of proposed residential development to the west of the town centre, accessed from either side of the Leicester Road. The Neighbourhood Plan seeks to provide approx. 170 new dwellings (of which a number have already been developed) off Leicester Road. Additionally, the plan shows an area of approx. 3ha of employment related development opportunity at Uppingham Gate, to the north of the town centre and bounded by the A47.

## 2.5 Oakham and Uppingham Strategic Transport Assessment (2010)

Arup were commissioned by Rutland County Council (RCC) in 2010 to prepare a strategic transport assessment, which sought to evaluate the impact of a number of residential and employment development sites in Oakham and Uppingham.

As part of this report, high-level studies were undertaken to assess issues associated with the construction of a bypass around Uppingham. Outline corridor options were developed, which identified specific routing issues, physical constraints, cost implications / benefits and risks for key transport users.

The study concluded that a western bypass alignment would be favourable for a number of reasons, including:

- Reduced need for cut / fill and structure when compared to the eastern alignment;

- The potential for a western route to tie into the existing A6003 / A47 alignment (not investigated as part of this report due to plots of land being ‘reserved’ as part of the neighbourhood plan);
- Reduced physical constraints;
- Ease of tying a western alignment into existing junctions, compared to an eastern alignment; and
- Potential for a western alignment to tie into potential development land, forming the first link in a bypass.

The report also summarised existing traffic conditions around Uppingham, and noted that the A6003 forms the main route between Oakham to the north and Corby to the south. A numberplate survey showed that approximately 40% of traffic using the A6003 in Uppingham was through-traffic.

## 2.6 Uppingham First Community Partnership Briefing Note

A short briefing note was provided to Arup by Councillor Ron Simpson, in relation to the potential for a north / south Uppingham Bypass and the ‘South East Economic Development Zone’.

The note highlights existing issues with access to the primary commercial zone (Station Road industrial estate) and refers to text within the Parish Plan which states:

*“Consideration should be given to the redevelopment of the Station Road site...with additional access from Seaton Road...”*

An eastern bypass has the potential to provide improved access to existing residential and commercial development and open up and enable any future development on land to the east of Uppingham.

All of the above planned developments in Corby, Kettering and Oakham suggest that increases in traffic volumes through Uppingham could reasonably be anticipated as the developments are built out.

## 3 Baseline Conditions

### 3.1 Highway Network

The study area comprises the entirety of Uppingham, from a point south of the town centre on the A6003 London Road to the A47 which defines the northern boundary of the town.

The A6003 is the main north-south road passing through Uppingham, and links Corby to the south with destinations such as Oakham, Melton Mowbray and Nottingham to the north. Throughout Uppingham, it is formed of a two-lane single carriageway which provides access to the town centre and predominantly residential roads. Various junction types are present along the section of route considered in this study, including a signalised crossroads within the town centre.



Notably, within the town centre a section of the A6003 near to the junction with High Street East and West is subject to localised narrowing imposed by existing buildings. This width restriction can result in congestion and delays due to HGVs occasionally encountering difficulties in being able to pass each other. The historic value of the buildings forming the width restriction means it is not considered feasible to mitigate this issue through carriageway widening or realignment.

Key junctions along the A6003 within the town centre include the staggered give-way priority crossroads with High Street East / High Street West, and the signalised crossroads with North Street East / North Street West. These junctions accommodate the major east-west movements as they cross the A6003, and provide direct access to the town centre area of Uppingham. Numerous other junctions are provided to the north of the town centre, the majority of which are give-way priority junctions that provide local access to residential areas.

Generally, on-street parking is prevented on the A6003 within the built up area of the town, through the application of double yellow line or single yellow line limited waiting restrictions. A short length of formal on-street parking is provided along the eastern kerb of the A6003, some 60m to the north of the junction with North Street

East. Continuing north along the A6003, parking restrictions are removed from both sides of the carriageway from the junction with Wheatley Avenue.



Pedestrian provision is considered adequate along the A6003 throughout the town centre, with footways generally provided along both sides of the carriageway, which vary in width from 1.6 to 2.0m. Some localised width restrictions are however evident in the most constrained locations, such as the vicinity of St. Peter and St. Paul church and around the junctions with High Street East / West. A standalone signalised crossing is located to the south of the junction with High Street East, with formal crossings incorporated within the signalised crossroads junction between A6003 and North Street West, on the southern and western arms only. North of the town centre there are two other signalised pedestrian crossings of the A6003, adjacent to Twitchbed Lane and The Beeches. South of the town centre, a signalised crossing is provided near to the Middle Playing Fields access, which defines the southern extent of the footway along the western edge of the A6003. To the south of this crossing point, a footway is only present on the eastern kerbline, which continues as far south as Uppingham Community College. South of this point, no footways are present along the A6003.

Bus stops are provided at regular intervals along the A6003 within the built up area of the town, the majority of which are provided as on-carriageway stops rather than in laybys. A single bus layby is present on the southbound exit from the A47 roundabout, to prevent traffic from queuing back onto the A47.

A 300 yard length of traffic calming is provided on the A6003 to the immediate south of the town centre, to the south of the junction with South View to a point south of the Middle Playing Fields access.

The speed limit of the A6003 from the junction with the A47 to the south of the town centre is 30mph, with the limit changing to NSL (National Speed Limit) around 120m south of Uppingham Community College.

North of Uppingham, the A47 is a single carriageway two lane road which runs in an east-west orientation, and links Leicester in the west with destinations including



Stamford and Peterborough to the east. Neither the A6003 or A47 are classified as trunk roads.

A number of classified and unclassified roads provide access between rural areas, villages and Uppingham, in the form of radial routes which connect to various points of the A6003. These include roads such as the B664 Stockerston Road to the south-west, Leicester Road to the north-west (which links Uppingham town centre to the A47), Seaton Road to the south-east and Glaston Road to the north-east (which also links to the A47). These radial routes are generally two-lane single carriageways with a rural, constrained nature.



### 3.2 Public Transport

A limited number of buses currently travel through Uppingham, along the A6003 and using the B664 Leicester Road / North Street East.

Table 1: Bus Services in Uppingham

Bus Service	Route	Peak Hour Frequency (minutes)
12	Uppingham to Stamford	5 per day
747	Uppingham to Leicester	120
R47	Oakham to Peterborough (school service only)	2 per day
RF1	Rutland Flyer: Oakham to Melton Mowbray	60

Table 1 demonstrates that there are relatively few services which travel through Uppingham in the peak periods, or throughout the day. Notably however, a number of the bus service frequencies were listed as being affected by Covid-19, so Table 1 may not be representative of 'normal' provision.

### 3.3 Environmental Constraints

Environmental constraints have been assessed using the Magic Map ArcGIS tool from Defra, which lists out relevant information such as scheduled monuments, listed buildings, protected woodland etc.

Figure 2: Known Environmental Constraints

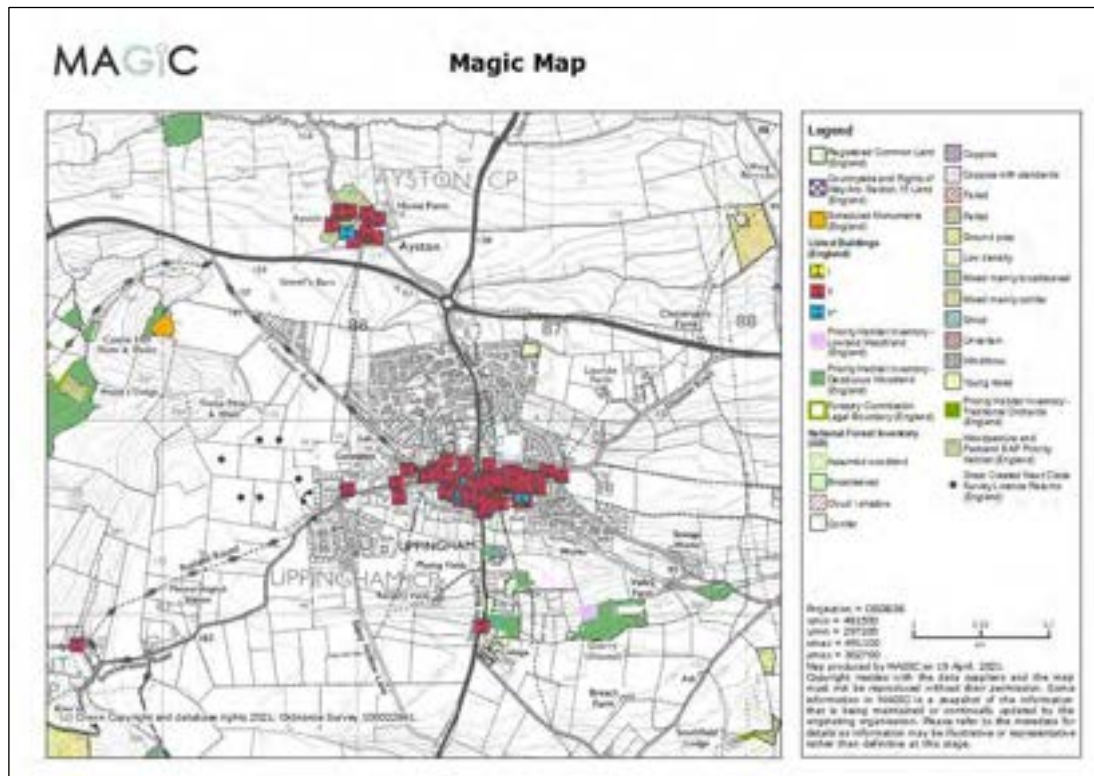


Figure 2, above, shows that surveys have previously been undertaken which indicated the presence of great crested newts to the west of the town centre. To the south and east of the town centre, areas of priority habitat deciduous woodland and heathland are identified. South of the town centre, a brook on an east-west alignment crosses the A6003 to the south of the junction with Gipsy Hollow Lane. West of the town centre, the land falls into a valley to the west side of the cricket club. There are no other known environmental constraints which would significantly influence the alignment of a proposed bypass to either the east or west side of Uppingham, with the exception of potential visual impacts.

### 3.4 Topographic Constraints

Topographic issues and constraints have been primarily identified through the use of Ordnance Survey Landform Panorama data and Google Earth vertical profile information, to interpolate an approximate ground surface model, as shown in Figure 3 below. In conjunction with site visits and observations, this is considered to provide a sufficient level of initial detail to assess potential feasibility stage alignments.

