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Tackling High-Risk Regional Roads

Safer Roads Fund 2017/2018

Dr Suzy Charman
Road Safety Foundation
October 2018



The Royal Automobile Club Foundation for Motoring Ltd is a transport policy and research organisation which explores the economic, mobility, safety and environmental issues relating to roads and their users. The Foundation publishes independent and authoritative research with which it promotes informed debate and advocates policy in the interest of the responsible motorist.

RAC Foundation
89–91 Pall Mall
London
SW1Y 5HS

Tel no: 020 7747 3445
www.racfoundation.org

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About the Road Safety Foundation

The Road Safety Foundation is a UK charity advocating road casualty reduction through simultaneous action on all three components of the safe road system: roads, vehicles and behaviour. The charity has enabled work across each of these components and has published several reports which have provided the basis of new legislation, government policy or practice.

For the last decade, the charity has focused on developing the Safe Systems approach, and in particular leading the establishment of the European Road Assessment Programme (EuroRAP) in the UK and, through EuroRAP, the global UK-based charity International Road Assessment Programme (iRAP).

Since the inception of EuroRAP in 1999, the Foundation has been the UK member responsible for managing the programme in the UK (and, more recently, Ireland), ensuring that these countries provide a global model of what can be achieved.

The Foundation plays a pivotal role in raising awareness and understanding of the importance of road infrastructure at all levels, through:

- annual publication of EuroRAP Risk Mapping and Performance Tracking in a form which can be understood by the general public, policymakers and professionals alike;
- supporting use of the iRAP and EuroRAP protocols at an operational level by road authorities, in order to support engineers in improving the safety of the road infrastructure for which they are responsible; and
- proposing the strategies and goals that the government should set in order to prevent tens of thousands of fatalities and disabling injuries.

The Road Safety Foundation was a founder member of the FIA Foundation (established as an independent UK registered charity in 2001 by the Fédération Internationale de l'Automobile (FIA) and frequently works with FIA members and other organisations both in UK and abroad, including the RAC Foundation, the AA, IAM RoadSmart, RoadSafe, the Parliamentary Advisory Council for Transport Safety (PACTS) and professional bodies such as the Association of Directors of Environment, Economy, Planning and Transport (ADEPT).

The formal objectives of the charity, which was founded in the 1980s, are to:

- carry out, or procure, research into all factors affecting the safe use of public roads;
- promote and encourage the safe use of public roads by all classes of road users through the circulation of advice, information and knowledge gained from research; and
- conceive, develop and implement programmes and courses of action designed to improve road safety, which are to include the undertaking of any projects or

programmes intended to educate young children or others in the safe use of public roads.

The library of the Road Safety Foundation's published work is at www.roadsafetyfoundation.org.

About the Author

Dr Suzy Charman is the Road Safety Foundation's Executive Director. She has international expertise in road safety management, particularly in the prioritisation of road safety engineering interventions. She is responsible for Road Safety Foundation's projects with the RAC Foundation, the Department for Transport, Highways England and increasingly overseeing Road Safety Foundation's work with local authorities.

Acknowledgements

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Disclaimer

This document has been commissioned by the RAC Foundation. The report is written by Dr Suzy Charman, Executive Director of the Road Safety Foundation, and is published by the RAC Foundation.

Any errors or omissions are the author's sole responsibility. The report content reflects the views of the author and not necessarily those of the RAC Foundation or supporters of the Road Safety Foundation.

Contents

Forewords	vi
Executive Summary and Key Results	viii
1 Background, Approach and Process	1
1.1 Background.....	1
1.2 The approach	2
1.3 The process	2
2 Results	9
3 Evaluation.....	57
3.1 Current approach – identification and treatment of priority sections	57
3.2 Safer Roads Fund – selection of sections	58
3.3 iRAP software and outputs	58
3.4 Future use of proactive approaches	58
4 Discussion.....	59

Figures list

Figure 1.1: Sample Safer Roads Investment Plan.....	6
Figure 1.2: Location of recommended shoulder rumble strips.....	6

Tables list

Table 2.1: A40 – Buckinghamshire County Council	11
Table 2.2: A628 – Barnsley Metropolitan Borough Council	12
Table 2.3: A6033 (North) – Calderdale Metropolitan Borough Council	13
Table 2.4: A6033 (South) – Calderdale Metropolitan Borough Council.....	13
Table 2.5: A1303 – Cambridgeshire County Council	14
Table 2.6: A532 – Cheshire East Council	15
Table 2.7: A536 – Cheshire East Council	16

Table 2.8: A537 – Cheshire East Council	17
Table 2.9: A3058 – Cornwall Council	18
Table 2.10: A3071 – Cornwall Council	19
Table 2.11: A592 – Cumbria County Council	20
Table 2.12: A619 – Derbyshire County Council	21
Table 2.13: A5012 – Derbyshire County Council	22
Table 2.14: A5004 – Derbyshire County Council	23
Table 2.15: A3121 – Devon County Council	24
Table 2.16: A3123 – Devon County Council	25
Table 2.17: A67 – Durham County Council	26
Table 2.18: A161 – East Riding of Yorkshire Council and North Lincolnshire Council	27
Table 2.19: A4173 – Gloucestershire County Council	28
Table 2.20: A27 – Hampshire County Council and Portsmouth City Council	29
Table 2.21: A32 – Hampshire County Council	30
Table 2.22: A36 – Hampshire County Council	31
Table 2.23: A252 – Kent County Council	32
Table 2.24: A290 – Kent County Council	33
Table 2.25: A682 – Lancashire County Council and North Yorkshire County Council	34
Table 2.26: A588 – Lancashire County Council	35
Table 2.27: A683 – Lancashire County Council	36
Table 2.28: A6 – Lancashire County Council	37
Table 2.29: A581 – Lancashire County Council	38
Table 2.30: A1084 – Lincolnshire County Council and North Lincolnshire Council	39
Table 2.31: A631 (West) – Lincolnshire County Council	40
Table 2.32: A631 (East) – Lincolnshire County Council	40
Table 2.33: A18 – North East Lincolnshire Council and Lincolnshire County Council	41
Table 2.34: A161 – North Lincolnshire Council and Nottinghamshire County Council	42
Table 2.35: A167 – North Yorkshire County Council	43
Table 2.36: A684 – North Yorkshire County Council and Cumbria County Council	44

Table 2.37: A6108 – North Yorkshire County Council	45
Table 2.38: A371 – North Somerset Council	46
Table 2.39: A634 – Nottinghamshire County Council and Rotherham Metropolitan Borough Council	47
Table 2.40: A670 – Oldham Council and Tameside Metropolitan Borough Council	48
Table 2.41: A361 – Oxfordshire County Council	49
Table 2.42: A529 – Shropshire Council and Cheshire East Council	50
Table 2.43: A4 – Slough Borough Council.....	51
Table 2.44: A57 – St Helens Council	52
Table 2.45: A1290 – Sunderland City Council	53
Table 2.46: A217 – Surrey County Council.....	54
Table 2.47: A126 – Thurrock Council	55
Table 2.48: A285 – West Sussex County Council.....	56

Forewords

As this report is published so we have just seen the 2017 road casualty statistics for Great Britain. The picture they paint is distressingly familiar – a plateau in road deaths, averaging five each day, over twenty-thousand serious injuries, the total of all injuries counted in the hundreds of thousands.

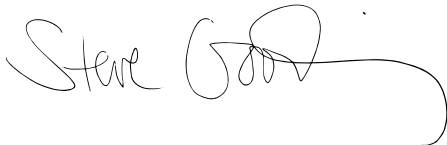
It is all too easy to declare that something should be done to stem this tide of death and injury without specifying exactly what that something should be.

That is why we were pleased to have the opportunity to support the work documented in this report, and proud to be associated with the result.

The report provides a source document of practical, real-world examples where risk has been identified, assessed and plans have been drawn up to reduce death and injury.

With local authority budgets under strain we hope that all those responsible for the stewardship of our highways will read this report and take from it the fact that tackling road risk isn't all about high-cost, high-profile projects: it's often about drawing on the existing evidence base, and, above all, a determination to do something practical that works.

Steve Gooding

A handwritten signature in black ink, appearing to read 'Steve Gooding', with a long, sweeping horizontal line extending from the end of the name.

Director, RAC Foundation

This report offers a real and new opportunity to tackle death and trauma on our roads.

Firstly, the report shows we can stop lives being ruined in large numbers if we apply new techniques to hunt systematically for the most affordable measures to reduce the in-built risk of road infrastructure.

Secondly, the report shows that if we do that, the economic returns to be expected are in excess of those generated by most major transport projects if they are evaluated on the same basis.

This is good news. The management of road infrastructure safety can take a step closer to the approach used in medicine, mining, rail and aviation.

The innovation of the Safer Roads Fund has shown that better value for money and saving lives can go hand-in-hand providing that safety projects are generated and financed in a way that is proportionate to their importance and their returns.

The way that central government, local authorities and charities have partnered together has been exemplary.

I am grateful to the RAC Foundation, which provided leadership and crucial seed corn finance to kick-start this new systematic way of reducing road trauma.

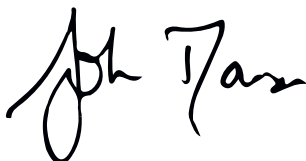
Ministers and senior officials should be proud of their creativity in conceiving a Safer Roads Fund targeted at the 50 most dangerous A-roads as an unarguable starting point for the new approach.

The portfolio of projects has been developed to a demanding timetable. It has involved training in new technologies able to measure and test how risks on the roads could be reduced. Local authorities have quickly responded to the new potential to deliver major reductions in road trauma.

The enemy now is loss of momentum. The new skills and learning must be consolidated and applied to successive new portfolios before they slip away.

Unsurprisingly, the approach is already being emulated internationally. In Britain, local authority cabinets, transport leaders and economic advisers everywhere must become aware of this new art of the possible.

John Dawson

A handwritten signature in black ink, appearing to read 'John Dawson', with a stylized, cursive script.

Chair, Management Committee, Road Safety Foundation

Executive Summary and Key Results

Context

The number of people killed on Britain's roads increased by just under 4% from 1,730 in 2015 to 1,793 in 2017, the highest annual total since 2011. In 2017, road traffic crashes had a value of prevention of a staggering £35 billion, which is more than the UK spends on GP services and primary schools combined.

International commitments to halve the number of road traffic deaths every decade will not be met unless there is a step change in the way that this significant problem is tackled.

History

In November 2016, the Secretary of State for Transport announced a £3 billion roads investment package. The Safer Roads Fund was allocated some of this for upgrading 50 of England's most dangerous local A-road sections.

The Safer Roads Fund covers the four financial years 2017/18 to 2020/1. The fund is specifically targeted at delivering road upgrades and improvements to reduce the number and severity of fatal and serious injury collisions on the 50 highest-risk local A-road sections, based on the Road Safety Foundation's 2016 analysis.

In total, 450 miles of roads were eligible for Rounds 1 and 2 of the Safer Roads Fund.

Approach

Countries across the world are now adopting the Safe System philosophy, which means that they no longer simply blame road users for crashes, but instead are seeking to design a system that will protect the road user from death or serious injury when crashes occur. This is a fundamental change in approach, based on the principles of *inevitability* that crashes will occur because humans are 'error prone', and the *survivability* of crashes based on known tolerances of the human body to crash forces.

In approaching road safety engineering treatment, the Safe System philosophy necessitates that road authorities proactively manage risk on their networks, rather than waiting for crashes to occur before responding.

International research has shown how different road features contribute to the likelihood and severity of crashes, so it is possible to identify and reduce risk based on an objective and

evidence-led methodology. This allows road authorities to take a 'proactive' risk assessment approach when identifying potential treatments to reduce risk, in the same way as is applied in other industries such as medicine, mining, aviation and, even, road worker safety.

To support local authorities in developing a business case for investment based on a risk management approach, the DfT offered authorities the opportunity to use the International Road Assessment Programme (iRAP) Star Rating methodology supported by Road Safety Foundation. This methodology has now been used in around 80 countries, covering nearly 570,000 miles of roads.

The iRAP process allows engineers to review how risk changes along a route, and the sort of treatments that might be cost-effective to reduce that risk. Road safety engineers can then take this information, together with their local knowledge and expertise, and develop their countermeasure plans.

The Road Safety Foundation developed a new way of modelling these plans, so that the impact of different options could be assessed. This was done by developing a User-Defined Investment Plan (UDIP) process that estimates the number of fatal and serious injuries (FSIs) that should be prevented by each countermeasure.

Portfolio results

Together, the schemes will cost nearly £100 million, to be spent before March 2021. The portfolio benefits are clear:

- more than 1,450 FSIs estimated to be prevented in the next 20 years;
- value of prevention of injuries (20 years): £550 million;
- economic cost (20 years) (including maintenance and operation): £125 million; and
- portfolio benefit:cost ratio (BCR): 4.4.

The measures that will be implemented as a result of this investment include:

- 135 new or improved pedestrian crossings;
- 10 miles of new or improved footpaths;
- 20 miles of new or improved cycle facilities;
- 225 improved junctions;
- 290 miles of improved shoulders;
- 90 miles of cleared or protected roadsides;
- 90 miles of improved visibility and signing;
- 300 improved bends;
- 150 miles of improved speed limits, enforcement and traffic calming;
- 80 miles of improved medians; and
- 70 miles of improved road surfaces.

Conclusions

The innovative Safer Roads Fund is an extremely positive first step. An estimated 1,450 families will be spared the sorrow of death or serious injury over the next twenty years from this first portfolio of schemes. Both the societal impact and economic impact are clear; moreover, the BCR of the portfolio investment would compete well with many transport schemes.

The proactive iRAP inspection approach has been well received, and it is clear that this represents good practice, though there remains one clear barrier to widespread application of such a proactive methodology, and that is identification of sustainable funding for road safety interventions. Because of this, the dwindling local authority road safety budgets are likely to continue to be spent on making very minor improvements at historical crash clusters.

Although a compelling case for road safety engineering treatments can be made, the impact of these is often not felt at the local level. Moreover, there is little accountability for road-related trauma at the local level. While it is inconceivable that a death occurring in social care would not be discussed at the board level in local government, it is rare for road deaths to feature. While other budgets are protected, local authority road safety capital investment budgets have reduced significantly over time.

National and local accountability for road safety performance needs to be established, and protected funds either at the national or local level should be put in place if international commitments to halve the number of road deaths every decade is to be met.

1. Background, Approach and Process



This section provides an overview on the origin of the Safer Roads Fund and the approach taken by Road Safety Foundation in working with local authorities to develop proposals for submission.

1.1 Background

The Road Safety Foundation has produced risk maps of motorways, trunk roads and local authority A-roads in Great Britain since 2002. In this work, the Road Safety Foundation identifies the risk of being involved in a fatal or serious crash per billion vehicle-kilometres travelled and presents this cartographically. This annual programme has allowed the Road Safety Foundation to track performance over time, identifying persistently high-risk roads, and those that have improved.

The Road Safety Foundation has also undertaken several International Road Assessment Programme (iRAP) inspections in Great Britain. These provide Star Ratings showing the intrinsic safety performance of the road infrastructure itself, as well as indicative Safer Roads Investment Plans (SRIPs) that can be implemented to improve safety. The whole of the Highways England Strategic Road Network has been inspected after it made a delivery plan commitment for 90% of travel to be on three star or above roads by 2020.

In 2015, the Road Safety Foundation demonstrated the development of a SRIP on a local authority A-road in West Sussex. The work was sponsored by Ageas and reported in *Engineering Safer Roads*¹. In 2016, the RAC Foundation supported a rapid pathfinder project to inspect several high-risk local A-road sections. At a similar time, the Autumn Statement provided funding to tackle the 50 ‘most dangerous’ local A-roads in England, and the DfT Safer Roads Fund was launched. The DfT gave two deadlines for local authorities to submit their proposals: one at the end of April 2017 and one at the end of September 2017.

The pathfinder project soon evolved to provide support for eight pathfinder authorities with eleven road sections to submit proposals to the DfT, while a further grant from the DfT facilitated inspection of the remaining top 50 sections.

1.2 The approach

The Safe System philosophy suggests that, in order to effectively tackle road infrastructure safety, a proactive risk reduction approach needs to be adopted. The approach outlined here, therefore, allows road authorities to adopt a ‘proactive’ risk assessment to identifying potential treatments in order to reduce risk, in the same way as is applied in other industries such as medicine, mining, aviation and, even, road worker safety. A proactive approach can mean acting to remove risks *before* people are killed or hurt. Rather than focusing on historical crash cluster sites alone, where chance can often be the main explanation of clusters and ‘regression to the mean’ effects can flatter the effectiveness of action, a proactive approach seeks to focus on known high risks.

For more information about the approach please refer to the report *Tackling High-Risk Regional Roads: Implementation Guidelines*².

1.3 The process

1.3.1 Identification of priority sections

The selection of road sections to be eligible for the Safer Roads Fund in England was done on the basis of the risk of a fatal or serious crash per billion vehicle-kilometres driven, calculated using STATS19 crash data and DfT traffic flow data. The roads eligible were the top 50 high-risk local authority A-roads shown on the Safer Roads Fund map, on the next page.

¹ <http://www.eurorap.org/wp-content/uploads/Engineering-Safer-Roads.pdf>

² <https://www.racfoundation.org/wp-content/uploads/2017/11/Tackling-high-risk-roads-RSF-RACF-October-2017-2.pdf>

Safer Roads Fund



This map shows the 50 highest risk 'A' road sections in England, based on analysis by the Road Safety Foundation of the British EuroRAP network.

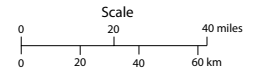
The risk is calculated by comparing the frequency of road collisions resulting in death and serious injury on every stretch of road (between 2012 - 2014) with how much traffic each road is carrying.

For more information on the Road Safety Foundation go to www.roadsafetyfoundation.org.

