



Worcestershire
Local Enterprise Partnership

Local Transport Board

Worcestershire Local Transport Board

Business Case Summary Report for Final Approval

Worcestershire Flood Alleviation Schemes

September 2016



SCHEME SUMMARY

Scheme Name	Worcestershire Flood Alleviation Schemes	Date	September 2016
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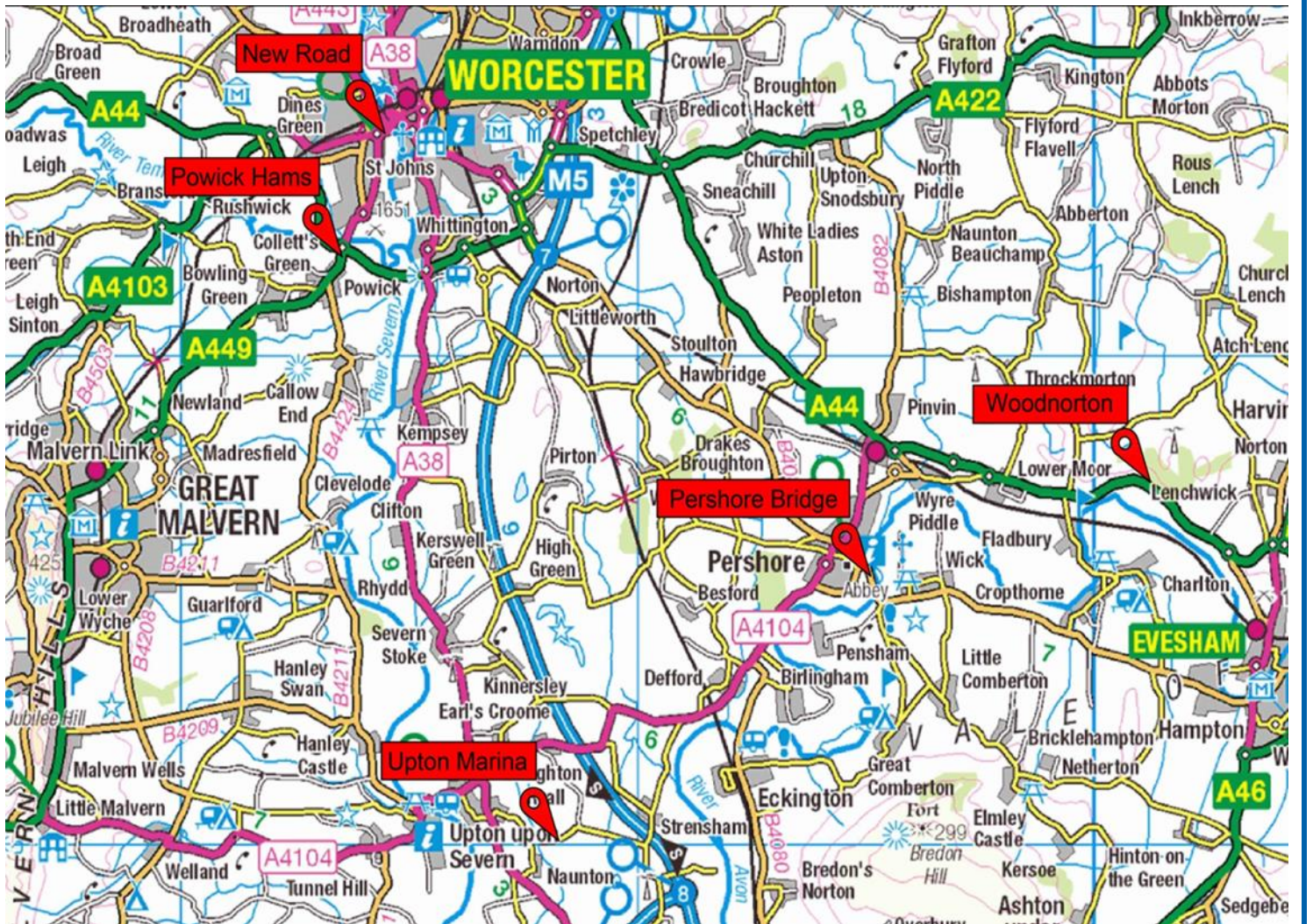
Scheme
Scheme Description

Some key sections of Worcestershire's highway network are frequently closed owing to river and surface water flooding.

This can have a significant impact on the economy through:

- major disruption to traffic flow
- lengthy diversions
- domestic, business and emergency journey time delays
- congestion and subsequent environmental impact, for example on diversion routes
- perception that economic centres / businesses are closed
- reduction in domestic and business visits to and between businesses and economic centres

In addition to the obvious impact on WCC's corporate 'Open for Business' and 'Environment' priorities, the disruption to school, leisure, tourism, medical and emergency service journeys means that there is also significant impact on WCC's other corporate priorities; 'Families & Children' and 'Health & Wellbeing'.