Figure 3: Topographic Model of Uppingham



Contains Ordnance Survey Data Crown copyright and database right 2021

The ground surface model shown in Figure 3 above highlights and reflects the on-site observations that Uppingham is generally constrained by significant changes in level, particularly to the east of the town centre where levels fall away into local valleys. West of the town centre however, there is a relatively level area where ground levels are largely similar to those within the town centre, and the provision of a bypass would therefore be more straightforward in terms of structural requirements and reduced cut / fill volumes.

### 3.5 Baseline Traffic Data

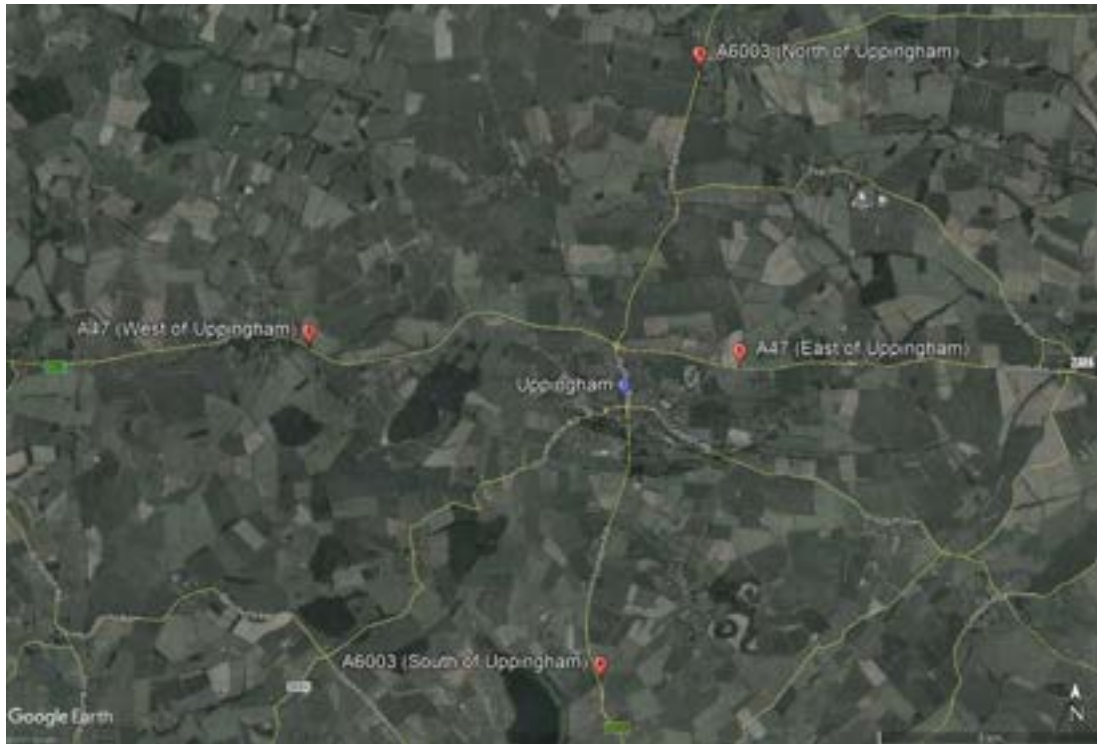
Traffic data was obtained at the following locations:

1. A47- East of Uppingham (Monday 2<sup>nd</sup> to Friday 6<sup>th</sup> October 2019);
2. A47- West of Uppingham (Wednesday 5<sup>th</sup> October 2016);
3. A6003- North of Uppingham (Friday 20<sup>th</sup> April 2018); and
4. A6003- South of Uppingham (Thursday 7<sup>th</sup> July 2016).



A plan showing the survey locations is provided below.

Figure 4: Survey Locations



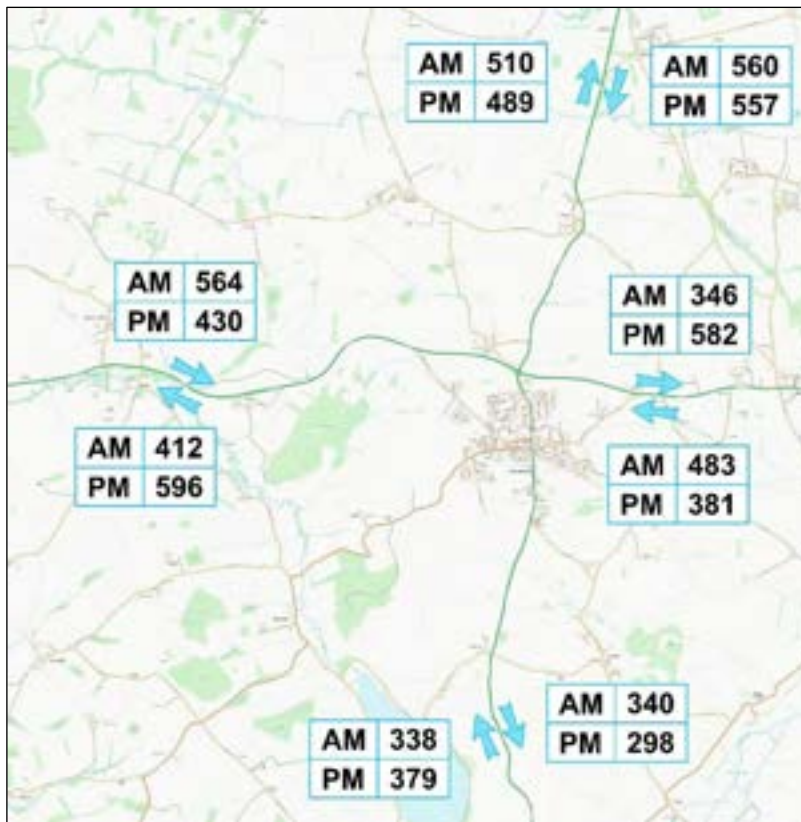
With the exception of the A47 (East) location, these surveys provided two-way, 12 hour classified volumes of traffic along each road, on a specific day. The A47 (East) survey is a static survey location which records traffic volumes across a 24 hour period, over periods of time. The latest available weekday dataset from this location was undertaken between Monday 2<sup>nd</sup> to Friday 6<sup>th</sup> October 2019, and as such this information has been used for the purposes of comparison, with the flow values averaged out.

Unfortunately, no junction turning count was available at the roundabout junction between the A47 and A6003, north of Uppingham. Furthermore, any new traffic surveys would be unreliable due to the impact of the Covid-19 pandemic on traffic volumes.

A junction turning count would help us to understand the dominant movement of traffic i.e. for traffic heading northbound is the dominant movement westbound, northbound or eastbound? Knowing this helps us to understand the effectiveness of any chosen alignment. For instance, if the dominant movement is westbound towards Leicester, an eastern alignment would be less effective than a western alignment in reducing through traffic in the village. In the absence of such information we have had to rely on the information available.

Figure 5, below, translates the survey data onto a map base which graphically shows two-way peak hour traffic volumes at locations within the vicinity of Uppingham.

Figure 5: Peak hour traffic volumes (total vehicles) on key highways surrounding Uppingham



From analysis of the traffic data in shown in Figure 5 the following points are identified. Along the A47 corridor:

- there is evidence of tidal traffic flows with a higher eastbound flow in the AM peak and a larger westbound flow in the PM peak; and
- combined peak hour two-way traffic volumes are approximately 10% higher west of the A6003, approximately 2,000 vehicles, then volumes east of the A6003, approximately 1,800 vehicles.

Along the A6003 corridor:

- there is no strong indication of tidal flow movements; and
- combined peak hour two-way traffic volumes are approximately 50% higher north of the A47, approximately 2,100 vehicles, then volumes south of the A47, approximately 1,350 vehicles

Beyond this simplistic analysis it is difficult to draw any more meaningful conclusions from the traffic data. New traffic survey data would be required in order to provide a better understanding of traffic volumes and movements within and around Uppingham. However, it is not feasible to undertake new traffic surveys until the Covid-19 pandemic is considered over and traffic volumes and movements return to so called normal conditions.

The available traffic data is provided within Appendix C.

## 4 Design Options and Assessment

---

### 4.1 Options

At the outset of the project, consideration was given to an alignment to the west of Uppingham and one to the east of Uppingham. As the project developed it was apparent that there was more scope for variation along the western alignment and therefore two options were developed for a western alignment and one for an eastern alignment.

Before proceeding to the option appraisal stage, options were shared with representatives from Uppingham Town Council. Following these discussions refinements were made to the options, and consensus was reached on the concept designs to be taken forward to the appraisal stage.

The following options have been considered in terms of providing a north-south bypass around Uppingham, between the A6003 to the south of the town centre to the A47 in the north:

- Option 1: Western Bypass (severing Leicester Road);
- Option 1A: Western Bypass (avoiding Leicester Road); and
- Option 2: Eastern Bypass.

Indicative route options have been developed using Ordnance Survey 1:1250 Mastermap mapping, together with Google Earth height information and on-site observations. These routes have been designed to Design Manual for Roads and Bridges (DMRB) standards, using a 40-50mph design speed (depending on superelevation used). The routes have generally sought to avoid sensitive environmental constraints, and work around constraints which have been highlighted as part of discussions with the client body.

The design standards used to create the bypass alignments are important in terms of route attractiveness, as a bypass will typically be required to provide a more convenient journey with a reduction on journey length. However, it is noted that the options nevertheless assume the provision of HGV weight limit restrictions throughout Uppingham, as discussed in section 4.2.

The following sections provide detail on the proposed alignments.

#### **Option 1: Western Bypass (severing Leicester Road)**

An indicative layout for Option 1 is shown on drawing CH001, as provided in Appendix A.

In this option, a wide two-lane single carriageway bypass alignment is provided to the west of Uppingham, which begins at a point south of the junction between the A6003 London Road and Lyddington Road.

Travelling west from the A6003, the bypass alignment generally runs along gentle gradients which seeks to avoid the requirement for significant amounts of cut or fill. The alignment severs Gypsy Hollow Lane along the section which is currently an

unpaved track, before continuing west to form a four-arm roundabout junction with Stockerston Road. Continuing north from Stockerston Road, the bypass travels through a plot of land located between the boundary of Uppingham Cricket Club and the recently constructed residential area accessed from Leicester Road.