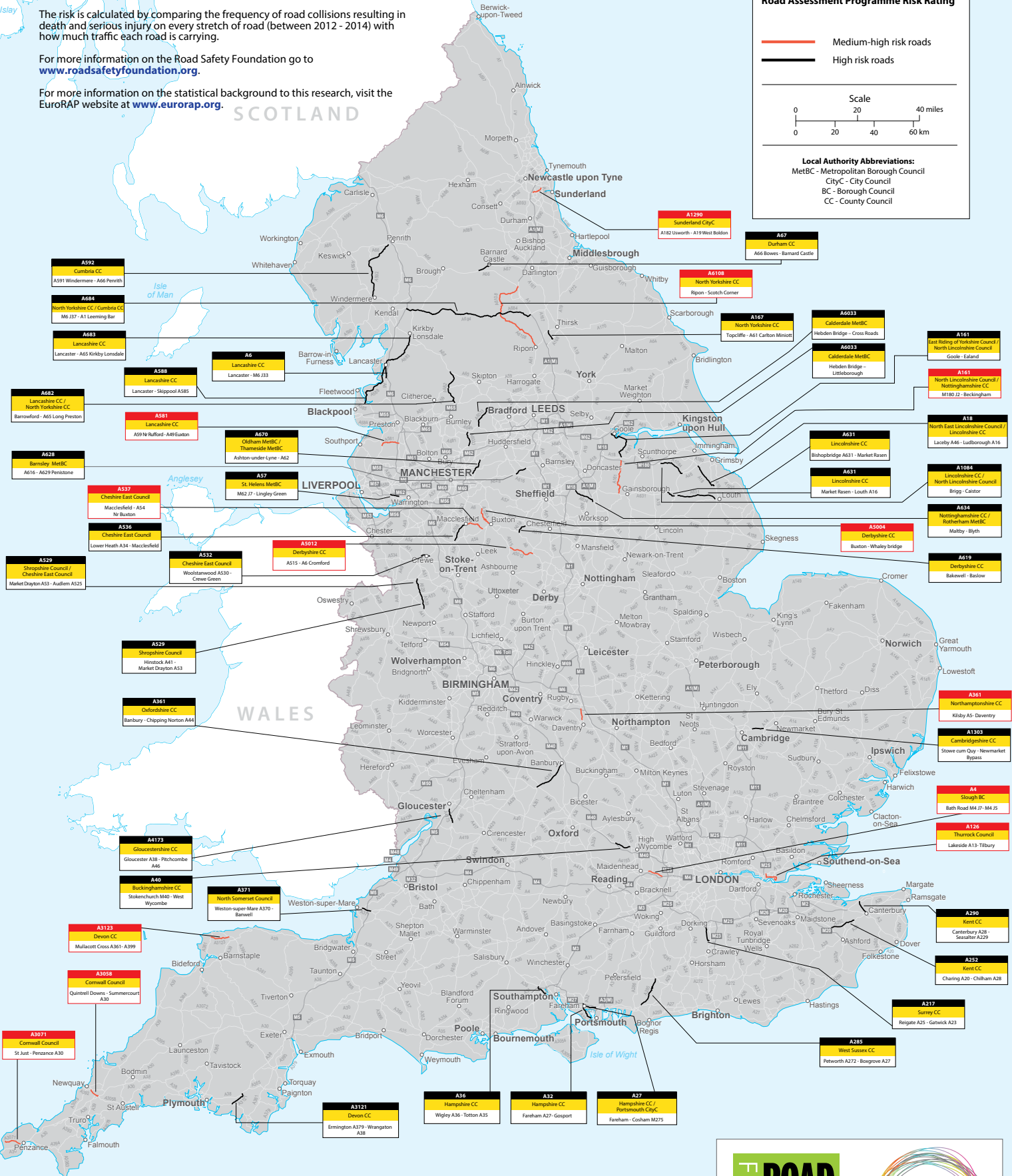
For more information on the statistical background to this research, visit the EuroRAP website at www.eurorap.org.

Road Assessment Programme Risk Rating

- Medium-high risk roads
- High risk roads



Local Authority Abbreviations:
 MetBC - Metropolitan Borough Council
 CityC - City Council
 BC - Borough Council
 CC - County Council



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Ageas

Local authorities were offered the assistance of the Road Safety Foundation, though they were also free to adopt their own approach when estimating the potential benefits of their proposed schemes. The approach taken by the Road Safety Foundation is detailed in the sections that follow.

1.3.2 Survey and coding

The Road Safety Foundation team videoed the 50 road sections using Garmin VIRB X or Ultra 30 action cameras mounted on the windscreen of an ordinary car. The camera system collects high-definition wide-angled video footage suitable for coding attributes not only on the roadway itself, but also on the roadsides. The videos were georeferenced using the built-in Garmin GPS, which means that during coding it is possible to identify the location of road attributes along the road.

The 50 road sections were surveyed either in December 2016 or spring 2017. Where practical, the survey team met with local authorities as they travelled around the country in order to brief them about the project. During the 1-2 hour briefing meeting, the team explained the risk mapping results, described the Star Rating methodology and how these approaches could be used together to develop cost-effective treatment programmes. The team also described the supporting data that would be required to calibrate and localise the results.

In the coding process, 50 attributes that are relevant to road safety outcomes were coded every 100m along the road section. The coding was undertaken by an experienced team who reviewed the digital images and recorded road attributes in accordance with the *iRAP Star Ratings and Investment Plans: Coding Manual*³ to create a data file/upload file compatible for upload to the iRAP online software ViDA.

Quality assurance was completed in accordance with the *iRAP Star Ratings and Investment Plans: Quality Assurance Guide*⁴ prior to processing.

Where necessary, local authorities provided more accurate traffic volumes, pedestrian and cyclist flows, and operating speeds to be included in the data file.

1.3.3 Supporting data

At an overall project level, three sets of information are required: crash data, economic parameters and countermeasure costs. The Road Safety Foundation team requested crash data from the local authorities for the most recent 3–5 years. These were used to calibrate the FSI estimation. Economic parameters were set by the DfT, and the iRAP system used countermeasure costs adapted from other projects in the UK. Local authorities provided accurate countermeasure costs in their applications to the Safer Roads Fund, rather than using the generic estimated costs in the iRAP system.

³ http://downloads.irap.org/docs/RAP-SR-2-2_Star_Rating_coding_manual-left.pdf

⁴ http://downloads.irap.org/docs/RAP-SR-2-4_QA_Guide.pdf

1.3.4 Analysis and preliminary generation of a Safer Roads Investment Plan

Once the coding was complete and background data available, the initial Star Rating results and SRIP were generated using the iRAP analysis tools.

Star Ratings are based on road attribute data (information about the geometry and layout of the road such as lane width, junction type, presence and distance to roadside obstacles) and provide a simple and objective measure of the level of safety built into the roads, for each of four types of road user: vehicle occupants, motorcyclists, pedestrians and cyclists. The Star Ratings reflect risk contributed by each of the road attributes, which are coded – the higher the risk, the lower the rating. The risk is calculated on the basis of research evidence on crash modification factors that describes relationships between road attributes and crash risk. More about the model can be found on the iRAP website⁵. Star Rating information can be viewed using charts, tables and maps.

SRIPs identify ways in which FSIs can be prevented in a cost-effective way. ViDA calculates the casualty reduction expected from around 90 countermeasures (treatments designed to improve safety such as crash barriers, central cross-hatching and shoulder rumble strips also known as raised rib lines). It does this every 100m along an inspected road, comparing the data against the cost of implementing the treatment, to produce an economic appraisal. The output is an SRIP, which can be interrogated at the individual section, regional or national level to assess the appropriateness and effectiveness of individual options for improvement. These can be refined to allow economic appraisal of a locally acceptable treatment programme. The appraisal period is normally twenty years, allowing the cost of implementing each measure to be evaluated against the expected casualty savings over the same time period. ViDA provides present values (PVs) and benefit:cost ratios (BCRs) for appraisal of each proposed countermeasure. The information presented in ViDA is shown in Figure 1.1.

⁵ <http://irap.org/en/about-irap-3/methodology>

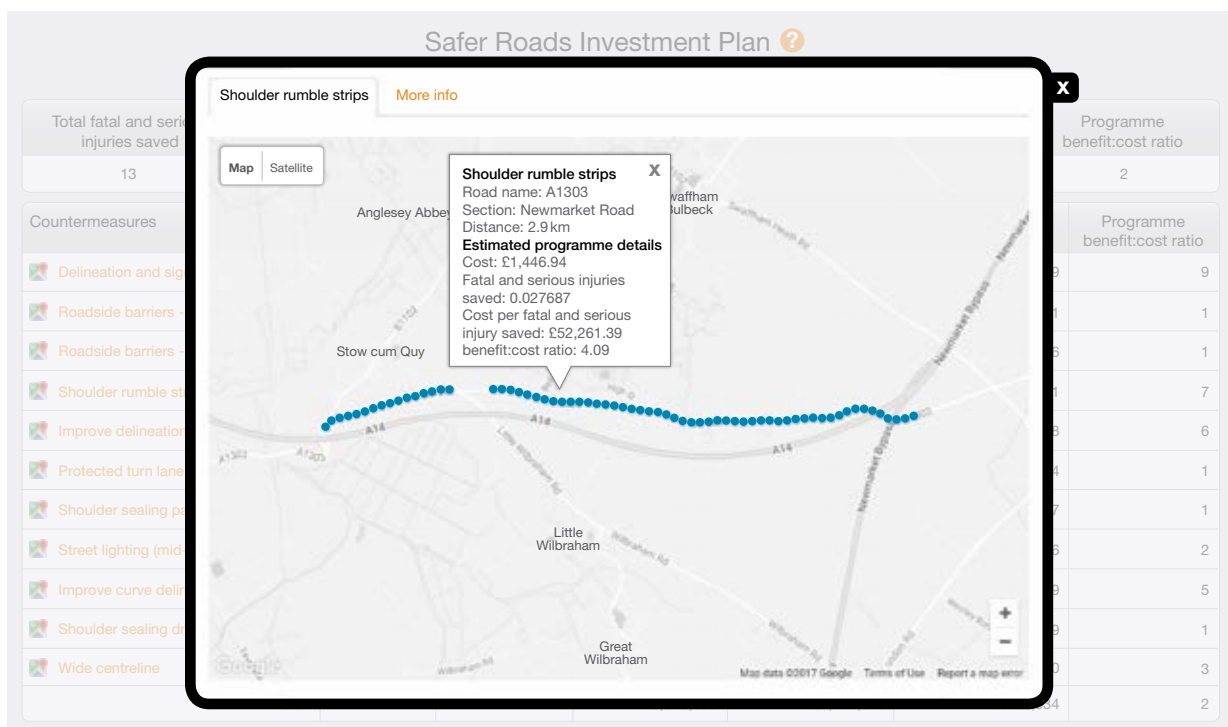
Figure 1.1: Sample Safer Roads Investment Plan

Safer Roads Investment Plan ?						
Currency: £ – Analysis period: 20 years						
Total fatal and serious injuries saved	Total present values of safety benefits		Estimated cost	Cost per fatal and serious injury saved		Programme benefit:cost ratio
13	3,640,558		£1,722,378	£134,543		2
Countermeasures	Length / Sites	Fatal and serious injuries saved	Present value of safety benefit	Estimated cost	Cost per fatal and serious injury saved	Programme benefit:cost ratio
Delineation and signing (intersection)	7 sites	3	805,416	£93,294	£32,939	9
Roadside barriers - passenger side	2.90 km	2	505,999	£368,323	£206,991	1
Roadside barriers - driver side	3.10 km	2	548,004	£393,725	£204,306	1
Shoulder rumble strips	6.60 km	2	653,881	£95,498	£41,531	7
Improve delineation	1.100 km	1	184,964	£29,321	£45,078	6
Protected turn lane (unsignalised 3 leg)	2 sites	1	311,577	£324,124	£295,814	1
Shoulder sealing passenger side (>1m)	2.10 km	1	152,355	£147,584	£275,457	1
Street lighting (mid-block)	0.90 km	1	250,672	£121,928	£138,316	2
Improve curve delineation	0.10 km	0	12,084	£2,665	£62,719	5
Shoulder sealing driver side (>1m)	1.60 km	0	123,983	£112,445	£257,899	1
Wide centreline	5.90 km	0	91,623	£33,471	£103,880	3
Total		13	3,640,558	£1,722,378	£134,534	2

Source: ViDA by iRAP

Clicking on one of the treatments in the SRIP in ViDA identifies the location where the treatment is suggested (Figure 1.2) and provides the economic details of the treatment at each 100m segment. This assists engineers in determining appropriate countermeasures along a route.

Figure 1.2: Location of recommended shoulder rumble strips



Source: Screenshot from ViDA by iRAP

The iRAP tools support users in understanding risk along a section as it highlights where the risk of FSI is high. Each countermeasure proposed in the SRIP is supported by strong evidence that, if implemented, it will prevent FSI in a cost-effective way, that is it is anticipated that the treatments will provide more societal benefit than it costs to construct and maintain the feature. Nevertheless, the SRIP should be regarded as a recommendation for further investigation and must be subject to additional prioritisation, concept planning and detailed design before implementation. All draft SRIPs were reviewed and sense checked by the Road Safety Foundation team ahead of the training.

1.3.5 Capacity building

A key component of the Safer Roads Fund initiative was to build capacity and skills within local authority teams to embed proactive approaches to road safety in practice. Five training courses of one day each were held, to which 75 professionals attended. Training provided:

- an introduction to taking a proactive 'risk management' approach;
- an introduction to road inspections and coding;
- in-depth information on how to use ViDA;
- an overview of how to refine ViDA results for use in the DfT Safer Roads Fund application form; and
- the opportunity to view and manipulate survey results for the first time.

Road Safety Foundation also provided ad hoc support to local authority teams, where necessary, to support them in the development of proposals and in using the ViDA software. It has also adopted a collaborative approach to skill development.

In addition, a briefing was held at the House of Lords on 2 March 2017 for senior authority representatives from the pathfinder group, hosted by Lord Whitty (Road Safety Foundation chairman). At this briefing, the Road Safety Foundation and the Parliamentary Under Secretary for Transport gave a briefing about the DfT Safer Roads Fund and the pathfinder project.

1.3.6 Development of a User-Defined Investment Plan

The iRAP methodology was originally developed to enable network-wide assessments, utilised by investors or national authorities, to assess levels of required investment for large-scale national programmes. Although regional roads have been assessed many times before, the pathfinder project and subsequent project to inspect the top 50 high-risk local A-roads in England applied the iRAP methodology in a slightly new way. In it, road sections were pre-selected based on their historical performance and then investigated in detail, taking the initial SRIPs and refining these to be suitable for application to the DfT's Safer Roads Fund. In order to allow greater refinement, the Road Safety Foundation developed a process to allow local authority engineers to model a User-Defined Investment Plan (UDIP).

When developing UDIPs, the local authorities were able to use the results from ViDA and the SRIP as a guide to consider the risk profile along the road, and how risk might be reduced. Not every measure from a SRIP was locally appropriate or indeed the most suitable treatment; however, the measures within the plan indicated where there was significant risk that could be addressed through implementation of a measure, and that the economic case

could be made for this. Therefore, local authorities were able to select measures that were aimed at reducing the same risk, and then model the impact of these measures.

2. Results



Proposals for 49 of the 50 eligible sections were submitted to the DfT; Northamptonshire County Council did not submit a proposal as extensive works had been completed on the road section identified prior to the announcement of the Safer Roads Fund.

Information on each of the 49 proposals⁶ is presented in Tables 2.1 to 2.48, with corresponding maps of the road sections. This information has been sourced from the Ministerial written statement to Parliament *Road safety: recent progress and future work*⁷, from individual local authorities and from the proposals submitted to DfT available at the links provided in each table. Some of the information in the proposals submitted to DfT by local authorities has been superseded by discussions between DfT and the local authorities and in the Ministerial statement.

The Road Safety Foundation supported the submissions for 42 of the proposals through training, collaborative working and assistance with modelling the safety benefits.

Economic parameters were specified by the DfT.⁸ Overall, the schemes that will be implemented between 2018 and 2021 have a combined capital cost of nearly £100 million. Together, these schemes are estimated to prevent almost 1,450 FSIs over the next twenty years. The PV of the benefit of fatal, serious and slight injuries across the schemes is estimated to be £550 million.⁹ The

⁶ Two proposals for adjacent sections of the A529 in Shropshire (Table 2.42) have now been combined into a single proposal.

⁷ <https://www.gov.uk/government/speeches/road-safety-recent-progress-and-future-work>

⁸ The parameters used in the economic analyses varied for Round 1 proposals; for Round 2 proposals, a discount rate of 3.5% was used in conjunction with 2017 prices. Further information can be found by reviewing each proposal.

⁹ All proposals used the value of prevention of fatal and serious injuries as defined by DfT for 2016 or 2017 (for Rounds 1 and 2 proposals, respectively) to calculate the value of prevention of crashes.

overall cost of capital works, operation and maintenance is estimated to be £125 million.¹⁰ The overall portfolio BCR is therefore 4.4. This means that, for every £1 spent, the value of prevention is £4.40.



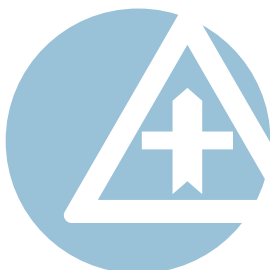
135 new or improved pedestrian crossings



10 miles of new or improved footpaths



20 miles of new or improved cycle facilities



225 improved junctions



290 miles of improved shoulders



90 miles of cleared or protected roadsides



90 miles of improved visibility and signing



300 improved bends



150 miles of improved speed limits, enforcement and traffic calming



80 miles of improved medians



70 miles of improved road surfaces

¹⁰ The economic cost included capital implementation, maintenance and those of operation profiled over a 20-year period.