This programme of schemes will make physical changes to the roads in five places where flooding has caused problems at regular intervals in recent years.

A44 New Road, Worcester – 19,593 AADT (plus diverted east-bound traffic) – impacted 2000, 2007, 2014

A44 Powick – 19,628 AADT – impacted in 2000, 2007, 2014

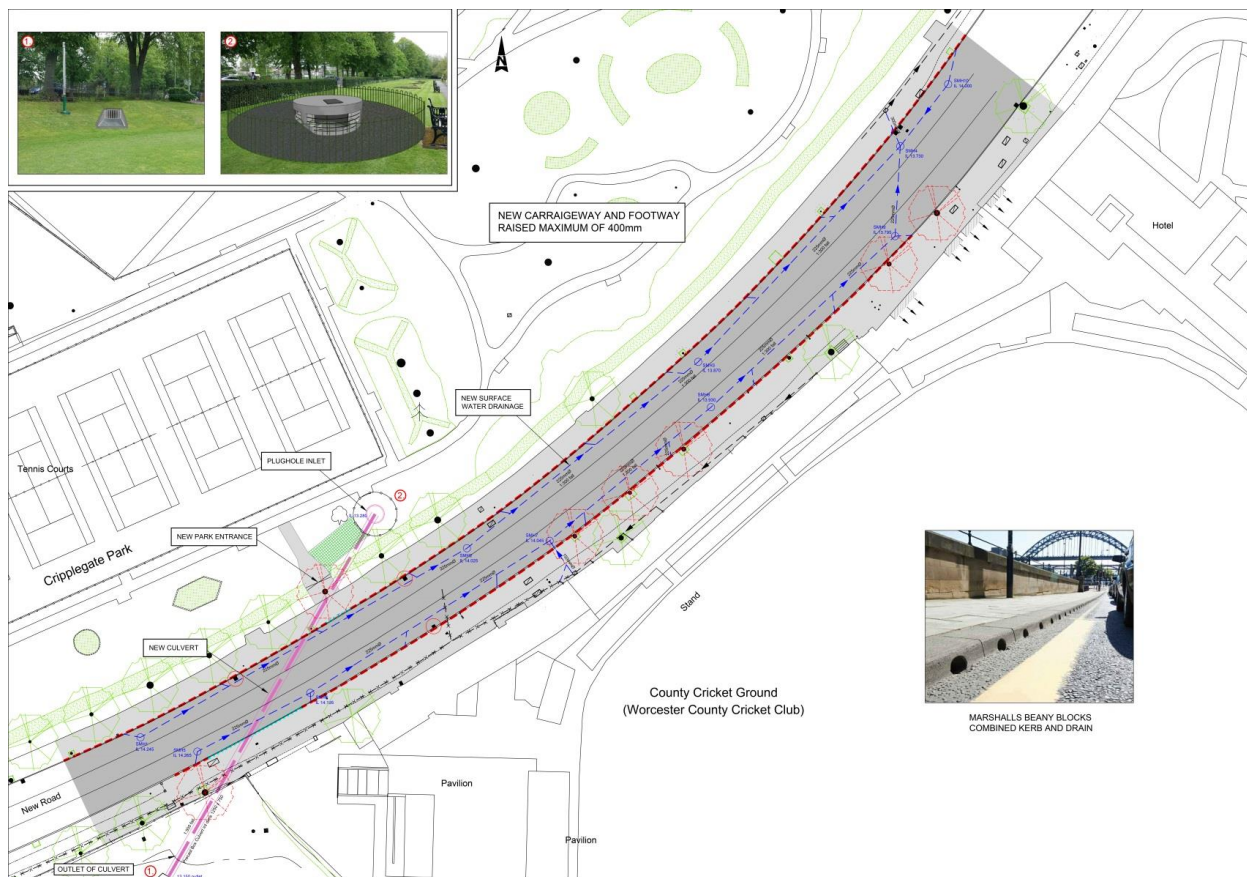
A4084 Pershore – 10,632 AADT – impacted in 1998, 2000, 2012

A44 Wood Norton – 12,450 AADT – impacted in 1998, 2000, 2001, 2007, 2008, 2012, 2014

A4104 Upton-upon-Severn – 12,157 AADT – impacted in 2000, 2007, 2014

The works will reduce the frequency of road closures. The proposed schemes include raising the levels of carriageways, improvements to drainage and changes in the directional use of roads.