A new four-arm roundabout is formed to the immediate north of the cricket club, with a two-lane link road provided to Leicester Road along the alignment of the existing cricket club access. The proposed bypass alignment continues in a north-westerly direction to minimise impact on the plot of land west of the cricket club access road, before angling north to cut across the alignment of Leicester Road on the western extent of the residential area. This alignment results in the severance of a section of Leicester Road to the west of the proposed bypass alignment. Similarly, the section of Leicester Road to the east of the bypass alignment is re-configured into a dead-end road, with a turning head indicated.

To the north of Leicester Road, the proposed alignment continues for approximately 300m before tying into the A47 via a new three-arm roundabout. West of the proposed A47 roundabout, the existing junction with Leicester Road is shown as being retained to provide access to the cemetery.

The position of the bypass relative to existing and proposed residential areas suggests that there may be some potential to encourage sustainable travel, particularly if additional residential development took place alongside the bypass.

The overall length of the bypass from its southern extent to the proposed junction with the A47 is 1.78 miles (2.86km).

The advantages of this option are:

- The bypass will remove through traffic from the A6003 through Uppingham, in particular for traffic movements heading to / from Leicester and the West Midlands region and north-south through traffic movements between Corby / Northamptonshire in the South and Oakham / Nottinghamshire / Lincolnshire in the North;
- The bypass design minimises cut / fill by following a relatively level alignment;
- The alignment maximises opportunities for the provision of a bypass in a staged approach, due to the segmented design linking existing radial roads;
- The location of the bypass relative to the proposed residential areas provides a potential opportunity to seek developer S278 contributions associated with planned housing developments;
- The bypass would present opportunities for sustainable travel (i.e. walking and cycling) in the event that housing was constructed in the near vicinity;
- Shortest overall diversion length and bypass length.

The disadvantages are:

- This option will be less effective than an eastern bypass at removing through traffic heading to and from areas to the east, Peterborough, Cambridgeshire etc;
- The bypass is in close proximity to existing residential properties along Leicester Road, and severs the existing alignment of Leicester Road leaving a dead end;

- An existing right of way (Gipsy Hollow Lane) is severed;
- No benefits are gained in terms of linking up with aspirational plans to extend the industrial area near to Station Road.

### **Option 1A: Western Bypass (avoiding Leicester Road)**

An indicative layout for Option 1A is shown on drawing CH002, as provided in Appendix A.

In this option, the proposed bypass alignment remains the same as Option 1, between the southern junction with the A6003 to the point at which a new four-arm roundabout is proposed adjacent to the cricket club.

From this point and continuing west, the alignment of the bypass seeks to minimise impacts on the plot of land to the west of the cricket club access, and passes south-west of an existing farm building before tying into a three-arm roundabout junction with the A47.

As per Option 1, a two-way link is provided between the bypass and Leicester Road, along the alignment of the existing cricket club access road. Unlike Option 1 however, a one-way entrance to Leicester Road is provided for vehicles travelling south along the bypass, at a point south of the proposed A47 roundabout junction. Vehicles are not able to re-join the bypass from Leicester Road at this location, and would instead be required to travel south before accessing the bypass at the proposed cricket club roundabout.

The overall length of the bypass from its southern extent to the proposed junction with the A47 is 1.82 miles (2.9km).

The advantages of this option are:

- The bypass will remove through traffic from the A6003 through Uppingham, in particular for traffic movements heading to / from Leicester and the West Midlands region and north-south through traffic movements between Corby / Northamptonshire in the South and Oakham / Nottinghamshire / Lincolnshire in the North;
- The bypass design minimises cut / fill by following a relatively level alignment;
- The alignment maximises opportunities for the provision of a bypass in a staged approach, due to the segmented design linking existing radial roads;
- The location of the bypass relative to the existing and proposed residential areas provides a potential opportunity for developer S278 contributions associated with planned housing developments;
- The bypass would present opportunities for sustainable travel (i.e. walking and cycling) in the event that housing was constructed in the near vicinity;
- The design seeks to utilise existing infrastructure / access corridors such as the cricket club access, to minimise works and disruption where possible;
- The bypass alignment is pushed further away from existing residential properties on Leicester Road, minimising potential noise disturbance;



- The impact on plots of land to the north / west of the cricket club, highlighted by the town council as being suitable for aspirational residential development, is minimised.

The disadvantages are:

- This option will be less effective than an eastern bypass at removing through traffic heading to and from areas to the east, Peterborough, Cambridgeshire etc;
- The bypass affects a number of mature trees in the vicinity of the proposed junction with the A47;
- An existing right of way (Gipsy Hollow Lane) is severed;
- No benefits are gained in terms of linking with aspirational plans to extend the industrial area near to Station Road.

## **Option 2: Eastern Bypass**

An indicative layout for Option 2 is shown on drawing CH003, as provided in Appendix A.

This option seeks to provide an easterly bypass alignment, which begins at a point approx. 200m south of the junction between the A6003 and Lyddington Road, and continues around the eastern periphery of the town to meet a new junction with the A47.

A three-arm roundabout is formed at the southern extent of the bypass, which continues in an easterly direction from the A6003 and severs the existing alignment of Lyddington Road. As the bypass severs the road, a new give-way priority junction is proposed for the southern section of Lyddington Road, with the northern section retained as a dedicated access to Uppingham Community College.

Continuing east from Lyddington Road, the bypass alignment approaches the junction with Seaton Road, where a new four arm roundabout is proposed to the west of the existing crossroads junction with Main Street. There may be opportunities to simplify this arrangement, by enlarging the proposed roundabout and incorporating Main Street within the proposed design. Notably, should the aspirational extension to the industrial area on Station Road be progressed, it would be necessary to provide significant improvements to the alignment of Seaton Road to the west of the bypass. Currently the alignment is not suitable for volumes of HGV movements and widening / realignment would be necessary along a significant length of road.

North of the proposed Seaton Road roundabout, there are a series of topographical challenges to overcome as the proposed bypass alignment crosses the alignment of the dismantled railway along the bottom of a valley. In order to cross the valley floor, elevated structure would be required to accommodate the bypass alignment, in the form of a bridge / viaduct or extensive earthworks.

To the north of the railway line, the valley side rises steeply along the line of the bypass, which again suggests that significant earthworks / cut would be required to accommodate the proposed alignment.

Continuing north, the bypass crosses the alignment of Glaston Road where it is proposed to sever the alignment and provide a relocated junction with the A47 to minimise the overall diversion distance. Access to Glaston Road is therefore proposed via a new give-way priority junction from the bypass.

The overall length of the bypass from its southern extent to the proposed junction with the A47 is 1.85 miles (2.98km).

The advantages of this option are:

- The bypass will remove through traffic from the A6003 through Uppingham, in particular for traffic movements heading to / from Peterborough / Cambridgeshire etc and north-south through traffic movements between Corby / Northamptonshire in the South and Oakham / Nottinghamshire / Lincolnshire in the North;
- The proposed alignment potentially ties into the long term aspiration to develop the existing industrial area on Station Road; and
- The bypass alignment is located away from areas of housing, therefore reducing noise impacts.

The disadvantages are:

- This option will be less effective than a western bypass at removing through traffic heading to and from areas to the west, Leicester, West Midlands etc;
- The proposed alignment encounters significant topographical constraints along the route;
- Large amounts of cut / fill would likely be required to accommodate the alignment, in addition to elevated structure;
- Increased segregation of existing plots compared to alternative options, due to requirement for cut / fill and above ground structure;
- No significant opportunities for creation of the bypass in sections, given the lack of eastern residential development in the neighbourhood plan;
- Results in severance of Glaston Road and Lyddington Road;
- Potential impact on gas pipeline to south-east of Uppingham Community College (location TBC); and
- Significant potential cost.

## 4.2 A6003 Public Realm Enhancements

In conjunction with any of the proposed bypass alignments, opportunities could be presented in terms of improving the existing public realm throughout the centre of Uppingham. In particular, existing issues relating to narrow footways could be addressed through measures such as carriageway narrowing, or the provision of traffic management schemes such as the introduction of one-way working. Improvements to public transport facilities and other sustainable modes of travel such as walking and cycling would enable a shift in focus from private car usage, in turn allowing improvements to retail and social use activities. Speed limits could be

reduced to 20 mph which would make for a safer environment for pedestrians whilst making any bypass more attractive to through traffic.

Alternatively, more radical schemes such as the highly successful shared-surface type arrangement within the town of Poynton could be adopted, which was a scheme that sought to rebalance the use of the streets from a vehicle dominated area to a pedestrian friendly town centre.

### 4.3 7.5 tonne Weight Restrictions

In conjunction with all of the proposed bypass alignment options, it would also be recommended to implement 7.5 tonne weight restrictions throughout the built up area of Uppingham, in order to deter HGVs from using the A6003 as a through-route.

Exceptions to the weight restriction would be provided to retain local access or deliveries to the town centre- 'Except for Access' or 'Except for Deliveries'- with the potential to enforce the restrictions through the application of Automatic Number Plate Recognition (ANPR) systems which would automatically generate fines should vehicles contravene the restrictions.

The application of a 7.5t weight restriction within the built up area of Uppingham- from the junction with the A47 to the north, to the junction with the proposed bypass to the south would help to transfer the majority of HGV movements onto a proposed bypass, whilst retaining local access to the town centre for deliveries. In turn, revenue generated from the NPR scheme would potentially enable subsequent improvements to the town centre in terms of public realm enhancement, and improvements to pedestrian and cycle connectivity.

### 4.4 RAG Assessment

In this section of the report, Arup have undertaken a Red, Amber, Green (RAG) appraisal of the three proposed bypass options, using various criteria to help inform the assessment process against the base case (existing) scenario.

Overarching topics for appraisal are Economic, Environmental and Social, which include criteria such as:

- Traffic volumes and operation;
- Journey time / journey distance;
- Connectivity;
- Broad environmental constraints and impacts;
- Severance.

Options have been compared against the existing road network. In this appraisal, a red score means a worsening compared to the existing network, an amber score means neutral and a green score indicates an improvement.