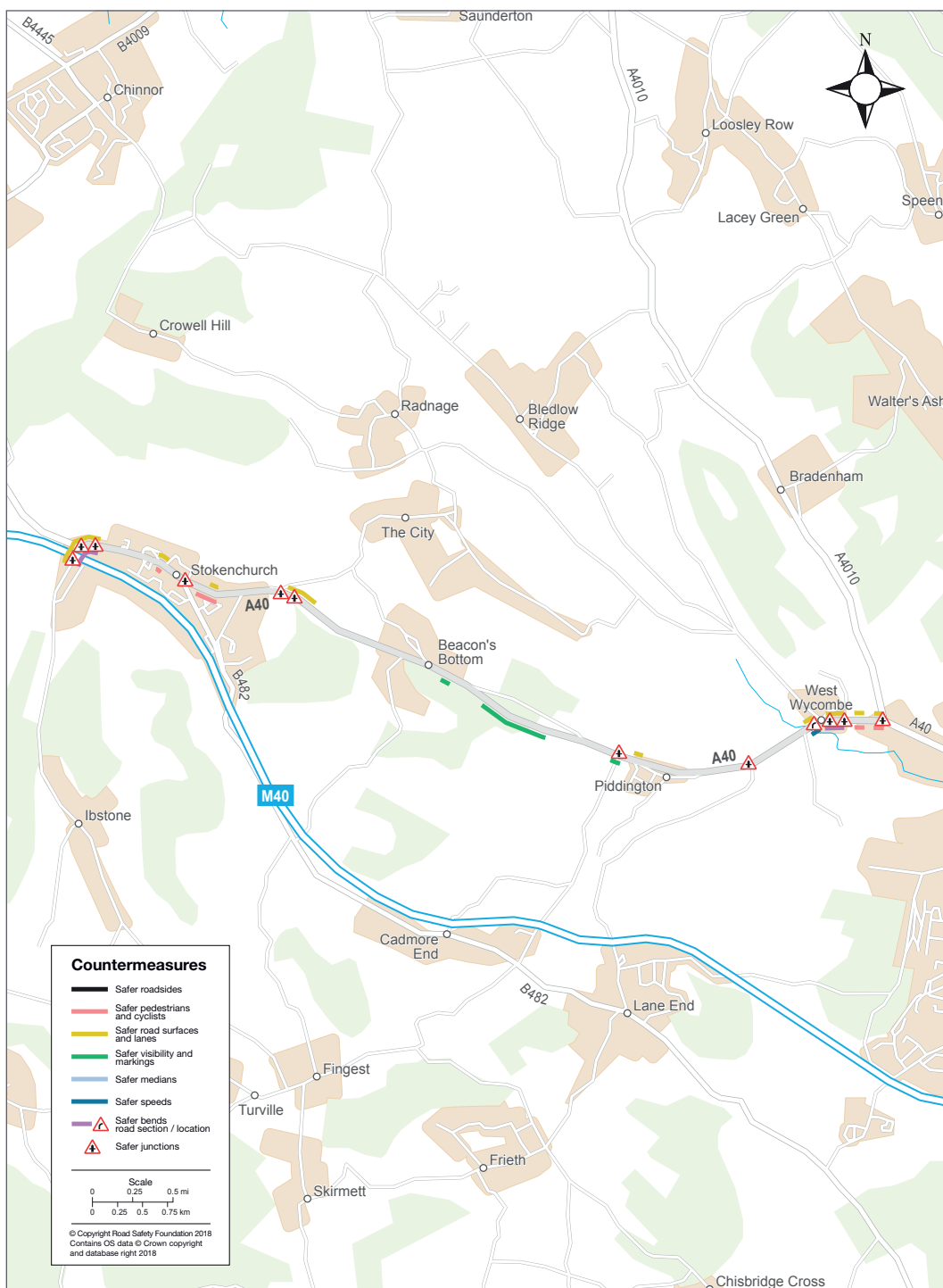


Table 2.1: A40 – Buckinghamshire County Council

Capital investment	£999,000
Start – Finish	2017–18
Estimated fatal and serious injuries saved (20 years)	14.4
Present value of prevention (20 years)	£2,666,840
Cost (20 years)	£663,992
Benefit:cost ratio	4.0
Link to local authority proposal www.buckscc.gov.uk/media/4508738/dft-safer-roads-fund-application-buckinghamshire-cc.pdf	

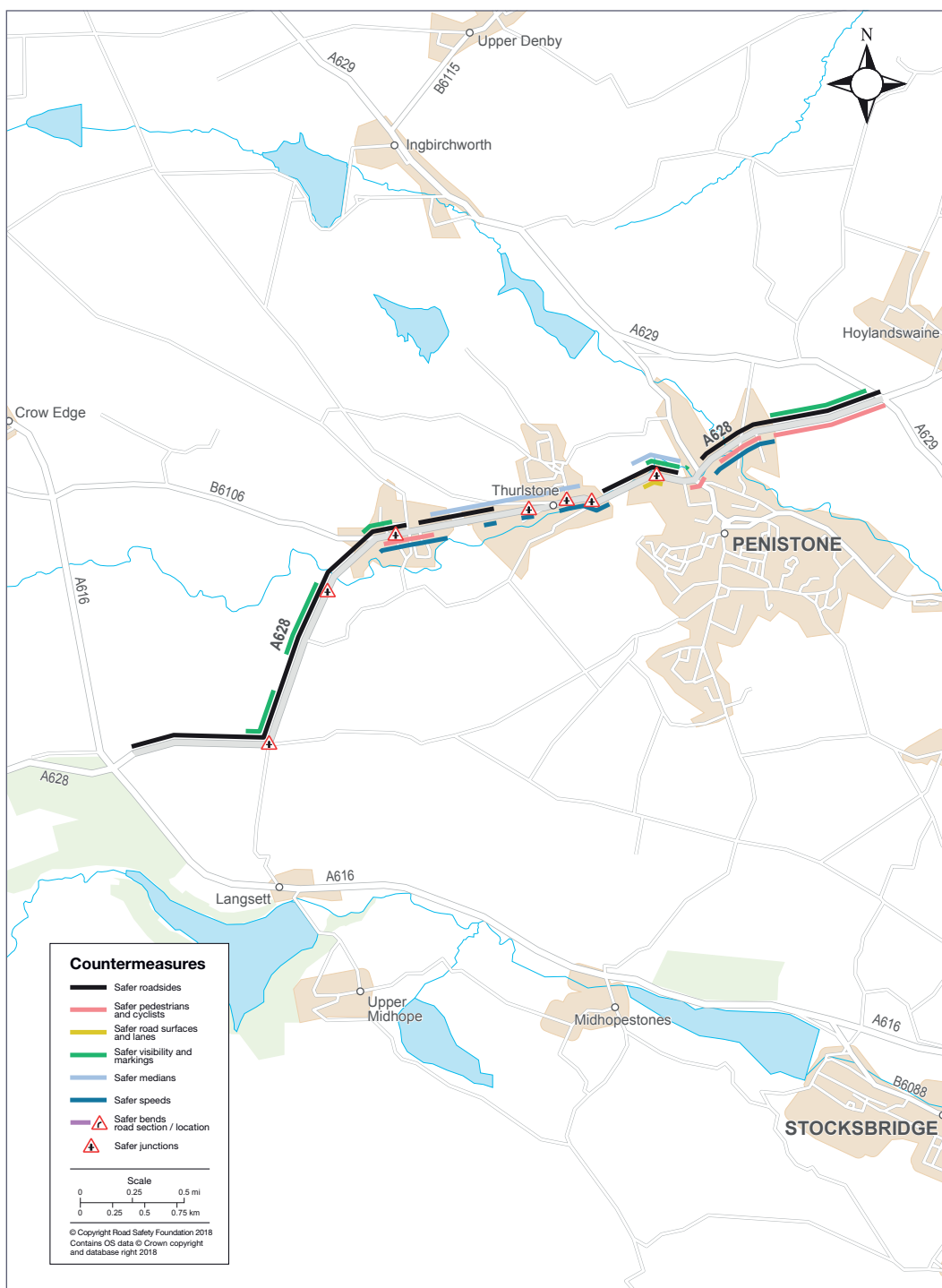


Table 2.2: A628 – Barnsley Metropolitan Borough Council

Capital investment	£1,400,000
Start – Finish	2019–20
Estimated fatal and serious injuries saved (20 years)	10.2
Present value of prevention (20 years)	£4,118,576
Cost (20 years)	£1,405,629
Benefit:cost ratio	2.9
Link to local authority proposal www.barnsley.gov.uk/media/7302/redacted-version-v4-dft-safer-roads-fund-application-form-final.pdf	

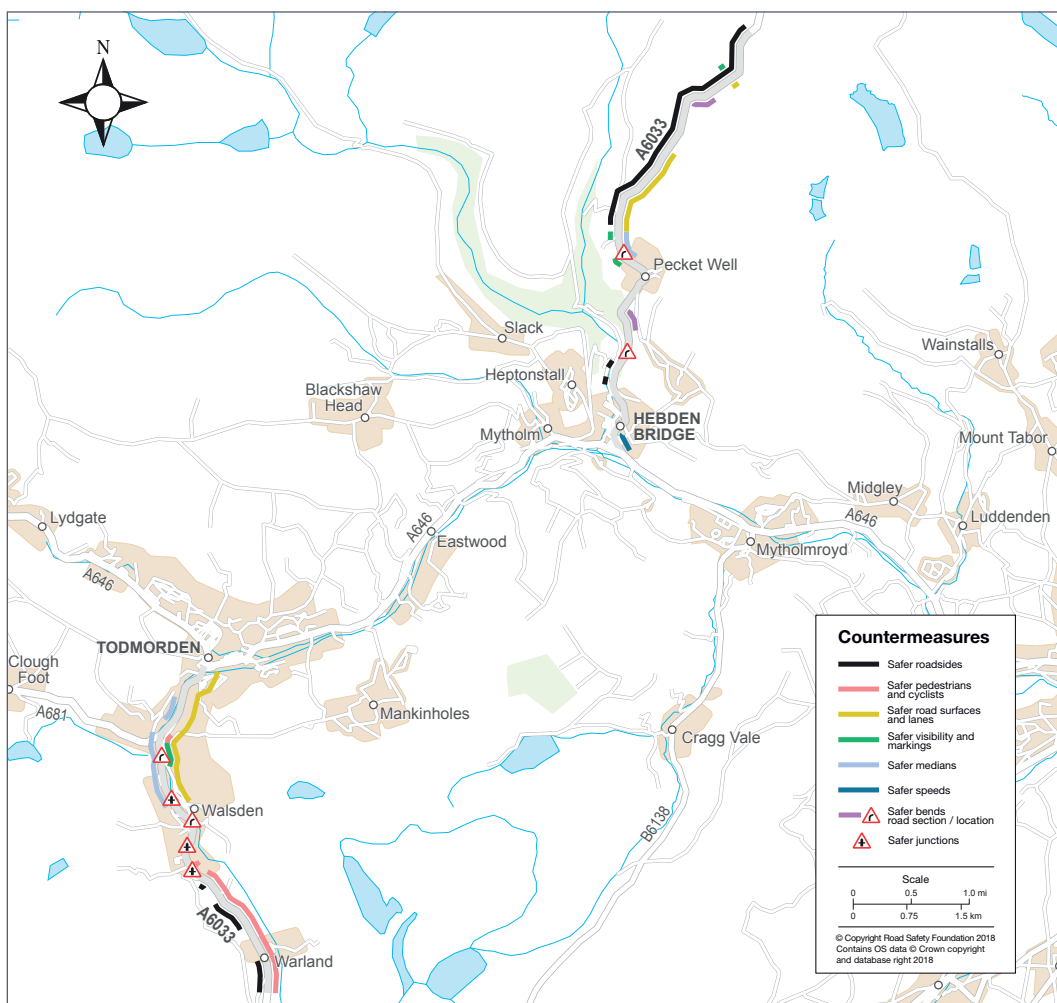


Table 2.3: A6033 (North) – Calderdale Metropolitan Borough Council

Capital investment	£1,432,000
Start – Finish	2019–20
Estimated fatal and serious injuries saved (20 years)	40.6
Present value of prevention (20 years)	£16,393,546
Cost (20 years)	£1,566,581
Benefit:cost ratio	10.5
Link to local authority proposal www.calderdale.gov.uk/v2/sites/default/files/Annex-c-dft-safer-roads-fund-application-form-a6033n_0.pdf	

Table 2.4: A6033 (South) – Calderdale Metropolitan Borough Council

Capital investment	£899,000
Start – Finish	2019–20
Estimated fatal and serious injuries saved (20 years)	10.3
Present value of prevention (20 years)	£4,158,954
Cost (20 years)	£1,143,617
Benefit:cost ratio	3.6
Link to local authority proposal www.calderdale.gov.uk/v2/sites/default/files/Annex-c-dft-safer-roads-fund-application-form-a6033s.pdf	

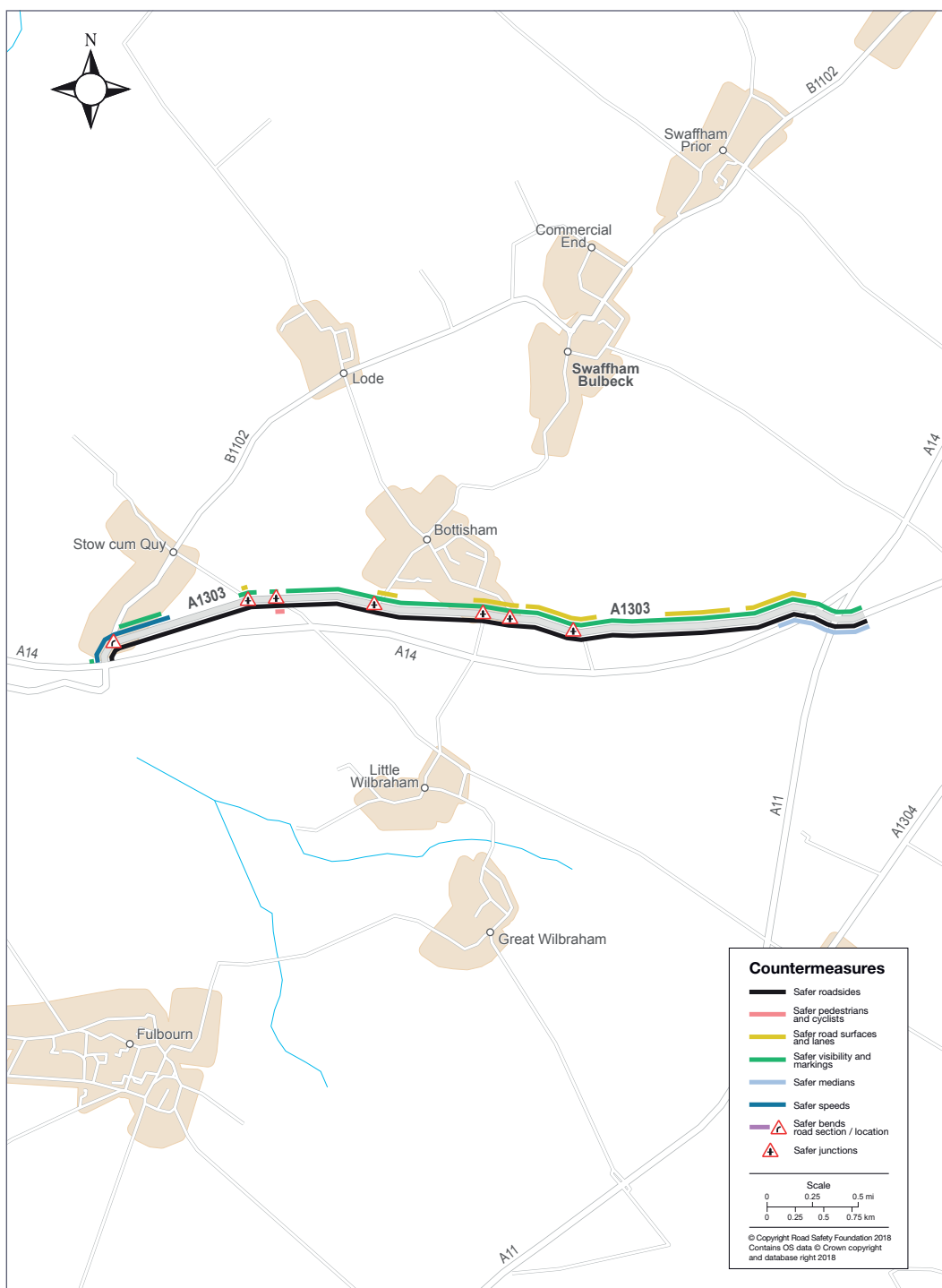


Table 2.5: A1303 – Cambridgeshire County Council

Capital investment	£1,447,469 ¹¹
Start – Finish	2017–18
Estimated fatal and serious injuries saved (20 years)	10.9
Present value of prevention (20 years)	£3,105,511
Cost (20 years)	£1,220,812
Benefit:cost ratio	2.5
Link to local authority proposal www.cambridgeshire.gov.uk/transport-funding-bids-and-studies/transport-funding-bids	

¹¹ £1,302,000 from DfT; the remainder from Cambridgeshire County Council

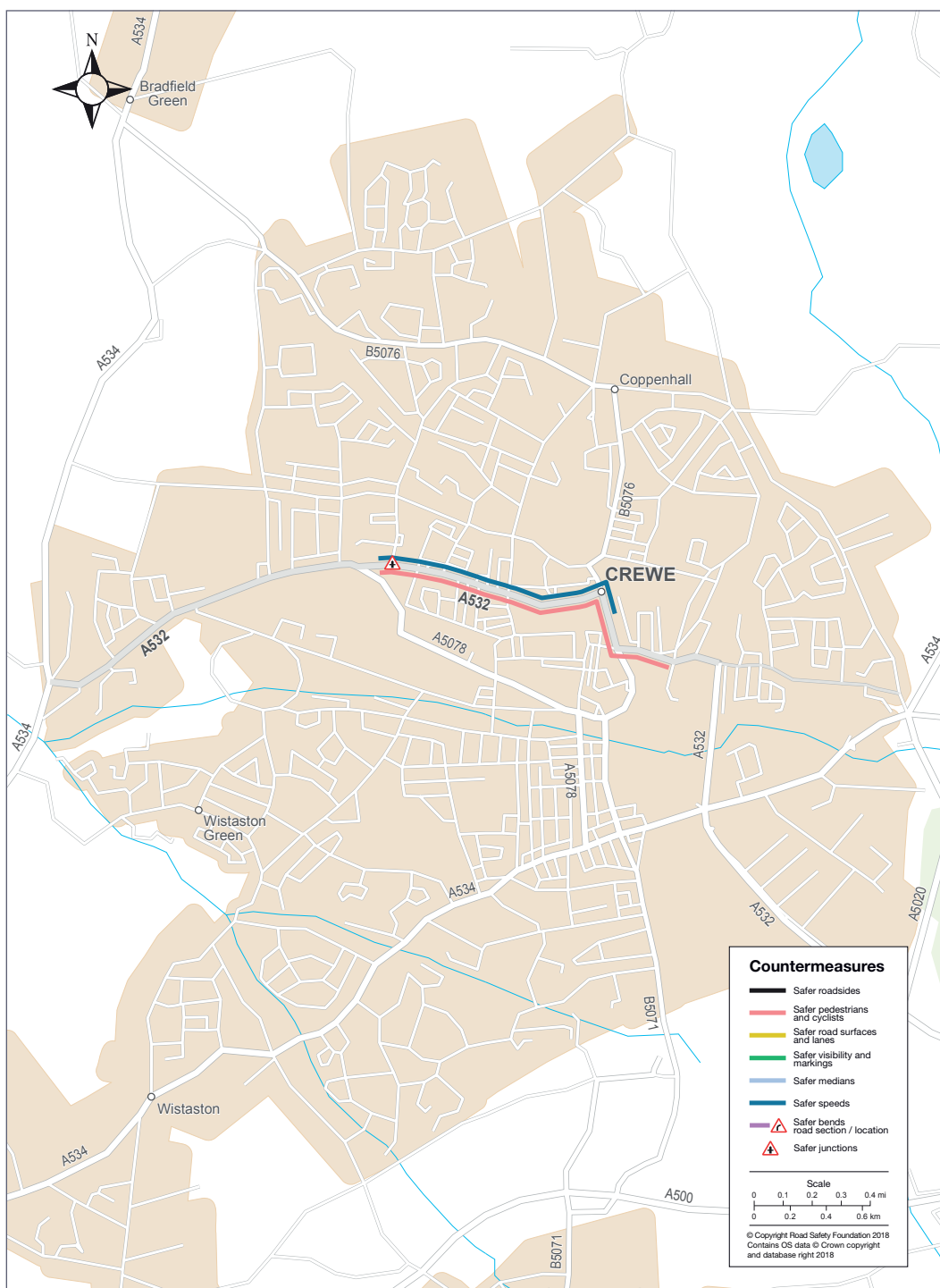


Table 2.6: A532 – Cheshire East Council

Capital investment	£1,030,500
Start – Finish	2017–18
Estimated fatal and serious injuries saved (20 years)	4.0
Present value of prevention (20 years)	£2,333,937
Cost (20 years)	£849,828
Benefit:cost ratio	2.7
Link to local authority proposal www.cheshireeast.gov.uk/highways_and_roads/roadworks/major-projects/a532-safer-road/a532-safer-roads-fund-bid-april-2017.aspx	