Scheme Layout – A44 New Road, Worcester





Scheme Layout - A4104 Upton on Severn



Scheme Objectives

The aim of the project is to minimise the negative impacts of flood events

Objective 1	To reduce the likelihood of closure or severe disruption from flooding on five stretches of the highway network
Measure of Success	Extent to which the stretches of highway remain open and usable during a flood event
Timescale	Spring 2018
Indicators	Number of days highways closed / severely disrupted Frequency of highway closure / severe disruption Impact on the economy
Dependencies, Risks, Constraints	Land drainage consents Planning permission Flood plain impacts Funding availability Resource availability Flooding during construction Severe weather during construction Land purchase Landowner permissions Impact of works



FINANCIAL SUMMARY

Main Expenditure Items (£m)	FY 15/16	FY 16/17	FY 17/18	FY 18/19	FY 19/20	FY 20/21	Total
Scheme preparation costs including design and project management	0.17	0.32	0.19				0.68
Land and compensation including Part 1 claims		0.15					0.15
Works construction including stats costs (including risk and optimism bias)	0.18	0.21	3.11				3.50
Site Supervision and other external costs							
TOTAL COST	0.35	0.68	3.30				4.33
Total Required Budget	0.35	0.68	3.30				4.33
Total Local Contribution	0	0	0.33				0.33
Total LTB Requirement	0.35	0.68	2.97				4.00
Costs by Individual Project	Design, supervision and land		Construction		Total		
A44 New Road, Worcester	£177,000		£1,033,000		£1,210,000		
A44, Powick	£25,000		£65,000		£90,000		
A4084, Pershore	£60,000		£600,000		£660,000		
A44, Wood Norton/ Craythorne	£70,000		£320,000		£390,000		
A4104, Upton – on- Severn	£500,000		£1,480,000		£1,980,000		
Total					£4,330,000		

VALUE FOR MONEY STATEMENT

	Assessment	Detail
BCR	BCR = 2.11 This puts the scheme in the High value for money category.	Appraisal has quantified traffic impacts together with the wider economic impact of reducing disruption due to flooding.
Non-Monetised Impacts	Slight Beneficial No adjustment to BCR required	Slight beneficial impacts from: <ul style="list-style-type: none"> • Reliability • Regeneration • Noise • Air quality • Greenhouse gases • Journey Quality • Access to Services • Accidents • Severance Slight adverse impacts from: <ul style="list-style-type: none"> • Landscape • townscape • Biodiversity
Key Risks, Sensitivities and Uncertainties	The assessment of benefits is based upon an assumption of the likely propensity for flooding in the future, based upon empirical evidence over the last 15 years. By its very nature (the forecasting of relatively rare events) there is greater uncertainty about the scale of benefits than that associated with conventional transport modelling of relatively congested networks.	If the frequency of flooding diminishes the scheme could fall within the Medium value for money category, rather than High. On the other hand, if flooding becomes more frequent, as is suggested by some Climate Change scenarios, the scheme benefits could have been under-estimated.
Value for Money Category		High

DELIVERABILITY**Programme and Outstanding Risks to Delivery**

The key project risks are:

- Securing planning consent where necessary
- Securing land drainage consent / agreement from the Environment Agency
- Costs of utility diversions

ITA COMMENTARY**Strategic Case**

- Clear objective – to reduce the likelihood of closure or severe disruption from flooding on five stretches of the highway network
- Alignment with Strategic Economic Plan priority to keep Worcestershire Open for Business
- Keeping traffic moving around the county, especially to and from the new game changer sites

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Economic Case

- Includes an assessment of the extent of existing flooding problems – duration and impact on highway network and businesses
- Assesses the transport economic impact of longer journeys using diversion routes
- Includes an assessment of the wider economic impact of employee disruption and loss of trade
- Recognises that some users will not travel during times of flooding, and that some will be able to work productively from home
- Notes the potential for in combination effects when several sites are closed due to flooding at the same time
- Presents a central value for money case which represents High value for money

Financial Case

- An overall cost estimate has been prepared for each scheme within the anticipated total budget of £4.33m
- The estimated costs for each scheme include provision for risk and optimism bias

Commercial Case

- For the Upton-on-Severn scheme the design will be completed by CH2M Hill and the construction phase will be tendered
- The remaining schemes will be designed in house and be constructed by the term maintenance contractor Ringway

Management Case

- A governance structure is in place with a programme manager and individual project managers
- Land acquisition is required at Upton-on-Severn, and land drainage consent is required at several sites
- Planning permission is required at New Road, Worcester
- Communications and Stakeholder management plans are in place

RECOMMENDATION

Independent Transport Advisor Recommendation

- We conclude that the Strategic Case for the Flood Alleviation Scheme is sound
- We conclude that the scheme represents High value for money
- We note that in this case there is no requirement for match funding
- We consider that Management Case and Commercial Case are appropriate
- **We recommend that Flood Alleviation scheme be given Full Approval with a contribution of up to £4.0m from the Worcestershire Local Growth Fund**