Table 2: RAG Assessment of Proposed Bypass Options

Impacts		Summary of key impacts			RAG Assessment		
		Option 1	Option 1A	Option 2	Opt 1	Opt 1A	Opt 2
Economy	Reliability impact on users	All options provide improvements to all road users due to removal of constraints, i.e. avoiding Uppingham town centre and a reduction in traffic passing through town centre. HGVs still requiring access to the town centre would benefit from a reduction in congestion within Uppingham itself.					
	Regeneration	Alignment of proposed bypass could help achieve residential expansion to west of Uppingham town centre, in line with local plan aspirations	Potential future tie-in of bypass to aspirational extension to Station Road industrial area. No current link to local plan expansion				
Environmental	Noise	Proposed alignment in proximity to built-up area of Uppingham. Potential effects could be mitigated through landscaping and bunds	Least impact on existing built up area of Uppingham				
	Air Quality	All options have the potential to provide improvements to air quality along the A6003 within Uppingham town centre, through the removal of significant volumes of through traffic and a reduction in stationary traffic locations. It is acknowledged that the bypass schemes would effectively displace potential air quality issues, however this displacement would occur within areas further from residential or built-up areas. Furthermore, the bypass alignments would enable congestion and delay to be reduced, minimising volumes of stationary traffic at junctions within Uppingham.					
	Landscape	Low-medium impact on landscape, with potential to vary alignment to avoid specific areas if required	Worst impact on landscape. Cut / fill and elevated structures to east of Uppingham				
	Townscape	Removal of traffic from the A6003 throughout Uppingham town centre allows multiple potential improvements, such as removal / reallocation of carriageway space to improve the streetscape, or sustainable travel mode improvements.					
	Water Environment	Low-medium impact on water environment, with potential to vary alignment to avoid specific areas if required	Potentially higher water environment impacts due to increased requirement for cut / fill				

<b>Social</b>	Commuting and other users	All options result in improvement to public transport journey time reliability for north-south bus movements through Uppingham town centre, due to removal of traffic from the town centre. Public transport provision along the A6003 however is limited in frequency, so benefits would be minimal.					
	Journey length	Shortest overall diversion length	Second shortest diversion length	Longest diversion length			
	Potential for sustainable modes of travel	Potential for inclusion of sustainable modes to tie into potential development opportunities, such as improved walk / cycle links		Alignment does not serve built up area of Uppingham and provides no opportunities for sustainable modes to benefit residents			
	Affordability	Likely to be more achievable in terms of allowing construction of route in sections, potentially with contributions from developers		Significant costs anticipated through requirement for elevated section, and cut along route to north of valley			
	Severance	Alignment results in severance of Leicester Rd, and creation of lengths of stopped up road	Alignment retains access to Leicester Rd and avoids severance	Alignment results in severance of Lyddington Rd / Glaston Rd, and dead-end adjacent to Uppingham Community College			

The RAG assessment serves to highlight that Option 2 scores worse than the alternative options in most criteria, with few exceptions. In particular, it suffers in environmental and social criteria, with the most impact on landscape and severance.

Options 1 and 1A are relatively consistent in their scoring, with both alignments scoring well in terms of economic and environmental impacts, and Option 1A scoring marginally better than Option 1 in terms of minimising severance.

## 4.5 Cost Estimates

A high-level, broad cost estimate has been undertaken for the proposed bypass options. The estimated costs of each of the three options are summarised in the table below:

Table 3: Scheme Cost Estimates

Proposed Option	Cost (£ exc. VAT)
Option 1	<b>£12.9M</b>
Option 1A	<b>£13.2M</b>
Option 2	<b>£40.8M</b>

### Notes:

- The costs for each option include 25% allowance for contractor preliminaries, overheads and profit and 10% traffic management;
- An optimism bias allowance of 44% has been included for in line with HM Treasury Green Book Supplementary Guidance;
- No allowance has been made for inflation, land costs, legal fees, utility diversions or new utilities / drainage, third party fees, design or maintenance costs / commuted sums;
- No allowance has been made for improvements / upgrades to the A47 / A6003 roundabout, which will likely be required to accommodate changes in traffic flow movements through the provision of a bypass;
- A broad allowance has been made for elevated structure where deemed necessary (Option 2); and
- An allowance has been made for street lighting costs.

A breakdown of the total cost for the options is included in Appendix B.

## 4.6 Risks

The following assumptions have been made in preparing this report:

- The proposals are based on OS mapping and the potential for accommodating the necessary infrastructure will need to be subsequently checked in following stages with a topographical survey;
- Privately owned land could be acquired to accommodate the proposed bypass alignments;
- There are no known significant environmental constraints which would impact on the proposals or prevent their construction.

The risks associated with each of the three bypass alignment options are shown in the table below, along with a high level judgment on the risk to the delivery of the project.

Table 4: Risks associated with each option

Option	Risks	Level of Risk (High, Medium, Low)
1	Impact on statutory utilities	M
	Cost uncertainty	M
	Delivery timeline uncertainty	M
	Councillor and public support unknown	M
	Third party land acquisition	H
	Severance of Leicester Road	H
	Securing funding	H
	Key stakeholder support (inc. planning and highway authorities, DfT)	H
1A	Impact on statutory utilities	M
	Cost uncertainty	M
	Delivery timeline uncertainty	M
	Councillor and public support unknown	M
	Third party land acquisition	H
	Securing funding	H
	Key stakeholder support (inc. planning and highway authorities, DfT)	H
2	Impact on statutory utilities	H
	Cost uncertainty	H
	Delivery timeline uncertainty	H
	Councillor and public support unknown	H

	Third party land acquisition	H
	Uncertainty over elevated structure requirements above valley	H
	Severance of numerous plots due to depth of cut required to accommodate alignment	H
	Securing funding	H
	Key stakeholder support (inc. planning and highway authorities, DfT)	H

## 4.7 Other considerations

The Covid-19 pandemic has seen a general reduction in traffic volumes particularly relating to commuter traffic. At this stage there remains considerable uncertainty as to whether traffic volumes will return to pre Covid-19 pandemic levels or remain lower. The lower traffic volumes are the less justification for any new highway infrastructure. However, traffic generated by future development will result in further increases in traffic volumes.

The climate agenda and the UK's commitment to net zero is focusing local transport scheme investment on sustainable modes rather than local road building schemes. Any future scheme development should consider sustainable transport needs and how this might be configured, either as part of any bypass or along the A6003 corridor through the town.

The strategic case for new transport infrastructure is intrinsically linked to new growth and development. There are plans to build circa 170 houses within the village of Uppingham within the period 2018-2026, of which a number have already been constructed. Notwithstanding existing transport issues as well as traffic impacts caused from development beyond Uppingham, a substantial increase in development within Uppingham would help strengthen the strategic case for new highway infrastructure.

## 5 Summary, Recommendations and Next Steps

### 5.1 Summary

A feasibility study was carried out to consider options to provide a bypass on a north-south alignment around Uppingham. The existing route through the town centre on the A6003 is known to be problematic in terms of HGV movements creating delays and congestion, and options were provided to alleviate this issue.

#### 5.1.1 Data Analysis

Environmental and traffic data was collected as available, and this showed that:

- There are no immediately obvious environmental constraints which would prevent the construction of a bypass alignment, subject to further detailed investigation; and
- There is evidence of peak hour tidal traffic flows along the A47, but in the absence of post Covid-19 pandemic traffic surveys including turning movement counts, there are no immediately obvious patterns of usage along the A6003 which would influence the bypass alignment.

#### 5.1.2 Proposed Options

The following three options were identified:

- Option 1: Western Bypass (severing Leicester Road);
- Option 1A: Western Bypass (avoiding Leicester Road); and
- Option 2: Eastern Bypass

An indicative / outline design was prepared for the options, and the advantages and disadvantages of all options were identified. In addition, a RAG assessment was undertaken along with a broad estimate of the cost and identification of risks to delivery. A high-level summary of each option is provided in Table 5 below.

Table 5: Overall Option Summary

Option	Pros	Cons	Cost	Risk
1	Minimises cut / fill, allows segmented construction approach, ties in with potential residential development, better serves existing residential areas	Proximity to built-up area, impacts plots of land adjacent to cricket club, severs Public Right of Way (PRoW) (Gipsy Hollow Lane) and Leicester Road	M	M

1A	Minimises cut / fill, allows segmented construction approach, ties in with potential residential development, better serves existing residential areas, avoids highlighted plots of land for future residential development, avoids severance of Leicester Rd	Proximity to built-up area, severs PRoW (Gipsy Hollow Lane)	M	M
2	Enables potential linkage with aspirational industrial expansion, reduced noise impact to residential area	Requires elevated structure and significant amounts of cut / fill, potential environmental impact, does not serve existing residential areas, severs two roads, longest route, highest cost	H	H

## 5.2 Recommendations

Option 1A, which proposes a western bypass that retains the current alignment of Leicester Road, is considered to provide the most benefits whilst minimising risks and impacts. The alignment could be constructed in a phased / staged approach to work around financial availability, and could tie into aspirational future residential expansion to the south-west side of Uppingham town centre. In turn, this approach offers potential tie-ins to developer led contributions and funding of the scheme. The alignment also attempts to maximise the area retained from plots of land highlighted by Uppingham Town Council as being potentially utilised for future residential development. At this early stage of feasibility study, Option 1A is estimated to cost approximately £13.2M to construct, however this figure has the potential to reduce as design progresses and risks / uncertainties are designed out.

Option 1, which also proposes a western bypass alignment is considered to offer the second-best approach, but results in increased detrimental impacts in terms of disruption to existing residential properties, through the proximity of the proposed bypass alignment and the severance of Leicester Road. The proposed bypass alignment also has a varying impact on the plots of land highlighted by Uppingham Town Council as being potentially used for ongoing residential development.

Option 2, which proposes an eastern bypass alignment, is expected to result in significantly increased impacts in terms of cut / fill requirements and the requirement for elevated structure to bridge the valley north of Seaton Road. The need for deep sections of cut would also result in increased severance of plots, where access to either side of the bypass alignment would potentially be unfeasible at certain locations, due to the scale of cut anticipated to accommodate the alignment. Furthermore, whilst it is recognised that an eastern bypass alignment could be utilised to improve access to an improved / extended Station Road industrial area, this is currently an aspirational scheme which does not have confirmed status or provide any detail on how it would connect to a bypass alignment. Additionally, a western bypass alignment would have limited benefit in terms of providing access to any future planned residential areas.

## 5.3 Next Steps

The level of risk associated with the development of a project will be higher during initial stages, due to the greater number of unknowns and assumptions. For a major scheme of this type, typical examples of uncertainties include a lack of detailed knowledge in terms of topography, ground conditions, and locations of protected wildlife species amongst others. Similarly, land ownership and the acquisition of land to accommodate a bypass alignment is a risk which can have a significant bearing on scheme costs.