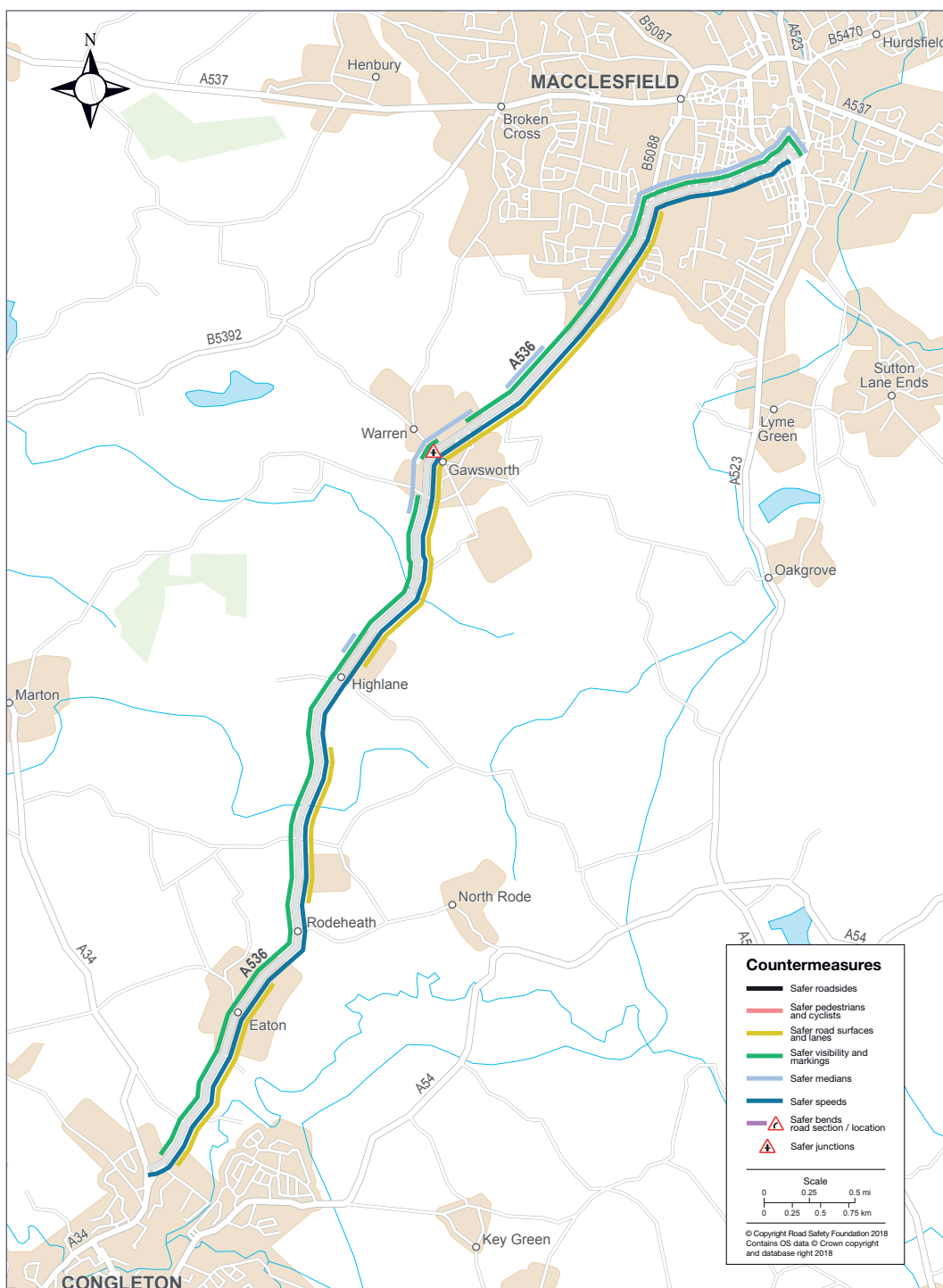


Table 2.7: A536 – Cheshire East Council

Capital investment	£2,310,000
Start – Finish	2020–1
Estimated fatal and serious injuries saved (20 years)	7.7
Present value of prevention (20 years)	£15,296,640
Cost (20 years)	£3,205,556
Benefit:cost ratio	4.8
Link to local authority proposal www.cheshireeast.gov.uk/highways_and_roads/roadworks/major-projects/a536-safer-roads-fund-bid.aspx	

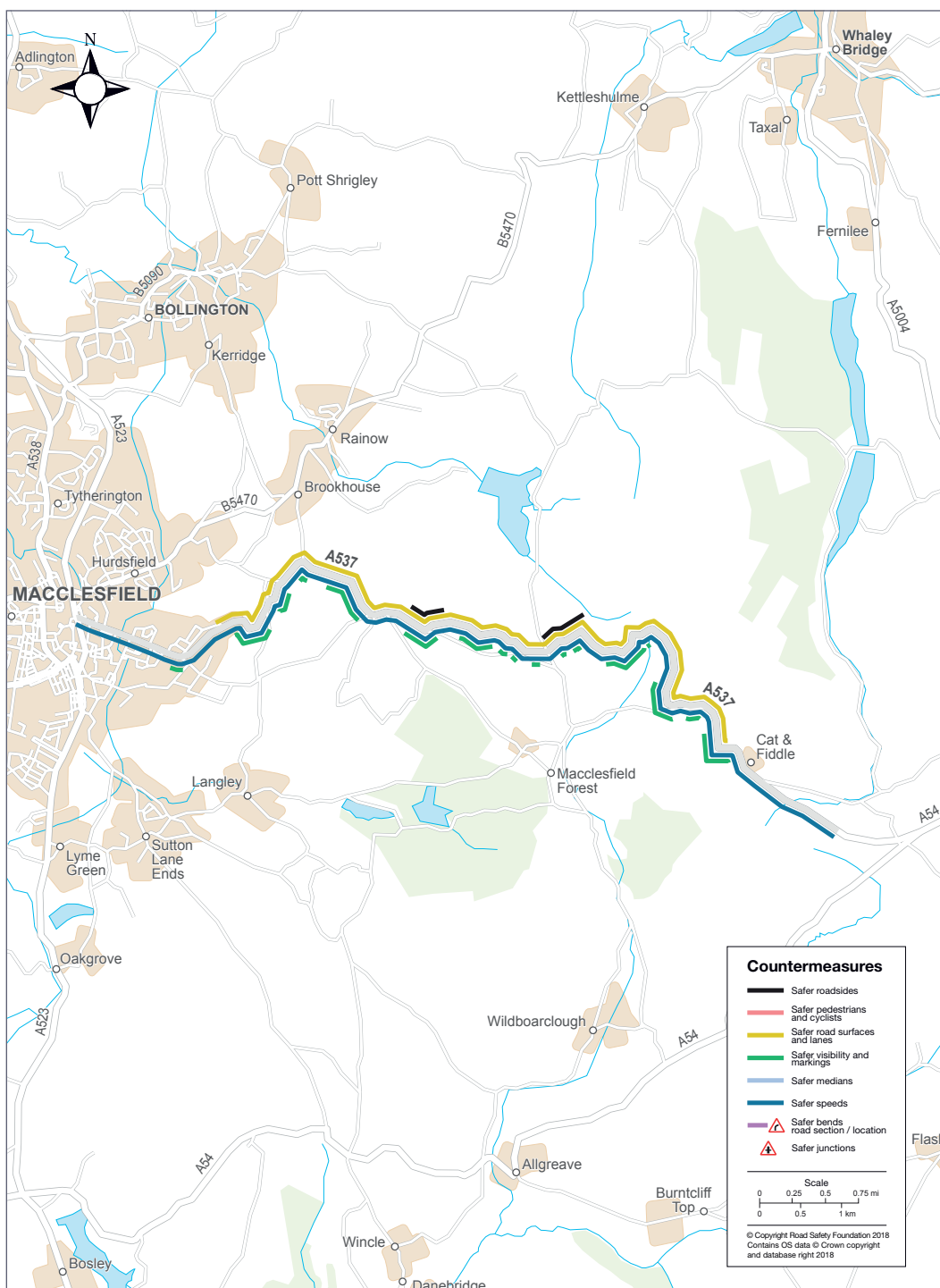


Table 2.8: A537 – Cheshire East Council

Capital investment	£2,490,000
Start – Finish	2020–21
Estimated fatal and serious injuries saved (20 years)	21.5
Present value of prevention (20 years)	£36,769,478
Cost (20 years)	£3,133,777
Benefit:cost ratio	11.7
Link to local authority proposal www.cheshireeast.gov.uk/highways_and_roads/roadworks/major-projects/a537-safer-roads-fund-bid.aspx	

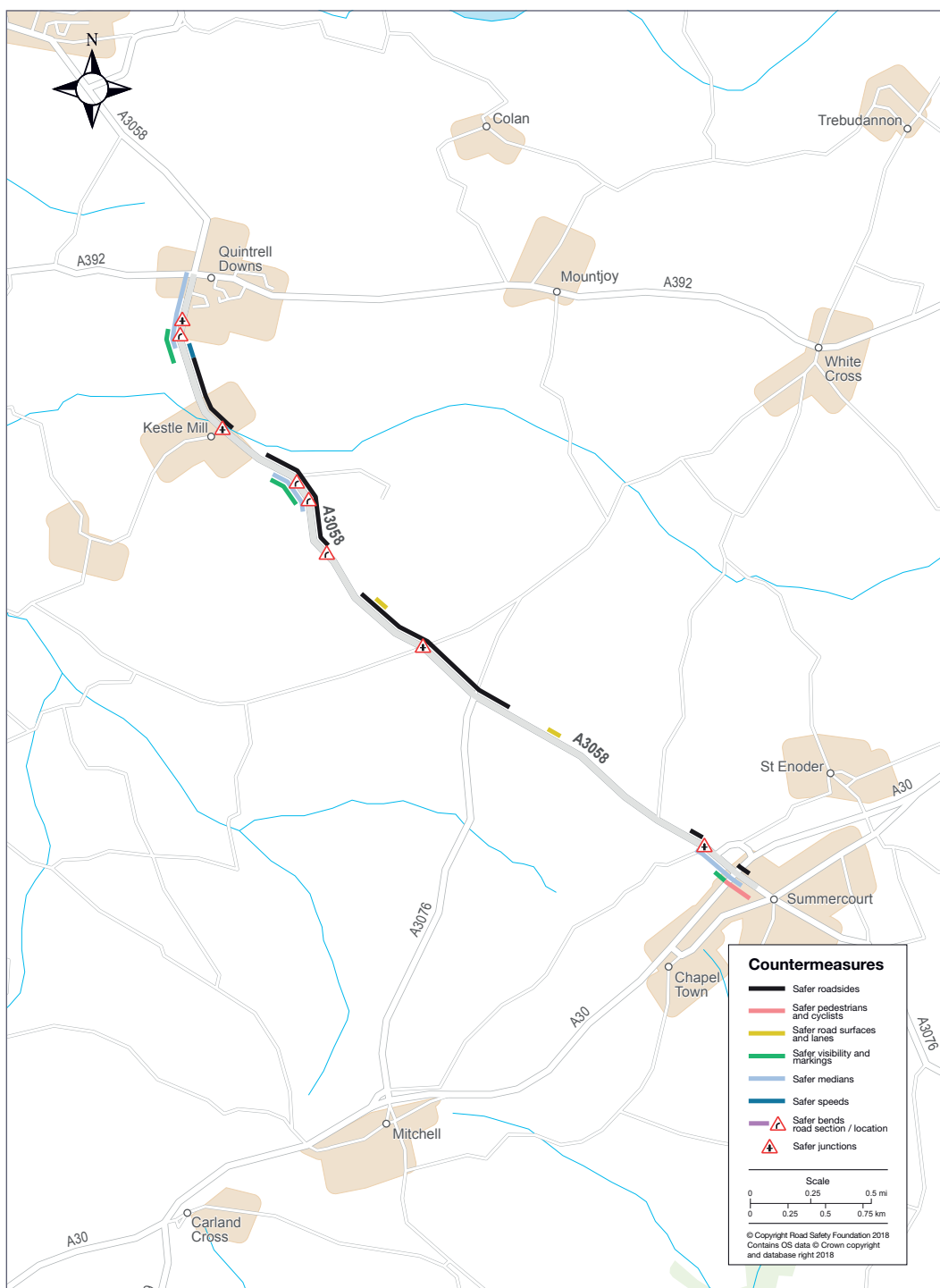


Table 2.9: A3058 – Cornwall Council

Capital investment	£1,160,000
Start – Finish	2020–1
Estimated fatal and serious injuries saved (20 years)	13.9
Present value of prevention (20 years)	£5,626,297
Cost (20 years)	£1,307,481
Benefit:cost ratio	4.3
Link to local authority proposal www.cornwall.gov.uk/media/28645814/dft-safer-roads-fund-application-form-a3058-final.pdf	

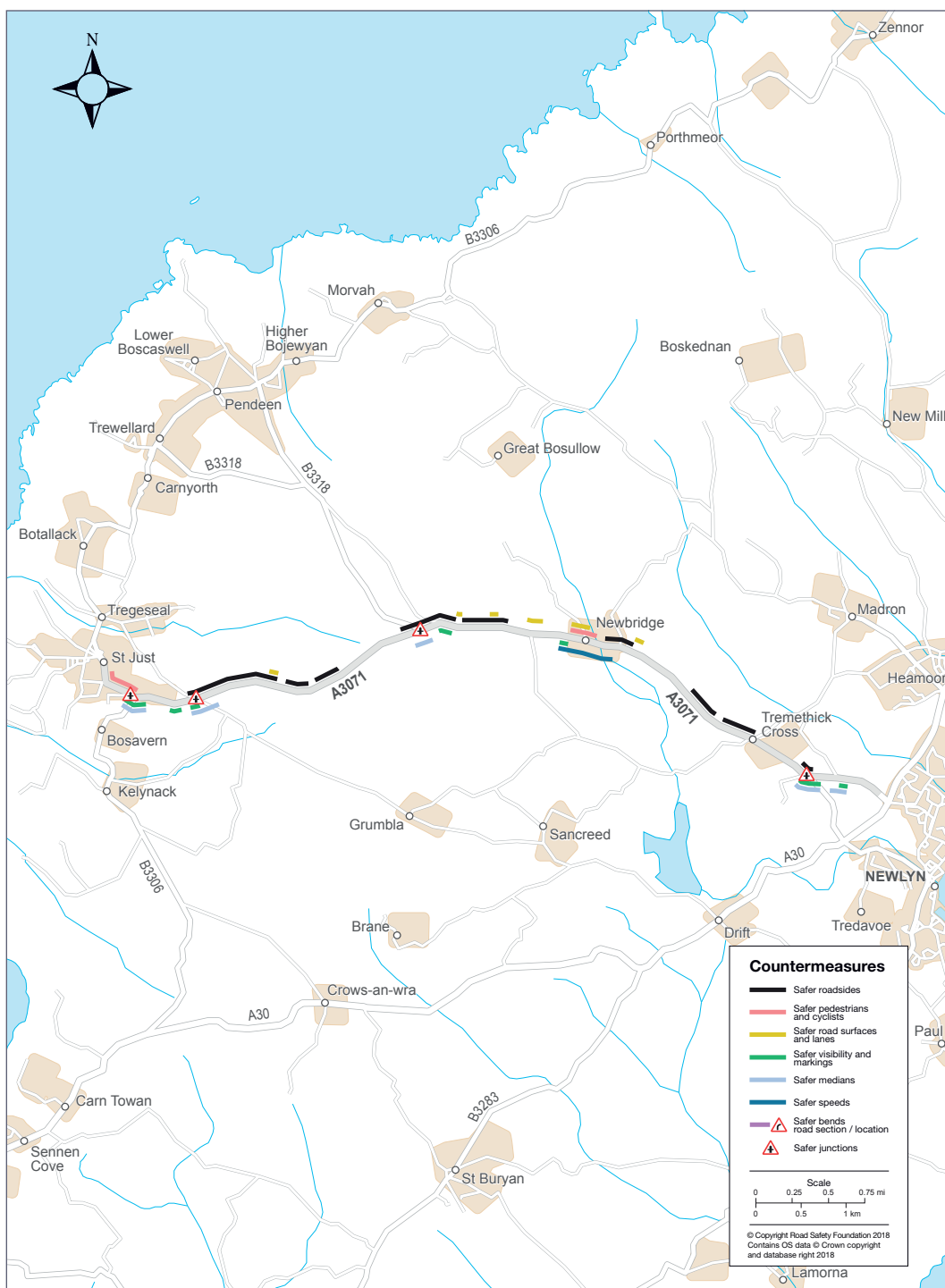


Table 2.10: A3071 – Cornwall Council

Capital investment	£1,940,000
Start – Finish	2020–21
Estimated fatal and serious injuries saved (20 years)	16.8
Present value of prevention (20 years)	£6,802,918
Cost (20 years)	£1,996,349
Benefit:cost ratio	3.4
Link to local authority proposal www.cornwall.gov.uk/media/28645826/dft-safer-roads-fund-application-form-a3071-final.pdf	

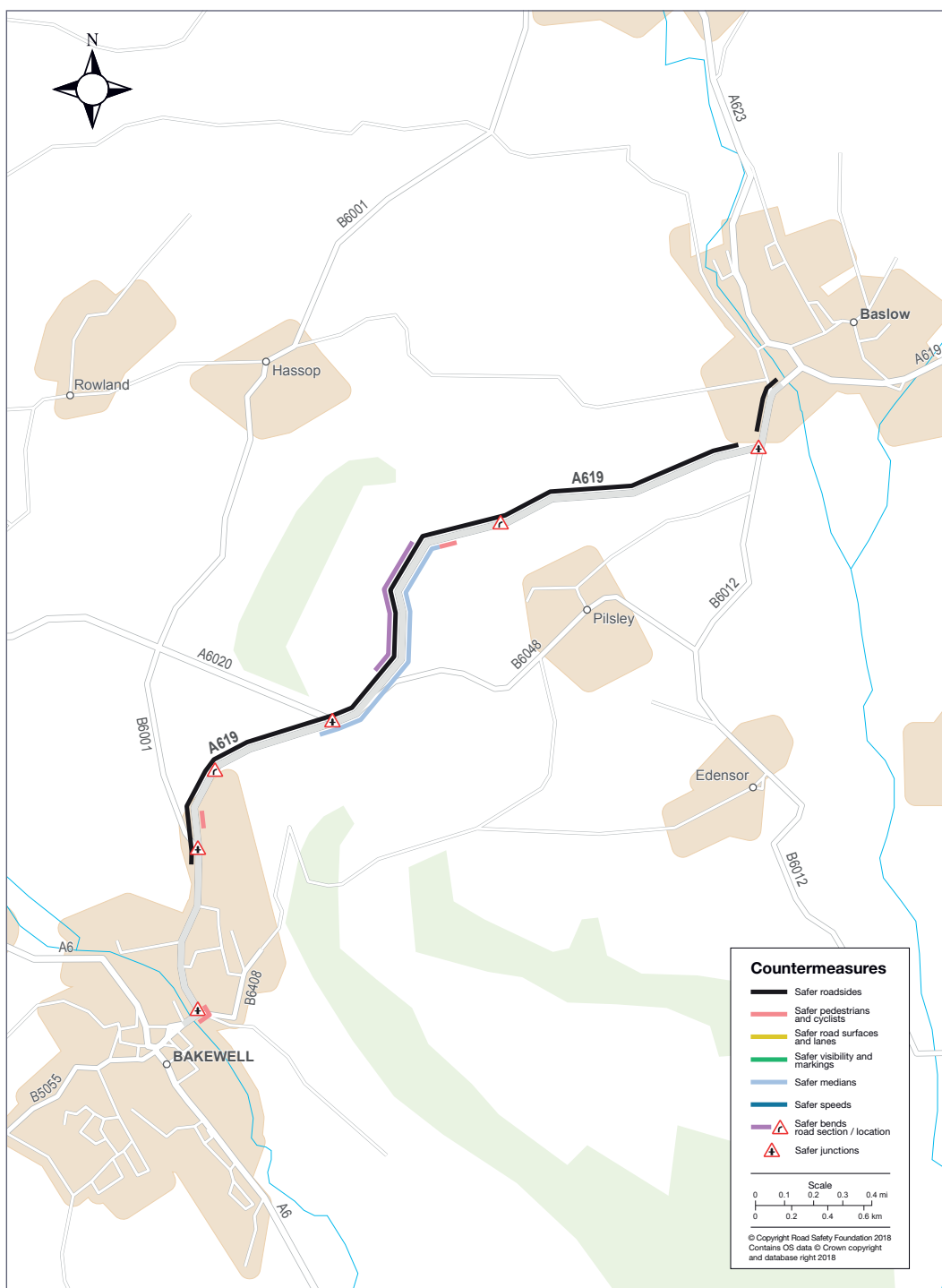


Table 2.12: A619 – Derbyshire County Council

Capital investment	£1,179,000
Start – Finish	2018–19
Estimated fatal and serious injuries saved (20 years)	33.2
Present value of prevention (20 years)	£14,597,586
Cost (20 years)	£1,519,750
Benefit:cost ratio	9.6
Link to local authority proposal www.derbyshire.gov.uk/site-elements/documents/pdf/transport-roads/transport-plans/transport-funding-bids/a619-annex-c-dft-safer-roads-fund-application-form-and-appendices.pdf	

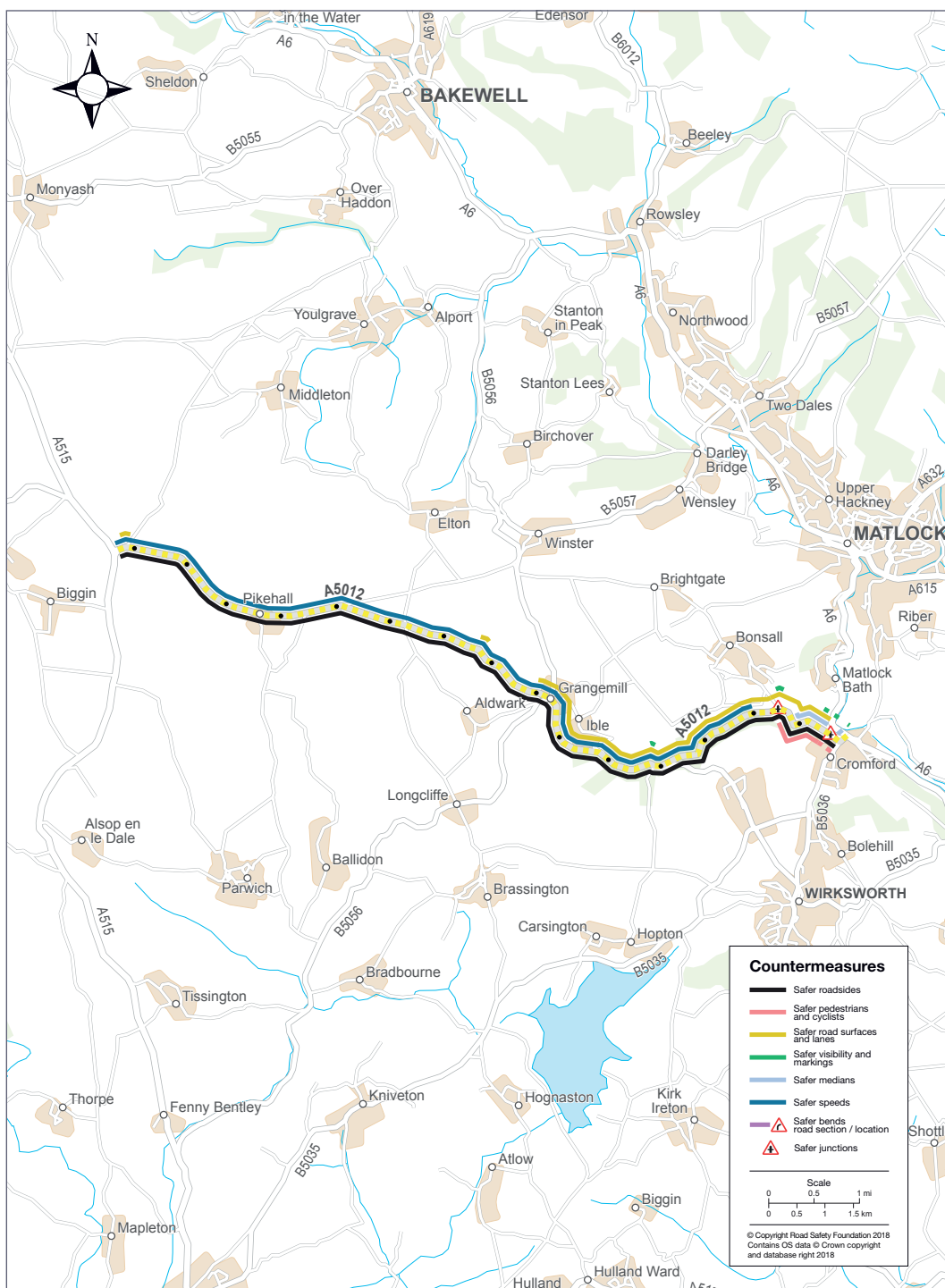


Table 2.13: A5012 – Derbyshire County Council

Capital investment	£3,079,000
Start – Finish	2020–21
Estimated fatal and serious injuries saved (20 years)	57.5
Present value of prevention (20 years)	£14,845,962
Cost (20 years)	£4,666,265
Benefit:cost ratio	3.2
Link to local authority proposal www.derbyshire.gov.uk/site-elements/documents/pdf/transport-roads/transport-plans/transport-funding-bids/a5012-annex-c-dft-safer-roads-fund-application-form-and-appendices.pdf	

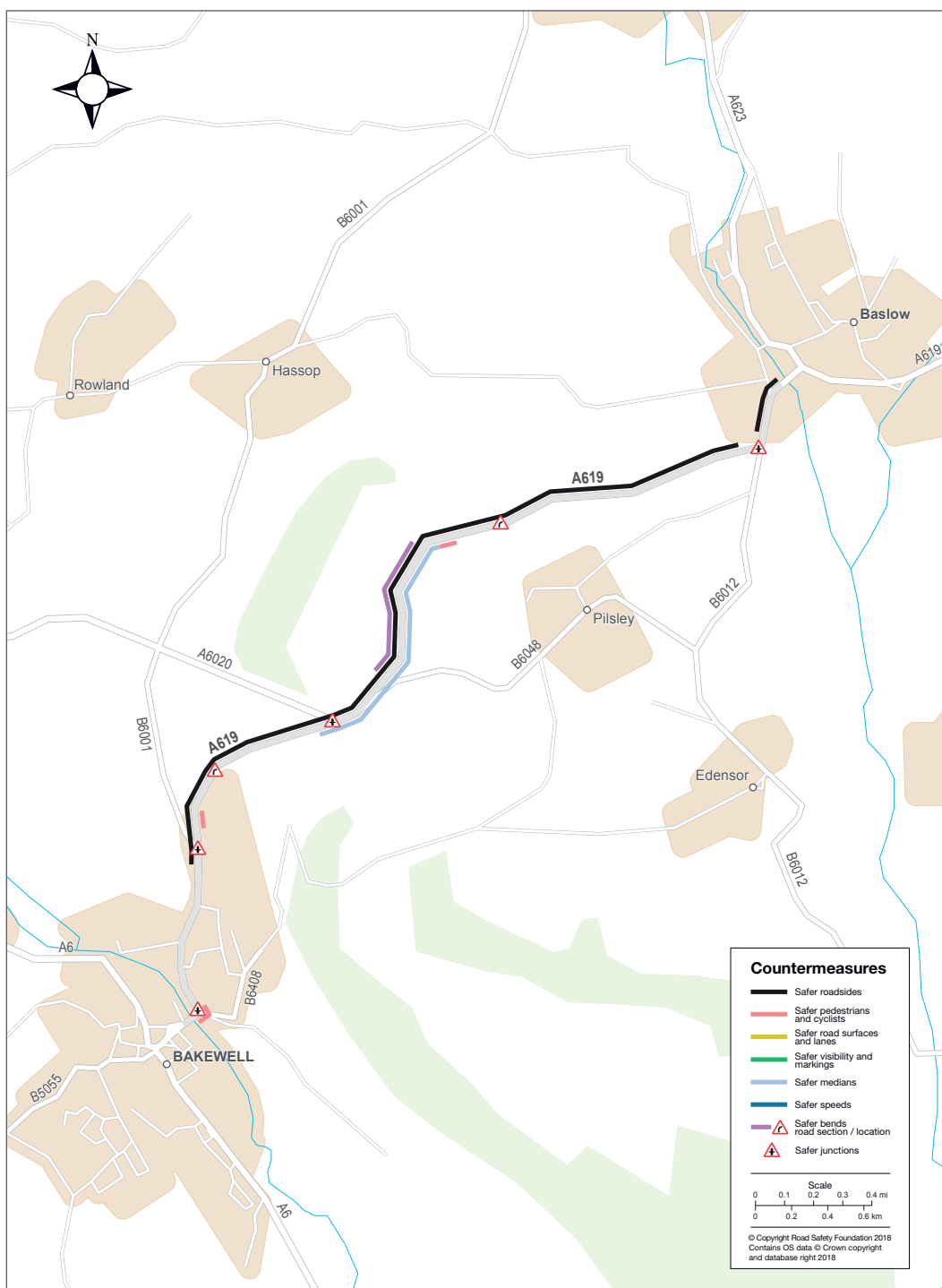


Table 2.14: A5004 – Derbyshire County Council

Capital investment	£2,540,000
Start – Finish	2020–21
Estimated fatal and serious injuries saved (20 years)	33.2
Present value of prevention (20 years)	£15,806,340
Cost (20 years)	£4,170,378
Benefit:cost ratio	3.8
Link to local authority proposal www.derbyshire.gov.uk/site-elements/documents/pdf/transport-roads/transport-plans/transport-funding-bids/a5004-annex-c-dft-safer-roads-fund-application-form-and-appendices.pdf	

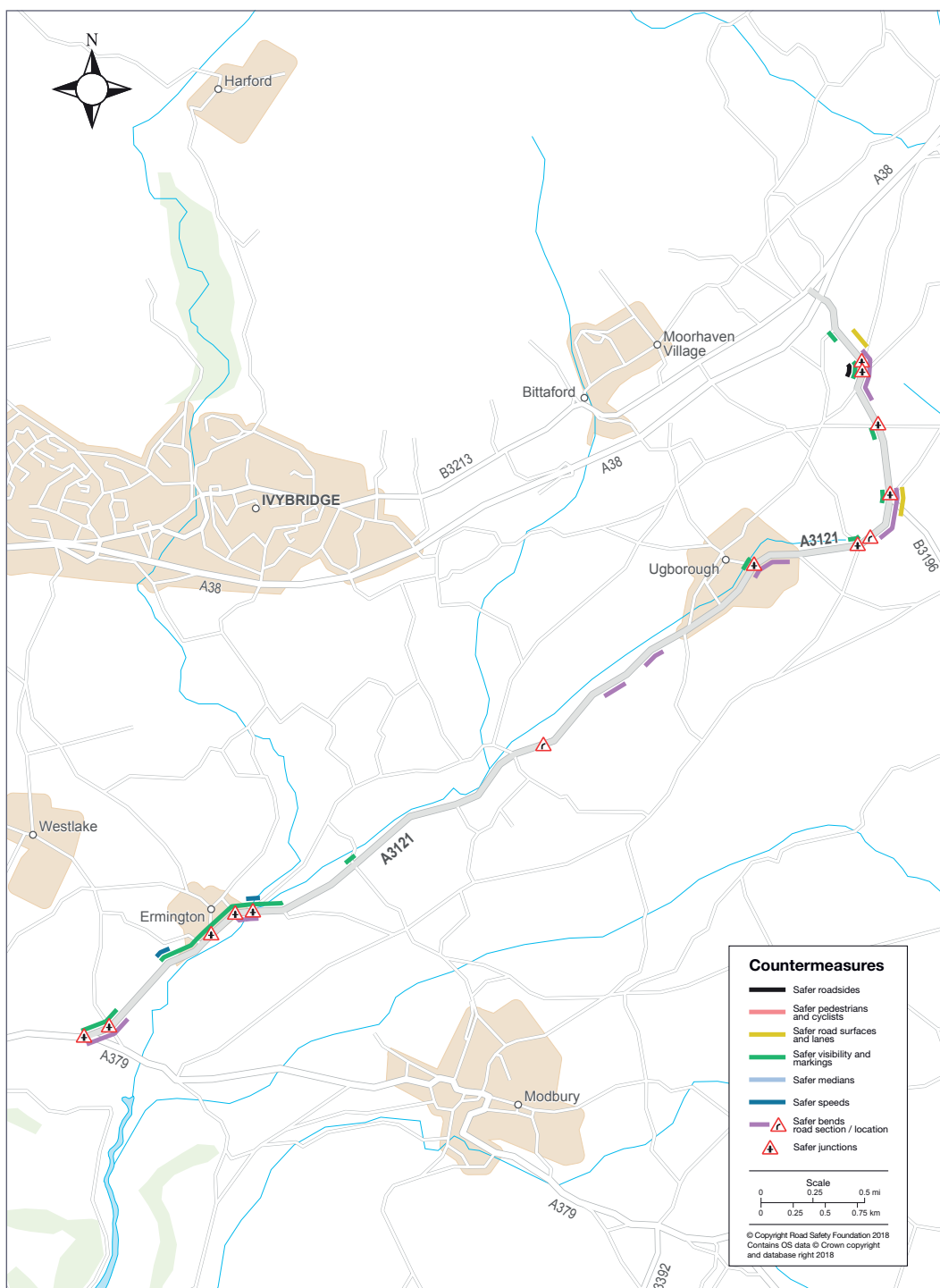


Table 2.15: A3121 – Devon County Council

Capital investment	£1,900,000
Start – Finish	2019–20
Estimated fatal and serious injuries saved (20 years)	23.2
Present value of prevention (20 years)	£5,438,820
Cost (20 years)	£2,179,415
Benefit:cost ratio	2.5
Link to local authority proposal https://new.devon.gov.uk/roadsandtransport/safe-travel/road-safety/safer-roads/capital-schemes	