As such, should the project progress further, additional design work would be necessary to gather the required data. This process would enable risks to be ascertained and avoided or designed out as necessary, in turn potentially enabling reductions in cost.

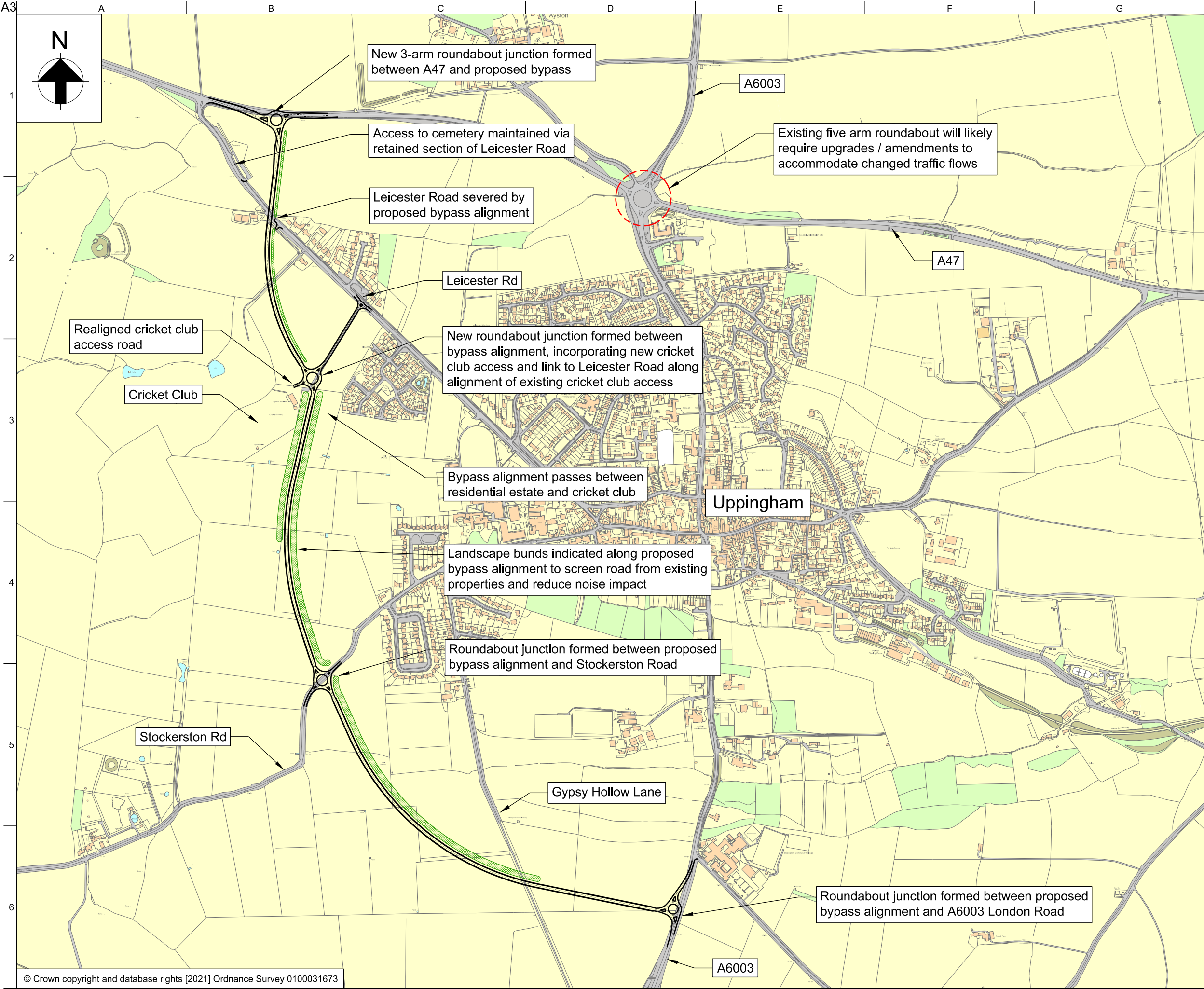
Draft



## Appendix A

### Option Drawings

Draft



**Key:**

Indicative landscaping bunds

03	19/03/21	NS	BF	JO
Alignment Updated				
02	05/02/21	NS	BF	JO
Alignment Updated				
01	27/01/21	NS	BF	JO
First Issue				
Issue	Date	By	Chkd	Appd

**ARUP**

The Arup Campus, Blythe Gate, Blythe Valley Park  
Sollihull, West Midlands B90 8AE  
T +44(0)121 213 3000 F +44(0)121 213 3001  
www.arup.com

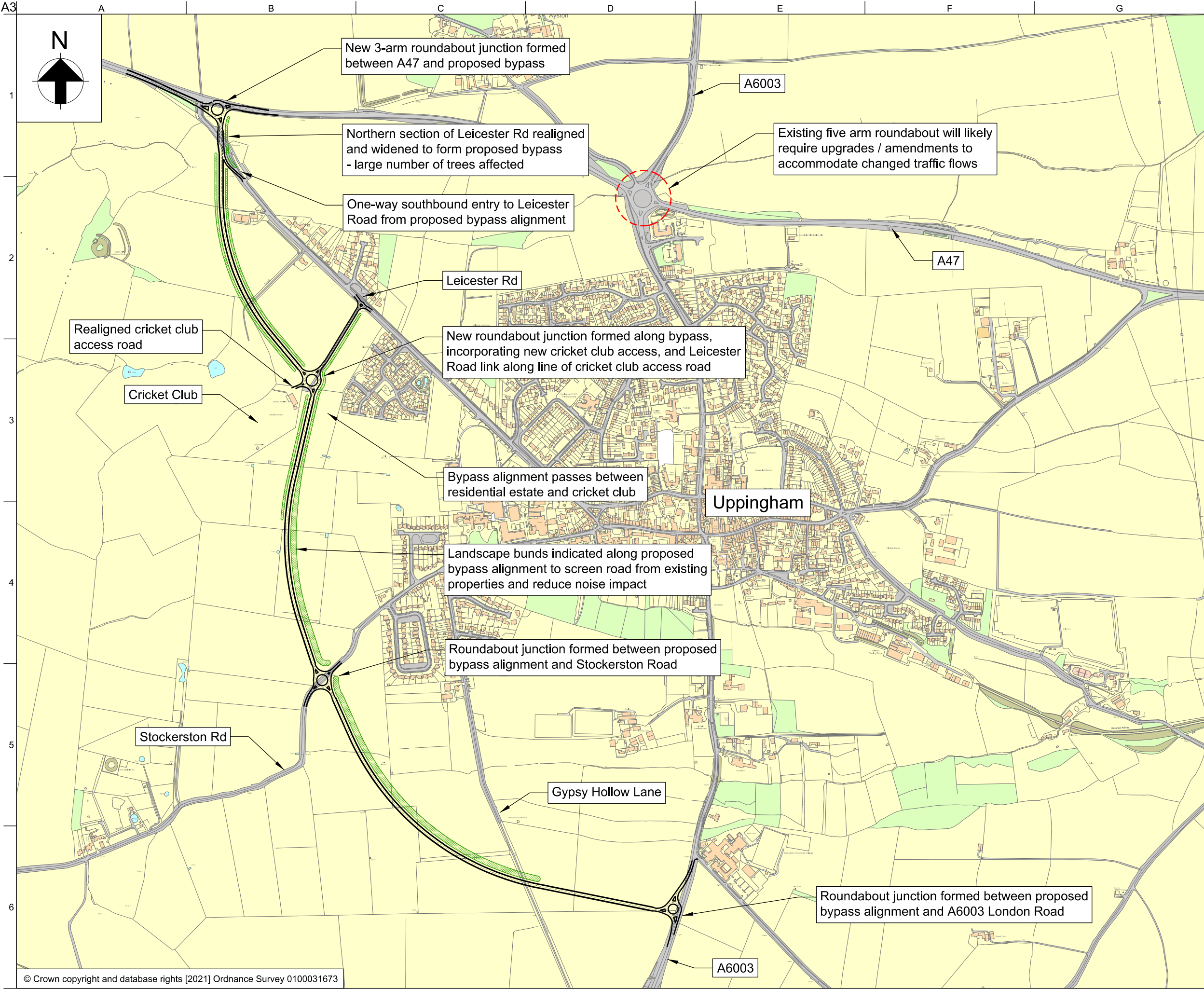
Client  
Uppingham Town Council

Job Title  
Uppingham Bypass Study

Bypass Option 1  
(Western Alignment)

Scale at A3 N.T.S.	
Discipline Transport Planning	
Job No <b>279631-00</b>	Drawing Status <b>Draft</b>
Drawing No <b>CH001</b>	Issue <b>03</b>





**Key:**

Indicative landscaping bunds

03	19/03/21	NS	BF	JO
Alignment Updated				
02	05/02/21	NS	BF	JO
Alignment Updated				
01	27/01/21	NS	BF	JO
First Issue				
Issue	Date	By	Chkd	Appd

**ARUP**

The Arup Campus, Blythe Gate, Blythe Valley Park  
Sollihull, West Midlands B90 8AE  
T +44(0)121 213 3000 F +44(0)121 213 3001  
www.arup.com