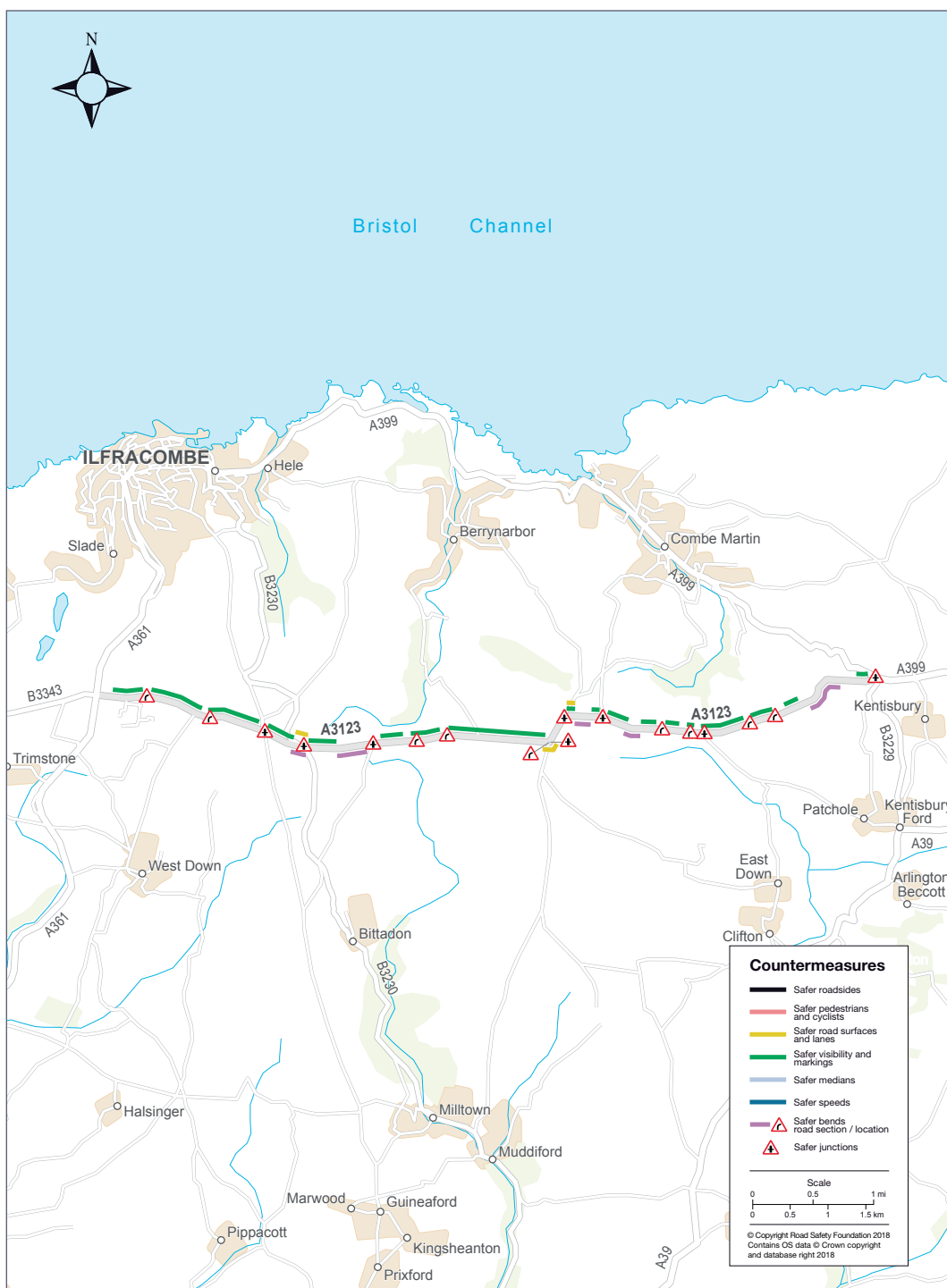


Table 2.16: A3123 – Devon County Council

Capital investment	£2,200,000
Start – Finish	2020–21
Estimated fatal and serious injuries saved (20 years)	12.0
Present value of prevention (20 years)	£3,317,438
Cost (20 years)	£2,348,508
Benefit:cost ratio	1.4
Link to local authority proposal https://new.devon.gov.uk/roadsandtransport/safe-travel/road-safety/safer-roads/capital-schemes	

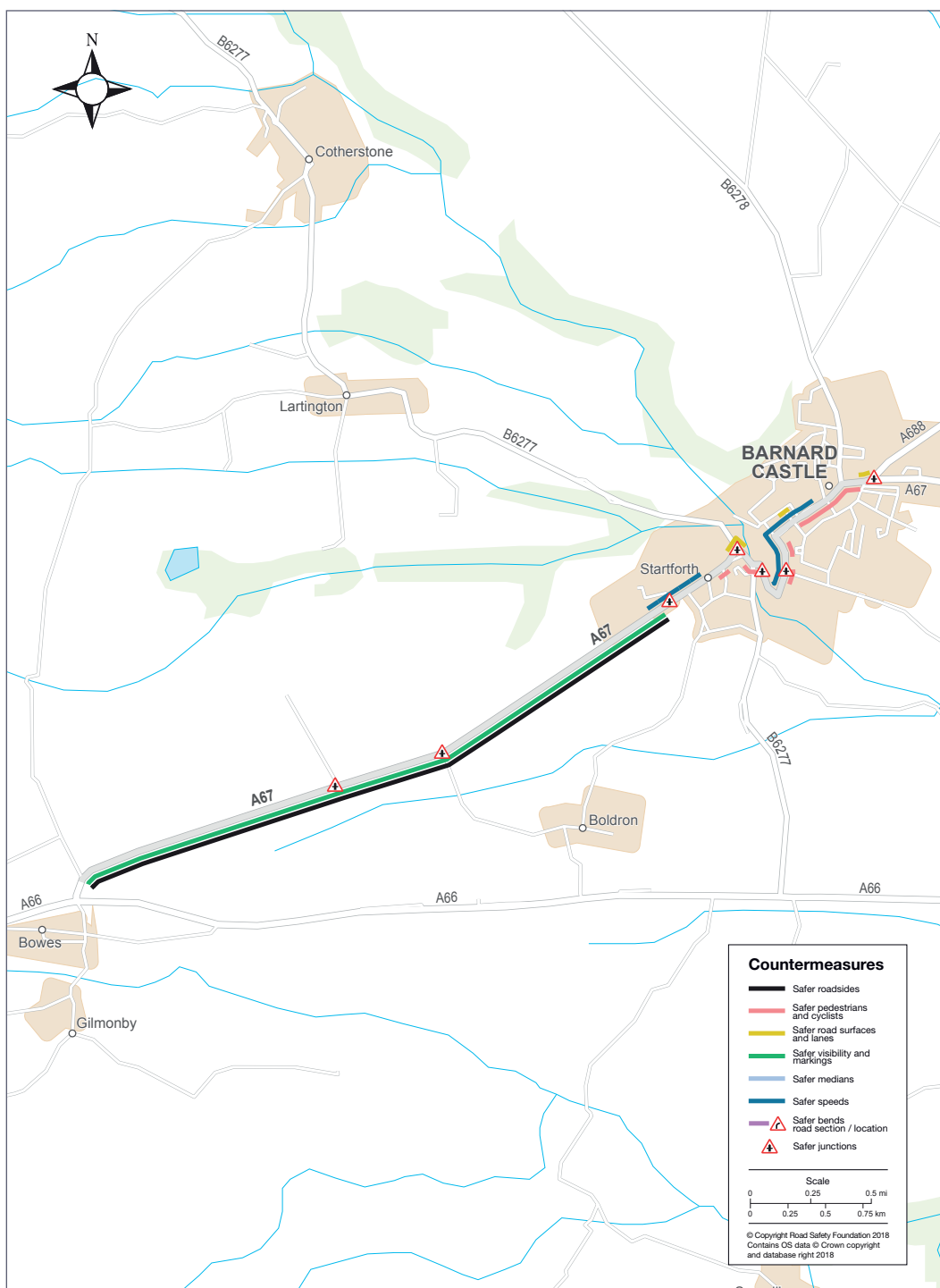


Table 2.17: A67 – Durham County Council

Capital investment	£528,000
Start – Finish	2017–18
Estimated fatal and serious injuries saved (20 years)	12.0
Present value of prevention (20 years)	£1,398,784
Cost (20 years)	£646,421
Benefit:cost ratio	2.2
Link to local authority proposal www.durham.gov.uk/media/20518/Safer-Roads-Fund-Application-Form/pdf/DfTSaferRoadsFundApplicationForm.pdf	

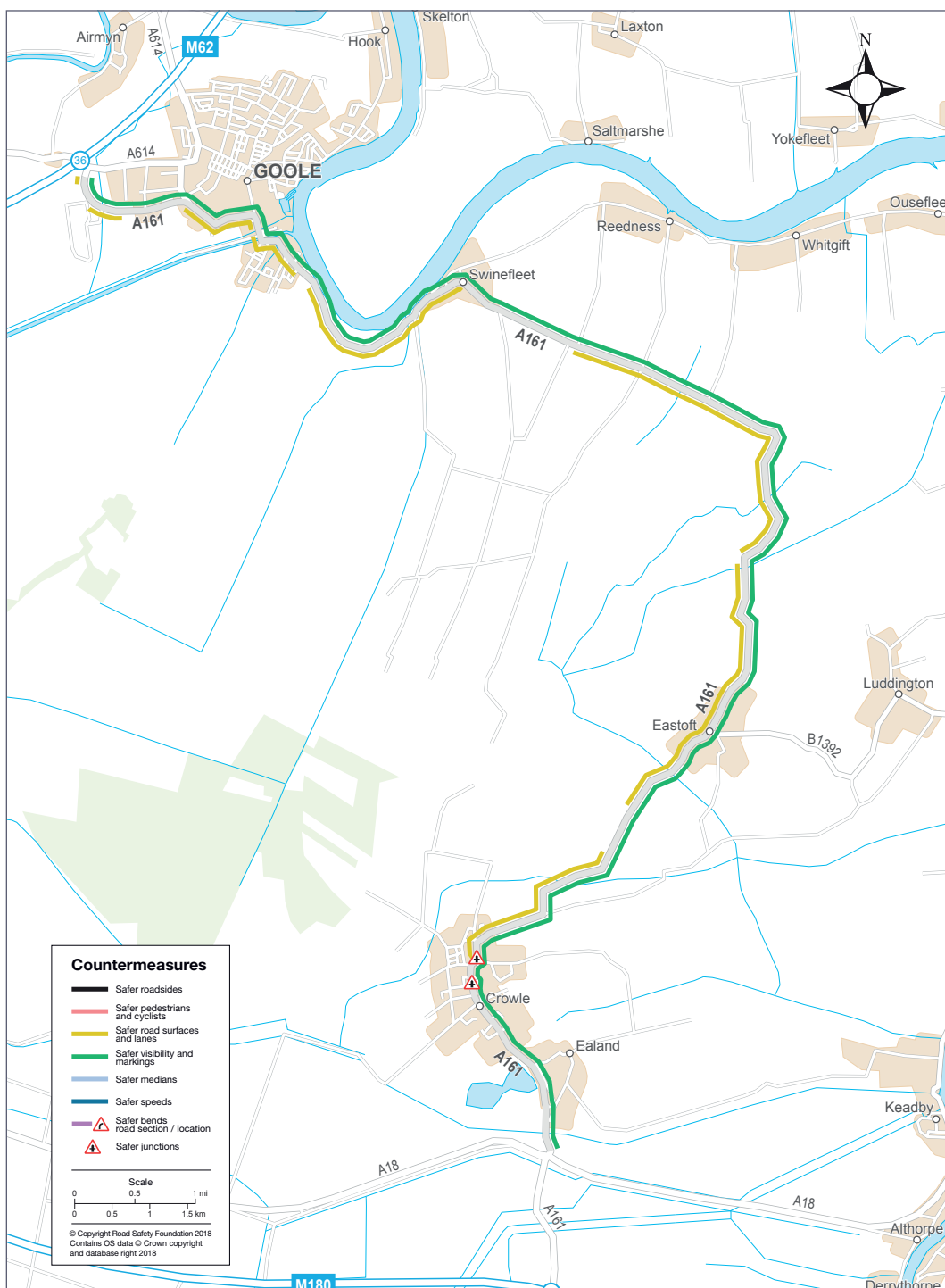


Table 2.18: A161 – East Riding of Yorkshire Council and North Lincolnshire Council

Capital investment	£3,861,000
Start – Finish	2017–18
Estimated fatal and serious injuries saved (20 years)	20.0
Present value of prevention (20 years)	£19,750,000
Cost (20 years)	£4,910,000
Benefit:cost ratio	4.0
Link to local authority proposal www2.eastriding.gov.uk/EasySiteWeb/GatewayLink.aspx?alld=660118 www.northlincs.gov.uk/EasySiteWeb/GatewayLink.aspx?alld=36895	

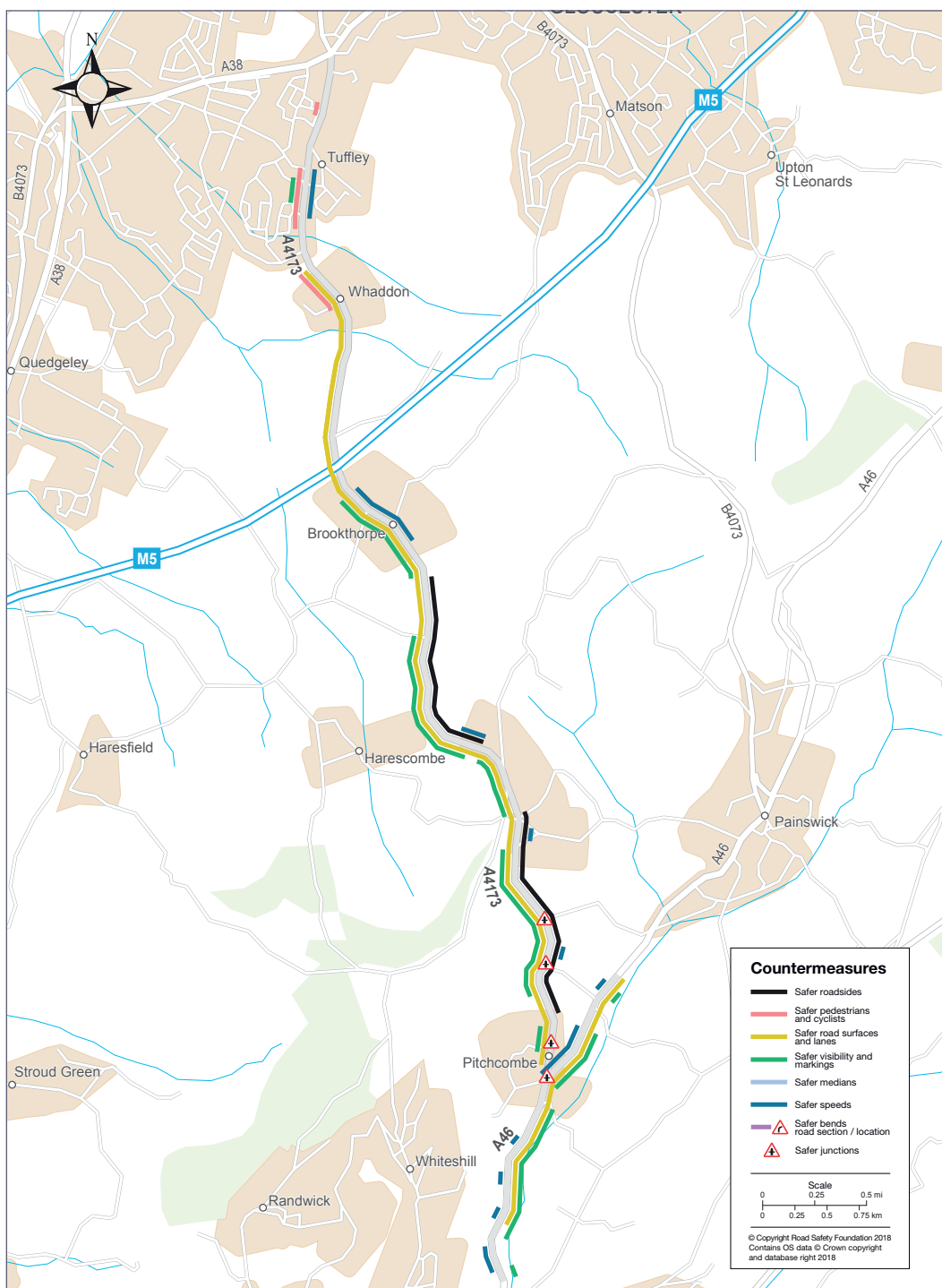


Table 2.19: A4173 – Gloucestershire County Council

Capital investment	£2,160,000
Start – Finish	2017–18
Estimated fatal and serious injuries saved (20 years)	14.0
Present value of prevention (20 years)	£4,344,000
Cost (20 years)	£2,178,000
Benefit:cost ratio	2.0
Link to local authority proposal https://www.gloucestershire.gov.uk/roads-parking-and-rights-of-way/bids/department-for-transport-dft-safer-roads-fund/	

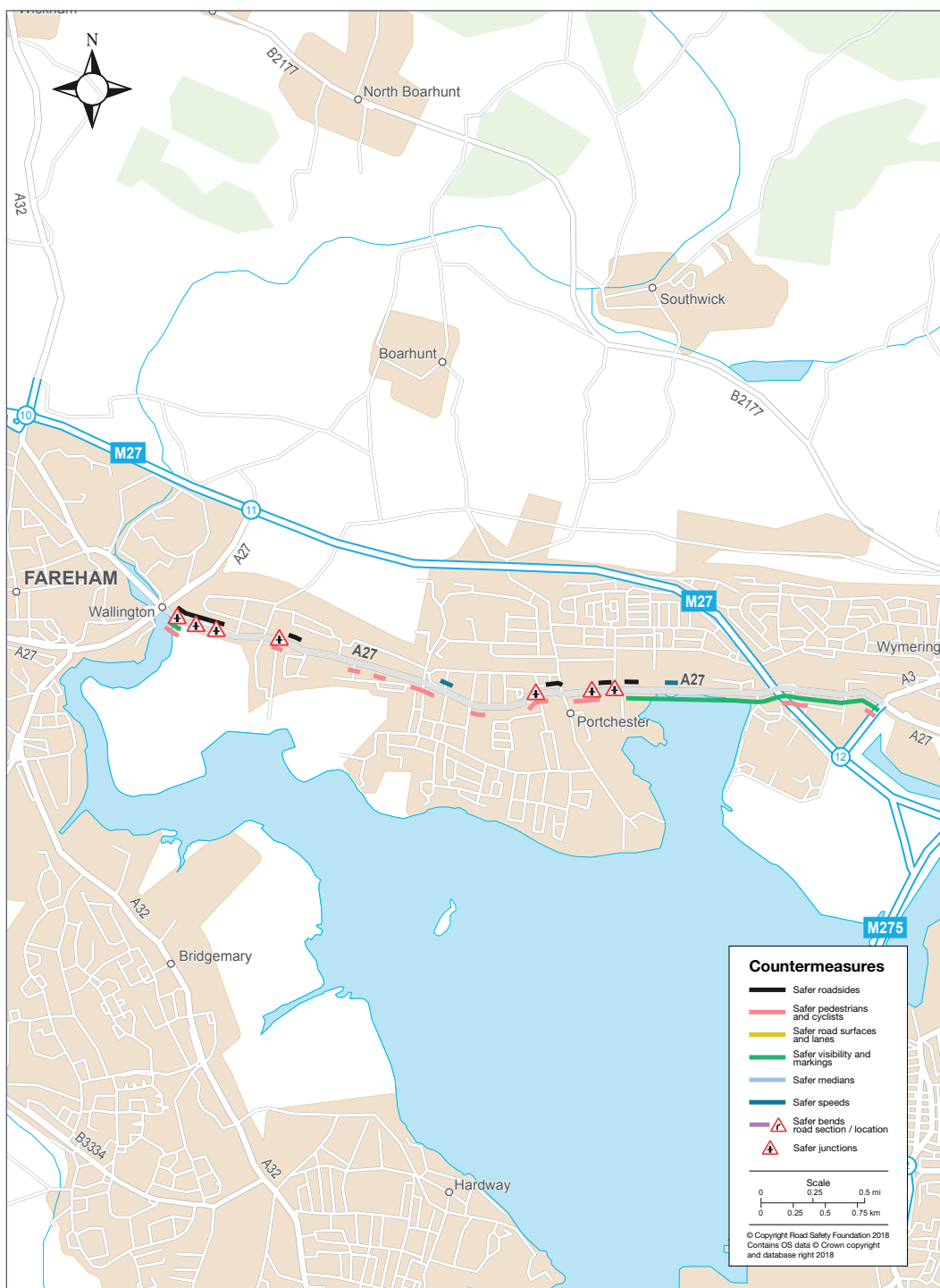


Table 2.20: A27 – Hampshire County Council and Portsmouth City Council

Capital investment	£920,000
Start – Finish	2017–18; 2019–20
Estimated fatal and serious injuries saved (20 years)	1.3
Present value of prevention (20 years)	£722,004
Cost (20 years)	£681,000
Benefit:cost ratio	1.1
Link to local authority proposal www.hants.gov.uk/transport/strategies/fundingbids www.portsmouth.gov.uk/ext/documents-external/trv-safer-roads-fund-pcc-a27-bid.pdf	



Table 2.21: A32 – Hampshire County Council

Capital investment	£1,730,000
Start – Finish	2017–18; 2019–20
Estimated fatal and serious injuries saved (20 years)	2.3
Present value of prevention (20 years)	£1,304,216
Cost (20 years)	£1,729,916
Benefit:cost ratio	0.8
Link to local authority proposal www.hants.gov.uk/transport/strategies/fundingbids	

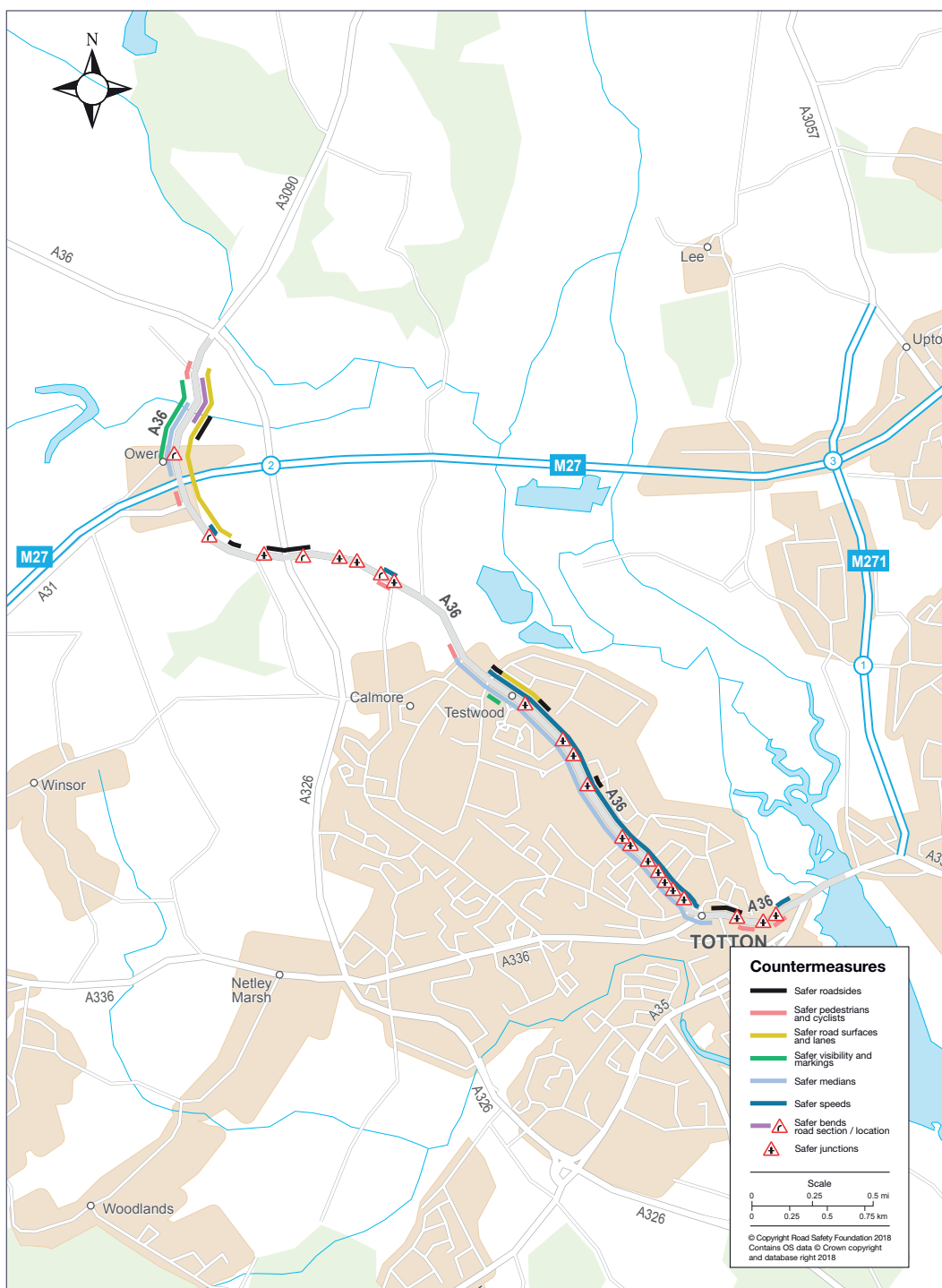


Table 2.22: A36 – Hampshire County Council

Capital investment	£748,000
Start – Finish	2017–18; 2019–20
Estimated fatal and serious injuries saved (20 years)	3.9
Present value of prevention (20 years)	£1,589,964
Cost (20 years)	£748,245
Benefit:cost ratio	2.1
Link to local authority proposal www.hants.gov.uk/transport/strategies/fundingbids	

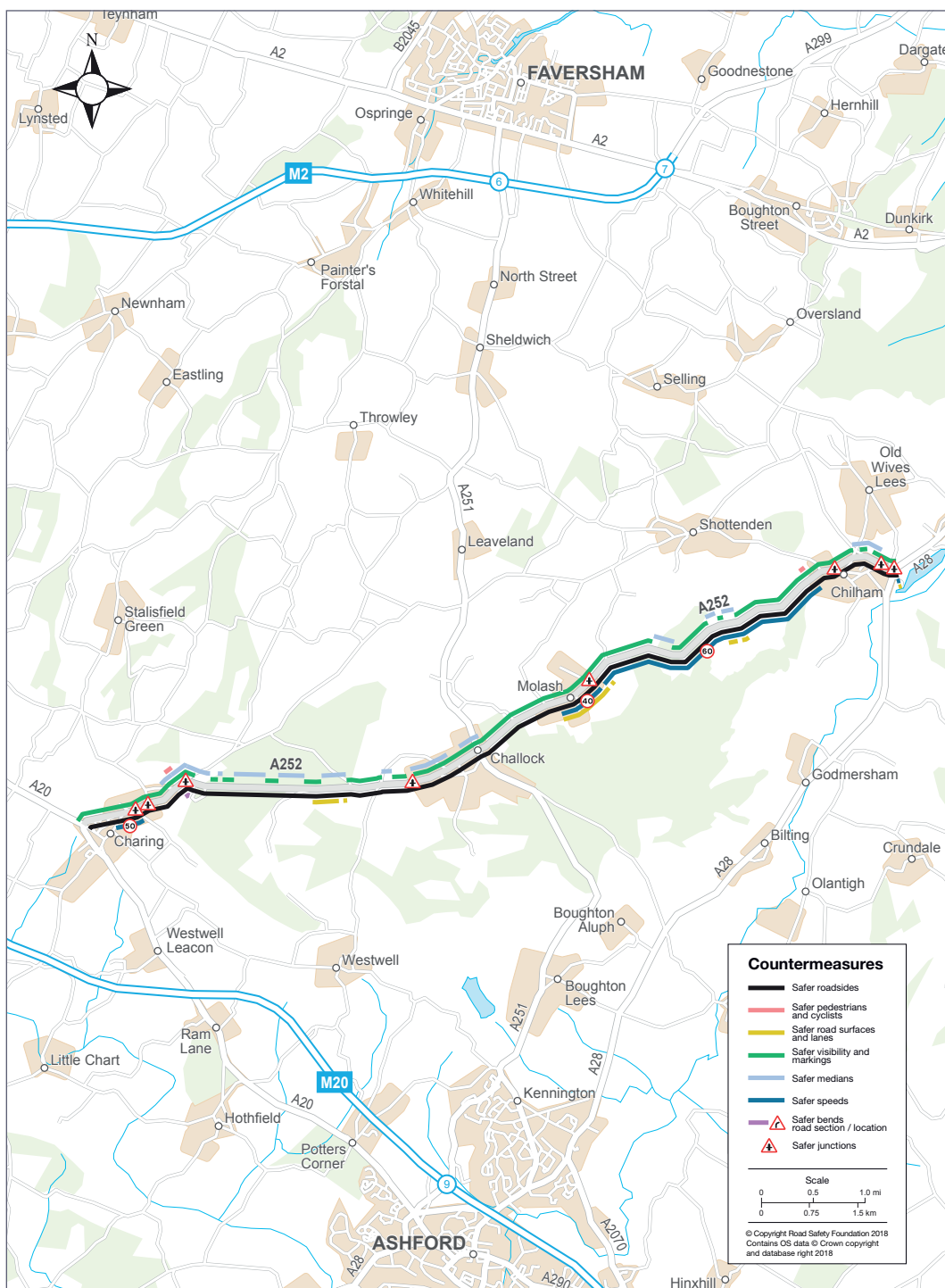


Table 2.23: A252 – Kent County Council

Capital investment	£2,146,000
Start – Finish	2019–20
Estimated fatal and serious injuries saved (20 years)	27.2
Present value of prevention (20 years)	£11,035,113
Cost (20 years)	£2,623,389
Benefit:cost ratio	4.2
Link to local authority proposal www.kent.gov.uk/about-the-council/strategies-and-policies/transport-and-highways-policies/transport-and-highways-funding/safer-roads-fund-25-million-in-201718#tab-1	

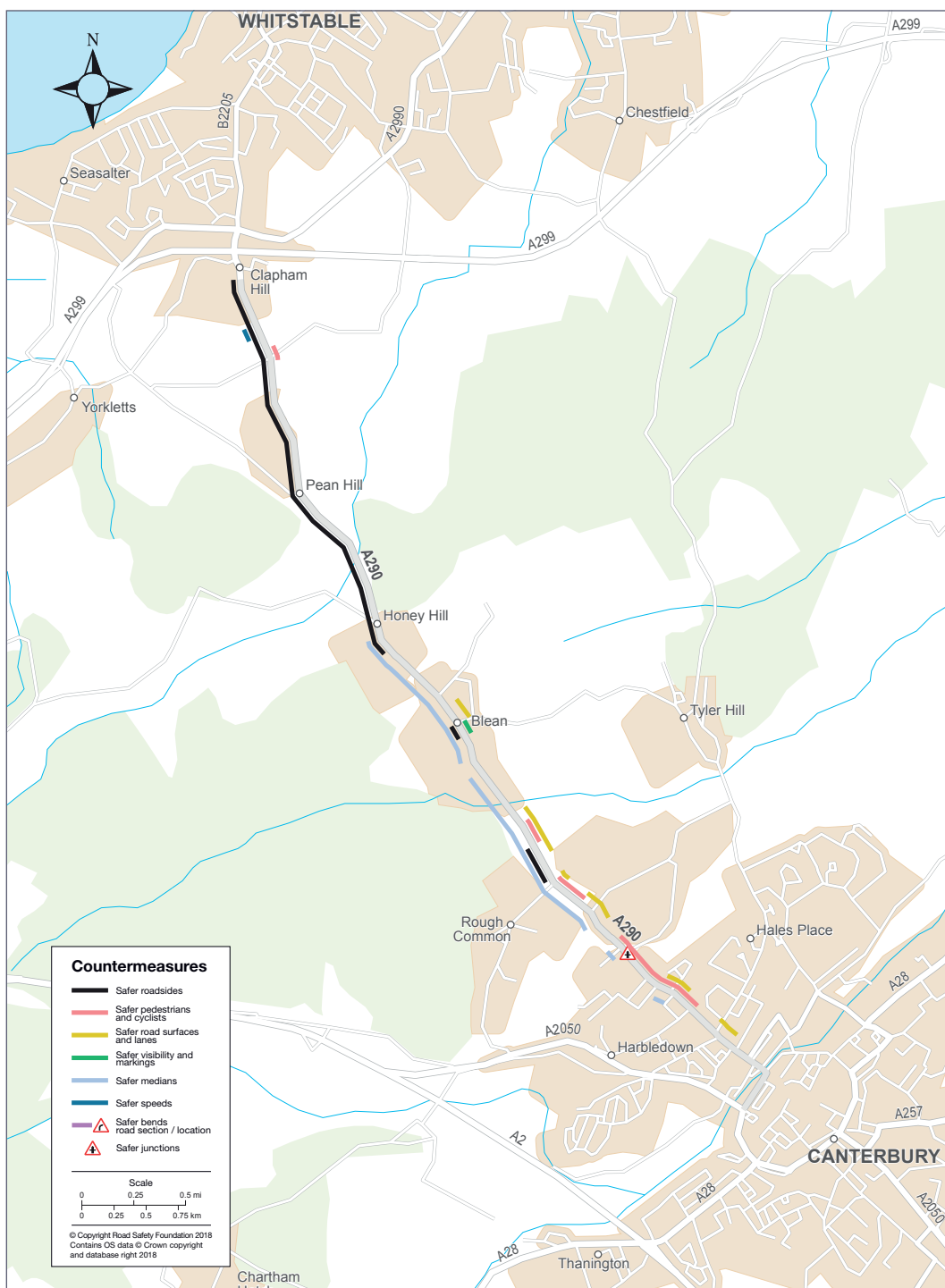


Table 2.24: A290 – Kent County Council

Capital investment	£1,501,000
Start – Finish	2020–21
Estimated fatal and serious injuries saved (20 years)	30.4
Present value of prevention (20 years)	£11,818,208
Cost (20 years)	£1,758,388
Benefit:cost ratio	6.7
Link to local authority proposal www.kent.gov.uk/about-the-council/strategies-and-policies/transport-and-highways-policies/transport-and-highways-funding/safer-roads-fund-25-million-in-201718#tab-2	

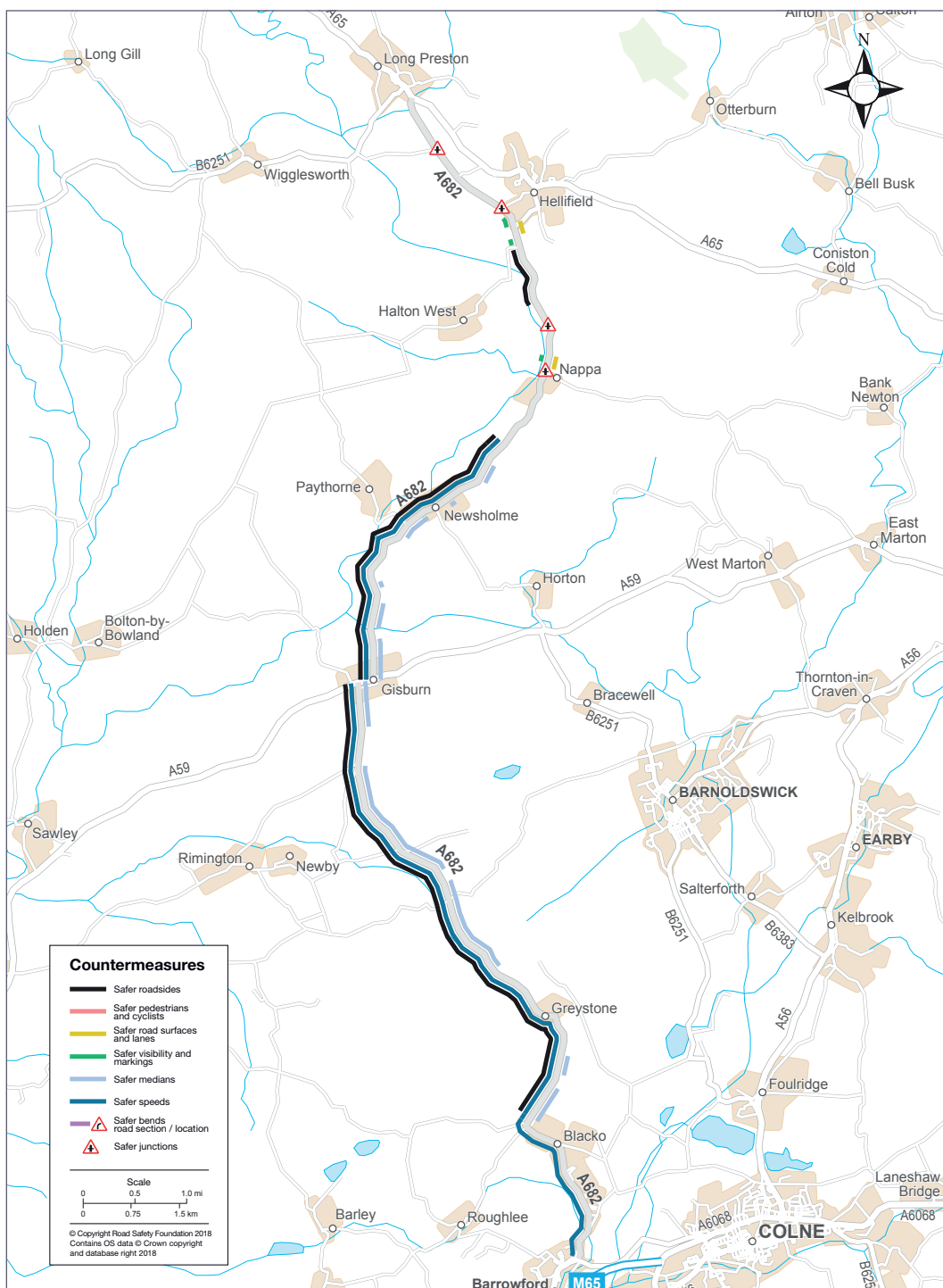


Table 2.25: A682 – Lancashire County Council and North Yorkshire County Council

Capital investment	£1,065,000
Start – Finish	2018–19
Estimated fatal and serious injuries saved (20 years)	25.5
Present value of prevention (20 years)	£9,653,372
Cost (20 years)	£2,138,908
Benefit:cost ratio	4.5
Link to local authority proposal www.lancashire.gov.uk/media/902548/a682-lcc-safer-roads-funding-bid.pdf www.lancashire.gov.uk/media/902549/a682-nycc-safer-roads-funding-bid.pdf	