Client  
Uppingham Town Council

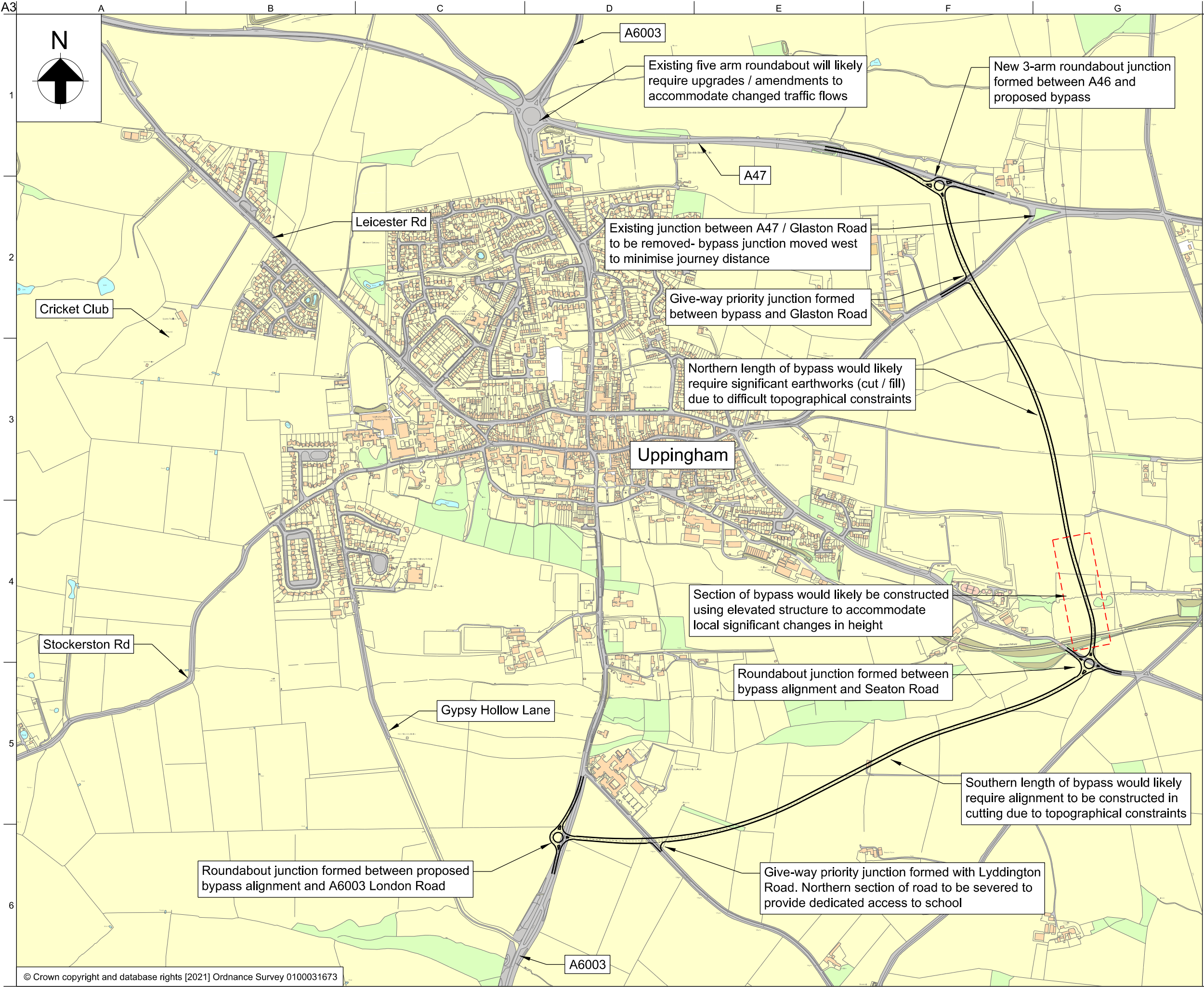
Job Title  
Uppingham Bypass Study

Bypass Option 1A  
(Western Alignment)

Scale at A3 N.T.S.

Discipline	Transport Planning		
Job No	279631-00		Drawing Status
	Draft		
Drawing No	CH002		Issue
			03





© Crown copyright and database rights [2021] Ordnance Survey 0100031673  
Do not scale

02	05/02/21	NS	BF	JO
Alignment Updated				
01	27/01/21	NS	BF	JO
First Issue				
Issue	Date	By	Chkd	Appd

ARUP

The Arup Campus, Blythe Gate, Blythe Valley Park  
Sollihull, West Midlands B90 8AE  
T +44(0)121 213 3000 F +44(0)121 213 3001  
www.arup.com

Client  
Uppingham Town Council

Job Title  
Uppingham Bypass Study

Bypass Option 2  
(Eastern Alignment)

Scale at A3 N.T.S.	
Discipline Transport Planning	
Job No 279631-00	Drawing Status Draft
Drawing No CH003	Issue 02

## Appendix B

### Cost Estimate Summary

Draft

**HCC**

**279631-00**

---

**Uppingham Bypass Study**

---

**Preliminary Cost Estimate**

21/04/2021

**ARUP**

Client	HCC	279631-00
Job Title	Uppingham Bypass Study	
Document Title	Preliminary Cost Estimate	21/04/2021

## Introduction and Basis of Estimate

### Information on which Estimate is based

#### Drawings and Documents

Option 1	CH001.pdf
Option 1A	CH002.pdf
Option 2	CH003.pdf

### Pricing Information

Pricing is based on current rates from Arup in-house sources, Spon's 'External Works & Landscaping Price Book 2019' and 'Spon's Civil Engineering and Highway Works Price Book 2019'. The scheme is now at preliminary design therefore, this preliminary estimate is an outline cost estimate of the scheme based on limited information. The estimate represents Q3 2020

### Temporary Work

N/A

### Traffic Management

Traffic management- where necessary- is envisaged to be in the form of lane closure with access to frontages, temporary traffic lights or a combination of road closure with access to frontages and temporary traffic lights. The work is expected to be carried out during school break to minimise impacts where relevant. With a road closure, there will be minimal diversionary signs as we do not anticipate cars using the route as a shortcut or for daily commute.

### Preliminaries and Contractor's Overheads & Profit

25%

### Risk

An allowance has been made for Optimism Bias - No allowance has been made separately for Risk.

### Optimism Bias

An allowance has been included in line with HM Treasury Green Book Supplementary Guidance.

35%

### General Assumptions

Assumed that everything within the site clearance is not to be reused

An assumption of £2,300 per m2 has been included for above ground structure in Option 2

An allowance has been made for landscaping bunds

Assume that the number of road signs, bollards, road lighting are the same for each option

Assumed that the disposal off site is uncontaminated, unhazardous waste

Assume that the disposal of the excavated material is to travel 10km

Tipping charges only apply to where there is excavation of roads

It is assumed normal ground conditions; no contamination

Road build up layers assumed:

Sub-base MOT type 1; spread and graded; 150mm thick

Dense Bitumen Macadam; Base to DfT Clause 903; 220 mm deep, AC32

Dense Bitumen Macadam; Binder Course to DfT Clause 904; 65 mm deep, AC20

Dense Bitumen Macadam; Surface Course to DfT Clause 909; 35 mm deep

<b>ARUP</b>		<b>Introduction</b>
Client	<b>HCC</b>	<b>279631-00</b>
Job Title	<b>Uppingham Bypass Study</b>	
Document Title	<b>Preliminary Cost Estimate</b>	<b>21/04/2021</b>
<p>Footpath (where provided) build up layers assumed:</p> <p>Subbase to paved area; 100mm thick sand</p> <p>Subbase to paved area, widened onto road; 100mm thick hard-core where footpath is widened onto the road</p> <p>Bitumen macadam surfacing; binder course 50mm thick and surface course 20mm thick</p> <p>400 x 400 x 50 tactile blister paving slabs on 50mm thick fine sand bed is assumed</p> <p>Sign posts (where erected) have an assumed foundation of 0.2m3</p> <p>Sign posts are assumed to be reflective, not lit, type C1 signs</p> <p>Sign posts are assumed to have an 76mm outside diameter post</p> <p>Assume that the lighting posts are 8m high with a single arm</p> <p><b>General Exclusions</b></p> <p>• Value Added Tax • Inflation costs • Fees to local authorities • Maintenance costs • Legal fees • Agents fees • Any other third party costs • Client internal costs • Groundwater Pumping • Services • Ecological &amp; Environmental Mitigation • Land &amp; compensation costs • Design</p> <p><b>Specific Exclusions</b></p> <p>Demolitions</p> <p>Drainage</p> <p>Planting</p> <p>Improvements / amendments to A6003 / A47 roundabout</p> <p>Contaminated ground</p> <p>Utilities - diversions / new</p> <p>Surveys/Tests/Analysis/etc.</p>		
<p><b>Ove Arup &amp; Partners Ltd</b></p> <p>The Arup Campus, Blythe Gate, Blythe Valley Park, Solihull, West Midlands. B90 8AE</p> <p>Tel +44 (0)121 213 3000 Fax +44 (0)121 213 3001</p> <p><a href="http://www.arup.com">www.arup.com</a></p>		



# ARUP

Job Title:

**Uppingham Bypass Study**

Cost Plan:

**Preliminary Cost Estimate**

*Job No:*

**279631-00**

*Sheet No:*

**1**

*Element:*

**All Options**

*Base Date of Estimate:*

**Q1 2021**

*Made by:*

**NS**

*Date:*

**21/04/2021**

Description		Uppingham Bypass		
		Option 1	Option 1A	Option 2
<b><u>Net Construction Total (b/fwd)</u></b>		£6,562,912	£6,705,268	£20,637,288
Traffic Management	10%	£656,300	£670,500	£2,063,700
<b><u>Net Construction Total</u></b>		<b>£7,219,212</b>	<b>£7,375,768</b>	<b>£22,700,988</b>
Preliminaries & Contractors OHP	25%	£1,804,800	£1,843,900	£5,675,200
<b><u>Sub-total</u></b>		<b>£9,024,012</b>	<b>£9,219,668</b>	<b>£28,376,188</b>
Optimism Bias	44%	£3,970,600	£4,056,700	£12,485,500
<b>TOTAL (£)</b>		<b>£12,995,000</b>	<b>£13,276,000</b>	<b>£40,862,000</b>

<div>ARUP</div> <div>Job Title: <b>Uppingham Bypass Study</b> Cost Plan: <b>Preliminary Cost Estimate</b></div>		<div>Job No: <b>279631-00</b> Element: <b>Option 1</b> Made by: <b>NS</b></div>		<div>Sheet No: <b>1</b> Base Date of Estimate: <b>Q1 2021</b> Date: <b>21/04/2021</b></div>	
<b>Option 1: Western Bypass (severing Leicester Rd)</b>					
Item	Qty	Unit	Rate	Cost	
<u>Series 200 - General Site Clearance</u>					
Remove low level fencing	200.00	m	18.26	£3,652.00	
Removal of road signs	5.00	nr	76.81	£384.05	
Removal of road lighting	5.00	nr	172.67	£863.35	
Removal of existing road markings	1.00	nr	2500.00	£2,500.00	
Remove existing precast concrete kerbs	650.00	m	7.49	£4,868.50	
Remove existing edging kerbs	250.00	m	5.75	£1,437.50	
<u>Series 300 - Fencing</u>					
Low level fencing	250.00	m	21.68	£5,420.22	
Concrete foundation for timber posts	85.00	nr	2.88	£245.00	
<u>Series 600 - Earthworks</u>					
Excavating for road build up	22000.00	m <sup>3</sup>	9.20	£202,400.00	
Extra over excavation of hard material		m <sup>3</sup>	83.06	£0.00	
Disposal of excavated material	1500.00	m <sup>3</sup>	30.36	£45,540.00	
Tipping charges (assumed non hazardous)	1500.00	m <sup>3</sup>	34.98	£52,470.00	
Landfill Tax (inactive or inert material)	1500.00	m <sup>3</sup>	8.00	£12,000.00	
Road build up imported fill of 6N	30000.00	m <sup>3</sup>	25.75	£772,500.00	
Compaction of fill	50000.00	m <sup>3</sup>	3.31	£165,500.00	
Road build up capping material	5000.00	m <sup>3</sup>	43.01	£215,050.00	
Verge build up imported fill	18000.00	m <sup>3</sup>	27.51	£495,180.00	
Landform build-up	1.00	nr	250000.00	£250,000.00	
Topsoil	4000.00	m <sup>2</sup>	7.73	£30,920.00	
<u>Series 700 - Pavements</u>					
Sub-base MOT type 1; spread and graded; 150mm thick	30000.00	m <sup>3</sup>	39.65	£1,189,500.00	
Dense Bitumen Macadam; Base to DfT Clause 903; 220 mm deep, AC32	40000.00	m <sup>2</sup>	47.08	£1,883,200.00	
Dense Bitumen Macadam; Binder Course to DfT Clause 904; 65 mm deep, AC20	40000.00	m <sup>2</sup>	13.26	£530,400.00	
Dense Bitumen Macadam; Surface Course to DfT Clause 909; 35 mm deep	40000.00	m <sup>2</sup>	10.57	£422,800.00	
Red Surfacing		m <sup>2</sup>	22.00	£0.00	
<u>Series 1100 - Kerbs</u>					
Precast concrete units; BS 7263; bedded jointed and pointed in cement mortar; Kerbs; bullnosed, splayed or half battered; laid straight or curved exceeding 12 m radius; 150 x 305 mm	5500.00	m	27.16	£149,380.00	
Install drop kerb; 150 x 305mm	100.00	m	46.97	£4,697.00	
Saw cutting		m	8.66		
Precast concrete units; BS 7263; bedded jointed and pointed in cement mortar; Edgings; laid straight or curved exceeding 12 m radius; 150x50mm	400.00	m	9.19	£3,676.00	
Subbase to paved area; 150mm Type 1	250.00	m <sup>2</sup>	5.95	£1,486.88	
Bitumen macadam surfacing; binder course 40mm thick and surface course 20mm thick	250.00	m <sup>2</sup>	23.81	£5,952.50	
400 x 400 x 50 tactile blister paving slabs on 50mm thick fine sand bed	20.00	m <sup>2</sup>	53.45	£1,069.00	
Footpath Reinstatement from existing PROW	400.00	m <sup>2</sup>	25.40	£10,160.00	

<u>Series 1200 - Signage/road markings</u>				
Parking bay markings		m	1.75	
White road markings	10000.00	m	1.75	£17,500.00
Double yellow lines		m	1.94	
Arrows	20.00	nr	18.00	£360.00
Roundels / cycle symbols		nr	75.27	
Signage	10.00	nr	180.00	£1,800.00
<u>Series 1300 - Street Lighting / crossings</u>				
Road Lighting	40.00	nr	2000.00	£80,000.00
<b>Total</b>				<b>£6,562,912.00</b>

<div>ARUP</div> <div>Job Title:</div> <div>Uppingham Bypass Study</div> <div>Cost Plan:</div> <div>Preliminary Cost Estimate</div>		<div>Job No:</div> <div>279631-00</div> <div>Element:</div> <div>Option 1A</div> <div>Made by:</div> <div>NS</div>		<div>Sheet No:</div> <div>1</div> <div>Base Date of Estimate:</div> <div>Q1 2021</div> <div>Date:</div> <div>21/04/2021</div>	
Option 1A: Western Bypass (avoiding Leicester Rd)					
Item	Qty	Unit	Rate	Cost	
Series 200 - General Site Clearance					
Remove low level fencing	150.00	m	18.26	£2,739.00	
Removal of road signs	5.00	nr	76.81	£384.05	
Removal of road lighting	5.00	nr	172.67	£863.35	
Removal of existing road markings	1.00	nr	2500.00	£2,500.00	
Remove existing precast concrete kerbs	850.00	m	7.49	£6,366.50	
Remove existing edging kerbs	300.00	m	5.75	£1,725.00	
Series 300 - Fencing					
Low level fencing	200.00	m	21.68	£4,336.17	
Concrete foundation for timber posts	65.00	nr	2.88	£187.36	
Series 600 - Earthworks					
Excavating for road build up	23000.00	m³	9.20	£211,600.00	
Extra over excavation of hard material		m³	83.06	£0.00	
Disposal of excavated material	1500.00	m³	30.36	£45,540.00	
Tipping charges (assumed non hazardous)	1500.00	m³	34.98	£52,470.00	
Landfill Tax (inactive or inert material)	1500.00	m³	8.00	£12,000.00	
Road build up imported fill of 6N	30000.00	m³	25.75	£772,500.00	
Compaction of fill	50000.00	m³	3.31	£165,500.00	
Road build up capping material	5000.00	m³	43.01	£215,050.00	
Verge build up imported fill	19000.00	m³	27.51	£522,690.00	
Landform build-up	1.00	nr	250000.00	£250,000.00	
Topsoil	4000.00	m²	7.73	£30,920.00	
Series 700 - Pavements					
Sub-base MOT type 1; spread and graded; 150mm thick	32500.00	m³	39.65	£1,288,625.00	
Dense Bitumen Macadam; Base to DfT Clause 903; 220 mm deep, AC32	40000.00	m²	47.08	£1,883,200.00	
Dense Bitumen Macadam; Binder Course to DfT Clause 904; 65 mm deep, AC20	40000.00	m²	13.26	£530,400.00	
Dense Bitumen Macadam; Surface Course to DfT Clause 909; 35 mm deep	40000.00	m²	10.57	£422,800.00	
Red Surfacing		m²	22.00	£0.00	
Series 1100 - Kerbs					
Precast concrete units; BS 7263; bedded jointed and pointed in cement mortar; Kerbs; bullnosed, splayed or half battered; laid straight or curved exceeding 12 m radius; 150 x 305 mm	5750.00	m	27.16	£156,170.00	
Install drop kerb; 150 x 305mm	100.00	m	46.97	£4,697.00	
Saw cutting		m	8.66		
Precast concrete units; BS 7263; bedded jointed and pointed in cement mortar; Edgings; laid straight or curved exceeding 12 m radius; 150x50mm	400.00	m	9.19	£3,676.00	
Subbase to paved area; 150mm Type 1	250.00	m²	5.95	£1,486.88	
Bitumen macadam surfacing; binder course 40mm thick and surface course 20mm thick	250.00	m²	23.81	£5,952.50	
400 x 400 x 50 tactile blister paving slabs on 50mm thick fine sand bed	20.00	m²	53.45	£1,069.00	
Footpath Reinstatement from existing PROW	400.00	m²	25.40	£10,160.00	

<u>Series 1200 - Signage/road markings</u>				
Parking bay markings		m	1.75	
White road markings	10000.00	m	1.75	£17,500.00
Double yellow lines		m	1.94	
Arrows	20.00	nr	18.00	£360.00
Roundels / cycle symbols		nr	75.27	
Signage	10.00	nr	180.00	£1,800.00
<u>Series 1300 - Street Lighting / crossings</u>				
Road Lighting	40.00	nr	2000.00	£80,000.00
<b>Total</b>				<b>£6,705,267.81</b>

<div>ARUP</div> <div>Job Title: <b>Uppingham Bypass Study</b> Cost Plan: <b>Preliminary Cost Estimate</b></div>	<div>Job No: <b>279631-00</b> Element: <b>Option 2</b> Made by: <b>NS</b></div>	<div>Sheet No: <b>1</b> Base Date of Estimate: <b>Q1 2021</b> Date: <b>21/04/2021</b></div>		
<b>Option 2: Eastern Bypass</b>				
Item	Qty	Unit	Rate	Cost
<u>Series 200 - General Site Clearance</u>				
Remove low level fencing	450.00	m	18.26	£8,217.00
Removal of road signs	5.00	nr	76.81	£384.05
Removal of road lighting	5.00	nr	172.67	£863.35
Removal of existing road markings	1.00	nr	2500.00	£2,500.00
Remove existing precast concrete kerbs	1100.00	m	7.49	£8,239.00
Remove existing edging kerbs	300.00	m	5.75	£1,725.00
<u>Series 300 - Fencing</u>				
Low level fencing		m	21.68	£0.00
Concrete foundation for timber posts		nr	2.88	£0.00
<u>Series 600 - Earthworks</u>				
Excavating for road build up	360000.00	m³	9.20	£3,312,000.00
Extra over excavation of hard material	1500.00	m³	83.06	£124,590.00
Disposal of excavated material	60000.00	m³	30.36	£1,821,600.00
Tipping charges (assumed non hazardous)	60000.00	m³	34.98	£2,098,800.00
Landfill Tax (inactive or inert material)	60000.00	m³	8.00	£480,000.00
Road build up imported fill of 6N	40000.00	m³	25.75	£1,030,000.00
Compaction of fill	300000.00	m³	3.31	£993,000.00
Road build up capping material	6500.00	m³	43.01	£279,565.00
Verge build up imported fill	20000.00	m³	27.51	£550,200.00
Landform build-up	1.00	nr	250000.00	£250,000.00
Topsoil	4000.00	m²	7.73	£30,920.00
<u>Series 700 - Pavements</u>				
Sub-base MOT type 1; spread and graded; 150mm thick	33500.00	m³	39.65	£1,328,275.00
Dense Bitumen Macadam; Base to DfT Clause 903; 220 mm deep, AC32	42000.00	m²	47.08	£1,977,360.00
Dense Bitumen Macadam; Binder Course to DfT Clause 904; 65 mm deep, AC20	42000.00	m²	13.26	£556,920.00
Dense Bitumen Macadam; Surface Course to DfT Clause 909; 35 mm deep	42000.00	m²	10.57	£443,940.00
Red Surfacing		m²	22.00	£0.00
<u>Series 1100 - Kerbs</u>				
Precast concrete units; BS 7263; bedded jointed and pointed in cement mortar; Kerbs; bullnosed, splayed or half battered; laid straight or curved exceeding 12 m radius; 150 x 305 mm	5900.00	m	27.16	£160,244.00
Install drop kerb; 150 x 305mm	100.00	m	46.97	£4,697.00
Saw cutting		m	8.66	
Precast concrete units; BS 7263; bedded jointed and pointed in cement mortar; Edgings; laid straight or curved exceeding 12 m radius; 150x50mm		m	9.19	
Subbase to paved area; 150mm Type 1	250.00	m²	5.95	£1,486.88
Bitumen macadam surfacing; binder course 40mm thick and surface course 20mm thick	250.00	m²	23.81	£5,952.50
400 x 400 x 50 tactile blister paving slabs on 50mm thick fine sand bed	20.00	m²	53.45	£1,069.00
Footpath Reinstatement from existing PROW	200.00	m²	25.40	£5,080.00



<u>Series 1200 - Signage/road markings</u>				
Parking bay markings		m	1.75	
White road markings	10000.00	m	1.75	£17,500.00
Double yellow lines		m	1.94	
Arrows	20.00	nr	18.00	£360.00
Roundels / cycle symbols		nr	75.27	
Signage	10.00	nr	180.00	£1,800.00
<u>Series 1300 - Street Lighting / crossings</u>				
Road Lighting	40.00	nr	2000.00	£80,000.00
Bridge structure allowance	2200.00	m2	2300.00	£5,060,000.00
<b>Total</b>				<b>£20,637,287.78</b>

Based on the Supplementary Green Book Guidance

**Table 3 OB Upper Bound Guidance for Civil Engineering - Standard Civil Engineering**

			Contributory Factors		Mitigation Factor	Resultant Factor
					1 = full mitigation	
					0 = no mitigation	
1.0 Procurement	1.1 ECI	1.1.1 Late Contractor involvement in Design	3	3	0	3
	1.2 Disputes and Claims Occur	1.2.1 Disputes over interim payments	21	7	0	7
		1.2.1 Claims for changes in scope		7	0	7
		1.2.3 Claims for late release of information		7	0	7
2.0 project Specific	2.1 Environmental Impact	2.1.1 Contamination	22	8	0	8
		2.1.2 Noise pollution		7	0.5	3.5
		2.1.3 Impact on wildlife		7	0.75	1.75
	2.2 Other	2.2.1 Other 1	18	6	0	6
		2.2.2 Other 2		6	0	6
		2.2.3 Other 3		6	0	6
3.0 Client Specific	3.1 Inadequacy of the business case	3.1.1 Number of services not anticipated	10	2.5	0	2.5
		3.1.2 Output specifications not defined clearly		2.5	0.5	1.25
		3.1.3 Oversight in facilities required		2.5	0.5	1.25
		3.1.4 Not all stakeholders were involved		2.5	0.5	1.25
	3.2 Poor Project Intelligence	3.2.1 Insufficient ground investigation	7	2	0	2
		3.2.2 Design based on insufficient site information		2	0	2
		3.2.3 Insufficient survey of existing conditions		3	0	3
4.0 Environmental	4.1 Public Relations	4.1.1 Opposition for the local community	9	4.5	1	0
		4.1.2 Environmental protests		4.5	1	0
	4.2 Site Characteristics	4.2.1 Badger sets (etc.) within the site	3	1	1	0
		4.2.2 Underground streams require protection		1	1	0
		4.2.3 Difficulties in obtaining planning permission		1	0	1
5.0 External Influences	5.1 Economic	5.1.1 Change in market demand	7	5	0.5	2.5
		5.1.2 Crash in stock market		2	1	0
	Total			100		72
	OB			44%		34.7%

## Appendix C

### Traffic Data

Draft

**Multi-Day Volume Report LEICESTERSHIRE\_TEMP 000000700024 2019-08-29 to 2019-09-06**

Description A47, Uppingham Road, Bisbrooke, Nr Baulk Road, on Parking sign

Time Period 1 hour

All directions												
	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Average		Total
	2019-08-29	2019-08-30	2019-08-31	2019-09-01	2019-09-02	2019-09-03	2019-09-04	2019-09-05	2019-09-06	Workday	7 Day	Count
am Peak		10:00:00	11:00:00	11:00:00	07:00:00	08:00:00	08:00:00	07:00:00	08:00:00	08:00:00	08:00:00	
Peak Volume		747	698	676	833	851	834	867	830	822	681	
pm Peak		15:00:00	12:00:00	12:00:00	17:00:00	17:00:00	17:00:00	17:00:00		17:00:00	17:00:00	
Peak Volume		955	712	651	1045	900	866	957		905	820	
Westbound												
	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Average		Total
	2019-08-29	2019-08-30	2019-08-31	2019-09-01	2019-09-02	2019-09-03	2019-09-04	2019-09-05	2019-09-06	Workday	7 Day	Count
am Peak		08:00:00	11:00:00	11:00:00	07:00:00	08:00:00	07:00:00	07:00:00	08:00:00	08:00:00	08:00:00	
Peak Volume		419	380	355	499	480	483	536	499	480	401	
pm Peak		16:00:00	12:00:00	12:00:00	17:00:00	16:00:00	17:00:00	16:00:00		16:00:00	16:00:00	
Peak Volume		409	339	294	364	404	367	361		375	334	
Eastbound												
	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Average		Total
	2019-08-29	2019-08-30	2019-08-31	2019-09-01	2019-09-02	2019-09-03	2019-09-04	2019-09-05	2019-09-06	Workday	7 Day	Count
am Peak		11:00:00	11:00:00	11:00:00	08:00:00	08:00:00	08:00:00	08:00:00	08:00:00	08:00:00	11:00:00	
Peak Volume		340	318	321	343	371	353	336	331	342	298	
pm Peak		15:00:00	12:00:00	12:00:00	17:00:00	17:00:00	17:00:00	17:00:00		17:00:00	17:00:00	
Peak Volume		574	373	357	681	532	499	624		542	486	

Notes on data:

Weekly (7-day) averages are calculated as the average of workday values and weekend values, weighted in the proportion 5:2.

Holidays &amp; Events:

None

count_poin	direction_	year	count_date	hour	road_name	easting	northing	all_motor_
99523	E	2016	05/10/2016	8	A47	482420	300460	564
99523	E	2016	05/10/2016	17	A47	482420	300460	430
99523	W	2016	05/10/2016	8	A47	482420	300460	412
99523	W	2016	05/10/2016	17	A47	482420	300460	596
99942	N	2016	07/07/2016	8	A6003	486340	296000	338
99942	N	2016	07/07/2016	17	A6003	486340	296000	379
99942	S	2016	07/07/2016	8	A6003	486340	296000	340
99942	S	2016	07/07/2016	17	A6003	486340	296000	298
38029	N	2018	20/04/2018	8	A6003	487563	304502	510
38029	N	2018	20/04/2018	17	A6003	487563	304502	489
38029	S	2018	20/04/2018	8	A6003	487563	304502	560
38029	S	2018	20/04/2018	17	A6003	487563	304502	557

		AM	PM
A47 West	Eastbound	564	430
	Westbound	412	596
		AM	PM
A6003 (S)	Northbound	338	379
	Southbound	340	298
		AM	PM
A6003 (N)	Northbound	510	489
	Southbound	560	557

Site	Date	LaneDescription	DirectionD	Class	value_08:(	value_17:0 LA	Source Type
700024	28/01/2013	Eastbound	East	Total Volume		433 Leicestershire	pvr
700024	28/01/2013	Westbound	West	Total Volume		396 Leicestershire	pvr
700024	29/01/2013	Eastbound	East	Total Volume	439	313 Leicestershire	pvr
700024	29/01/2013	Westbound	West	Total Volume	321	423 Leicestershire	pvr
700024	30/01/2013	Eastbound	East	Total Volume	412	324 Leicestershire	pvr
700024	30/01/2013	Westbound	West	Total Volume	331	451 Leicestershire	pvr
700024	31/01/2013	Eastbound	East	Total Volume	409	311 Leicestershire	pvr
700024	31/01/2013	Westbound	West	Total Volume	329	434 Leicestershire	pvr
700024	01/02/2013	Eastbound	East	Total Volume	434	334 Leicestershire	pvr
700024	01/02/2013	Westbound	West	Total Volume	323	458 Leicestershire	pvr
700024	04/02/2013	Eastbound	East	Total Volume	424	305 Leicestershire	pvr
700024	04/02/2013	Westbound	West	Total Volume	329	424 Leicestershire	pvr
700024	05/02/2013	Eastbound	East	Total Volume	401	305 Leicestershire	pvr
700024	05/02/2013	Westbound	West	Total Volume	347	421 Leicestershire	pvr
700024	06/02/2013	Eastbound	East	Total Volume	437	Leicestershire	pvr
700024	06/02/2013	Westbound	West	Total Volume	325	Leicestershire	pvr
700024	21/06/2016	Eastbound	East	Total Volume		485 Leicestershire	pvr
700024	21/06/2016	Westbound	West	Total Volume		337 Leicestershire	pvr
700024	22/06/2016	Eastbound	East	Total Volume	367	470 Leicestershire	pvr
700024	22/06/2016	Westbound	West	Total Volume	397	357 Leicestershire	pvr
700024	23/06/2016	Eastbound	East	Total Volume	375	455 Leicestershire	pvr
700024	23/06/2016	Westbound	West	Total Volume	398	381 Leicestershire	pvr
700024	24/06/2016	Eastbound	East	Total Volume	328	490 Leicestershire	pvr
700024	24/06/2016	Westbound	West	Total Volume	385	376 Leicestershire	pvr
700024	27/06/2016	Eastbound	East	Total Volume	383	472 Leicestershire	pvr
700024	27/06/2016	Westbound	West	Total Volume	438	317 Leicestershire	pvr
700024	28/06/2016	Eastbound	East	Total Volume	363	449 Leicestershire	pvr
700024	28/06/2016	Westbound	West	Total Volume	419	345 Leicestershire	pvr
700024	29/06/2016	Eastbound	East	Total Volume	374	456 Leicestershire	pvr
700024	29/06/2016	Westbound	West	Total Volume	430	372 Leicestershire	pvr
700024	30/06/2016	Eastbound	East	Total Volume	366	Leicestershire	pvr
700024	30/06/2016	Westbound	West	Total Volume	410	Leicestershire	pvr

	AM	PM
Eastbound	394	400
Westbound	370	392