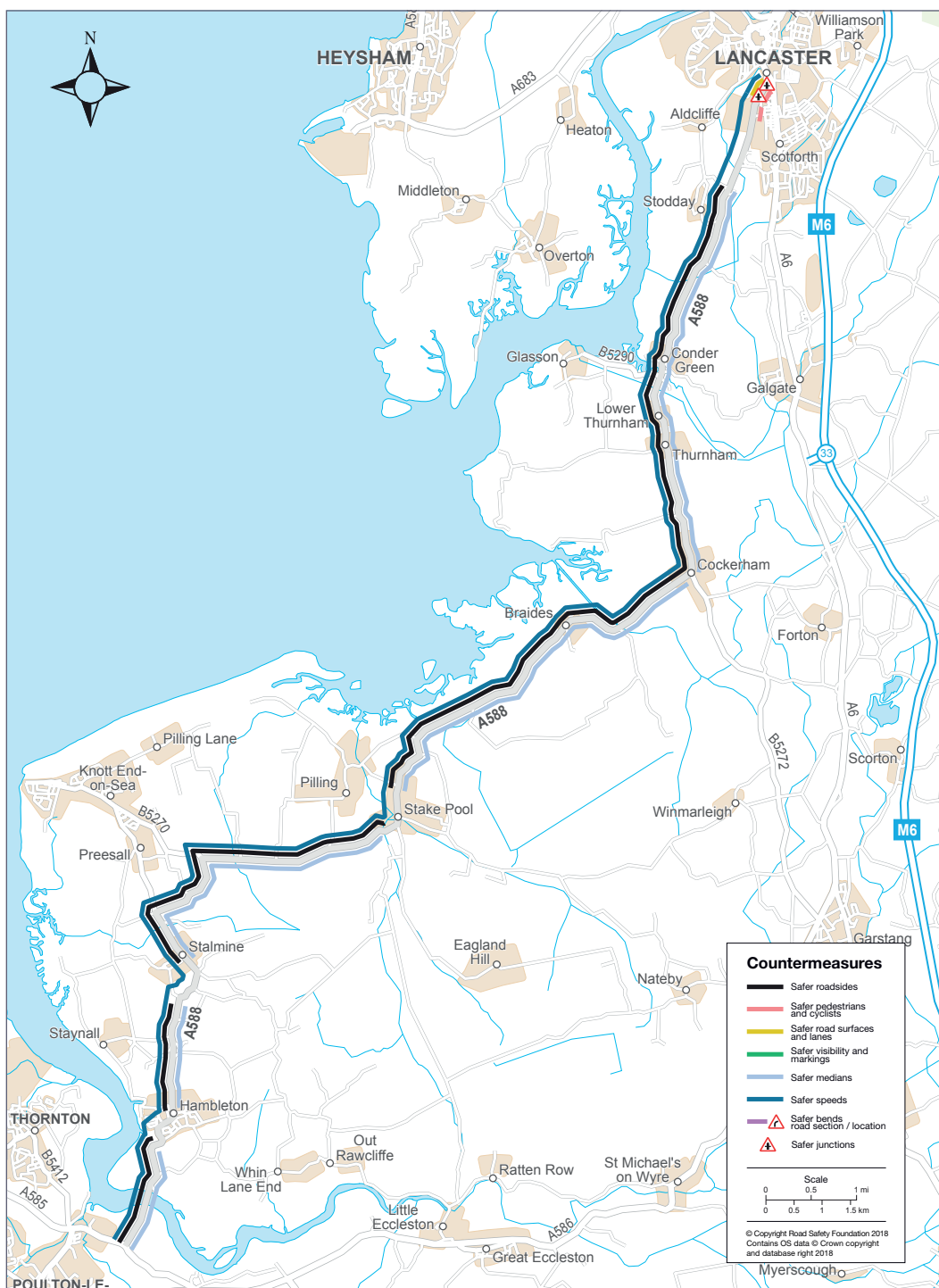


Table 2.26: A588 – Lancashire County Council

Capital investment	£1,904,000
Start – Finish	2018–19
Estimated fatal and serious injuries saved (20 years)	150.6
Present value of prevention (20 years)	£53,690,132
Cost (20 years)	£4,736,463
Benefit:cost ratio	11.3
Link to local authority proposal www.lancashire.gov.uk/media/902547/a588-lcc-safer-roads-funding-bid.pdf	

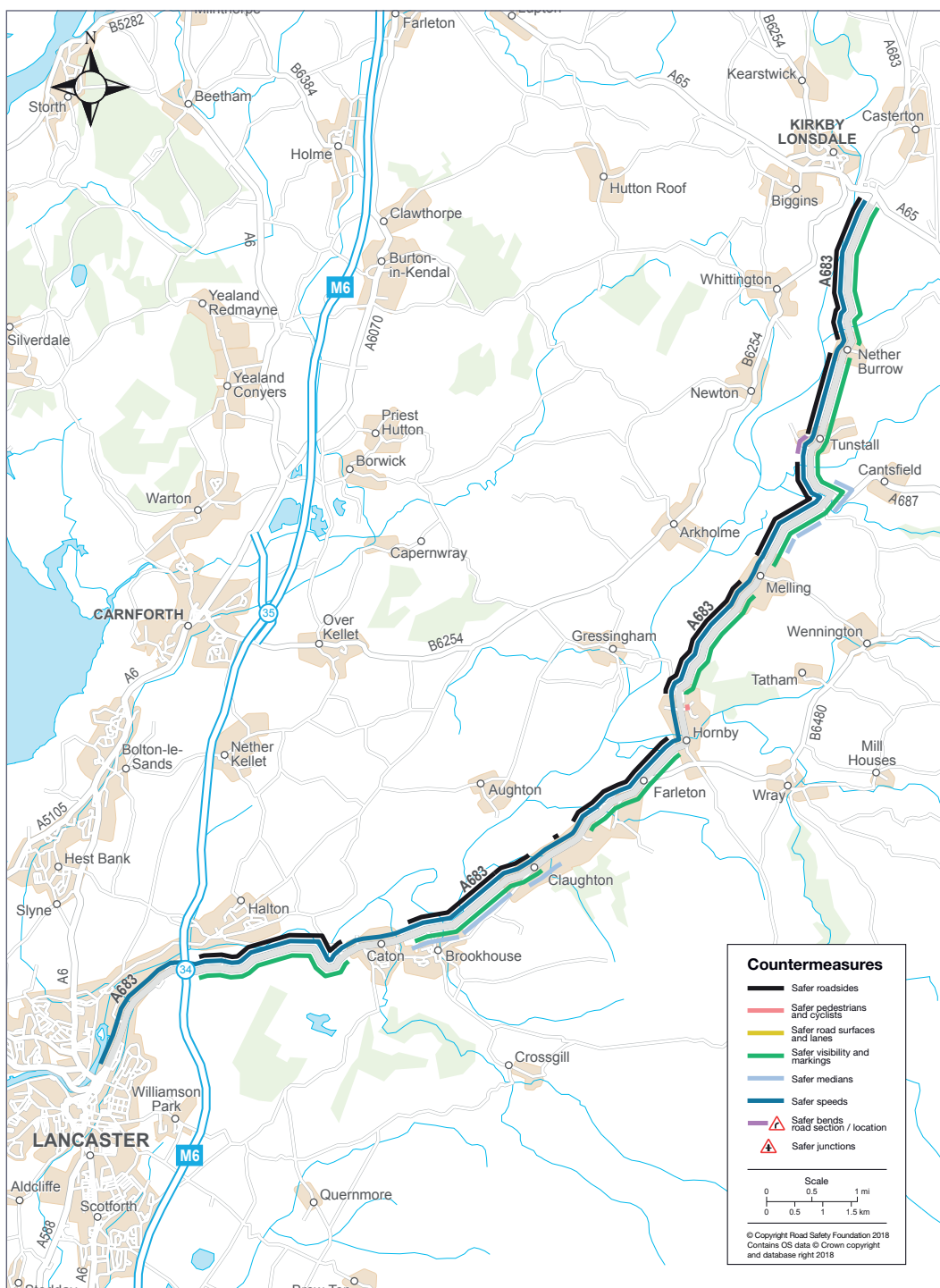


Table 2.27: A683 – Lancashire County Council

Capital investment	£3,110,000
Start – Finish	2019–20
Estimated fatal and serious injuries saved (20 years)	113.9
Present value of prevention (20 years)	£40,271,214
Cost (20 years)	£7,368,483
Benefit:cost ratio	5.5
Link to local authority proposal www.lancashire.gov.uk/media/902550/a683-lcc-safer-roads-funding-bid.pdf	

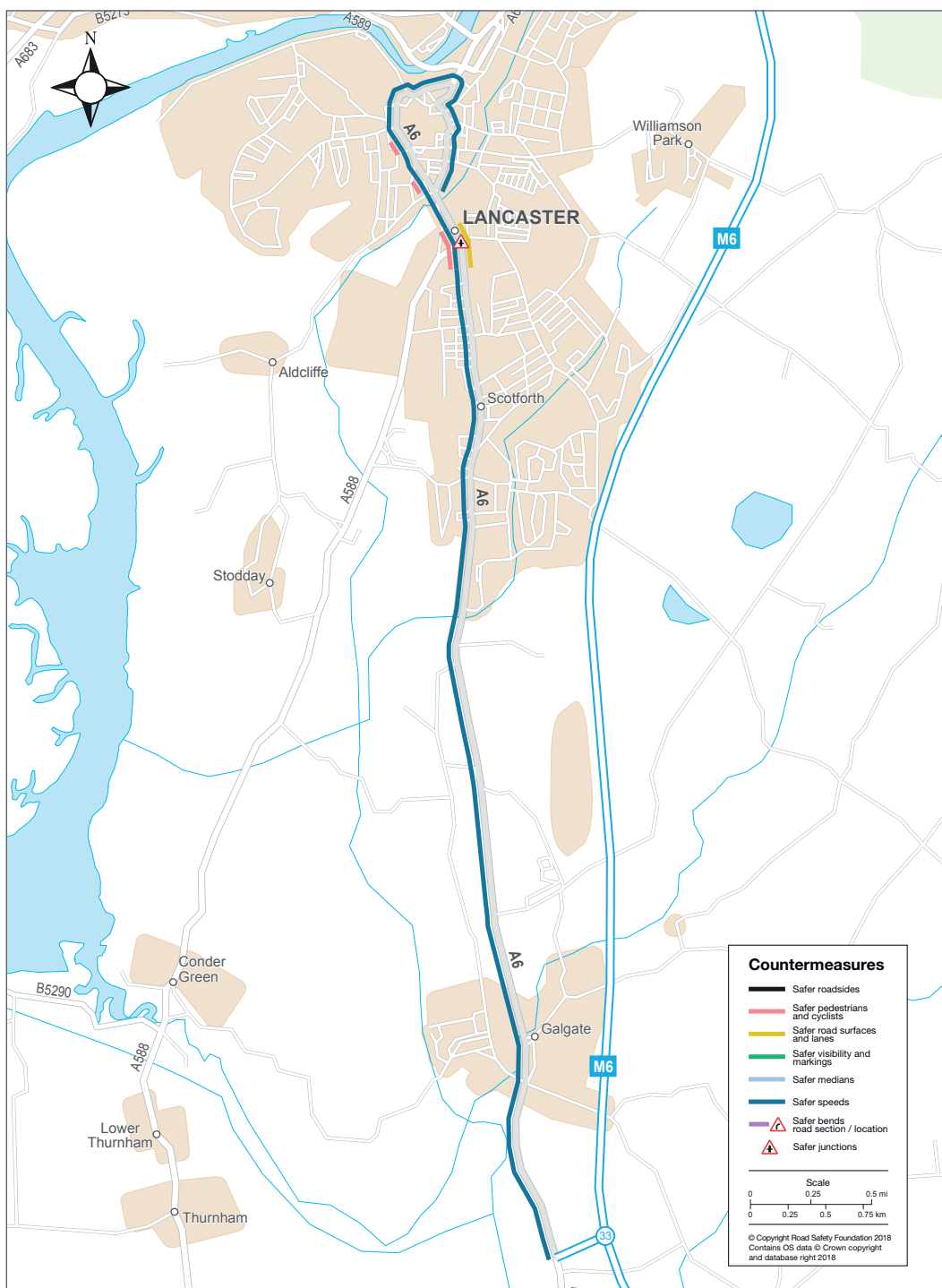


Table 2.28: A6 – Lancashire County Council

Capital investment	£1,216,000
Start – Finish	2019–20
Estimated fatal and serious injuries saved (20 years)	46.5
Present value of prevention (20 years)	£26,870,197
Cost (20 years)	£3,398,662
Benefit:cost ratio	7.9
Link to local authority proposal www.lancashire.gov.uk/media/902545/a6-lcc-safer-roads-funding-bid.pdf	

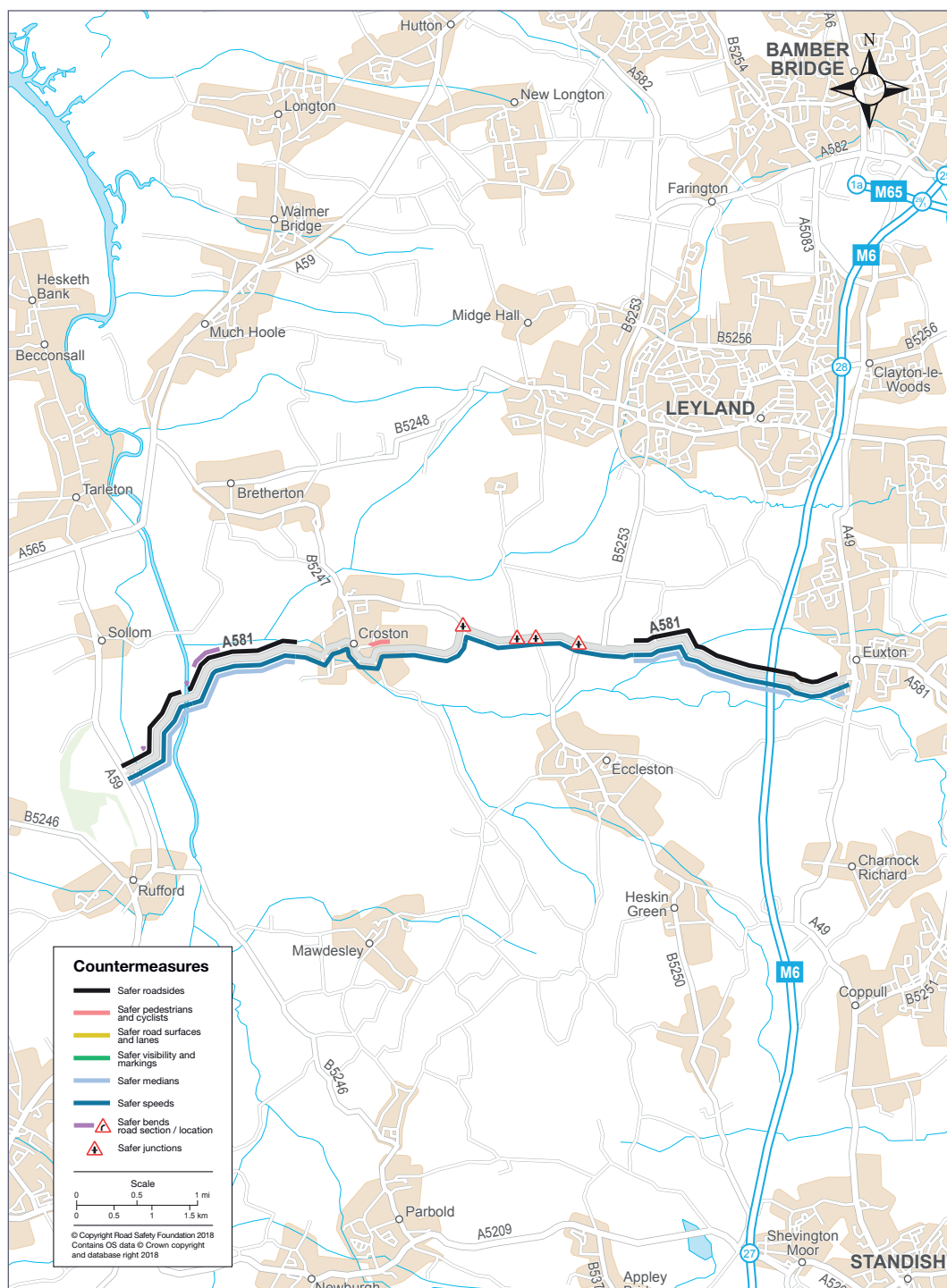


Table 2.29: A581 – Lancashire County Council

Capital investment	£1,263,000
Start – Finish	2020–21
Estimated fatal and serious injuries saved (20 years)	42.6
Present value of prevention (20 years)	£16,310,921
Cost (20 years)	£3,277,829
Benefit:cost ratio	5.0
Link to local authority proposal www.lancashire.gov.uk/media/902546/a581-lcc-safer-roads-funding-bid.pdf	

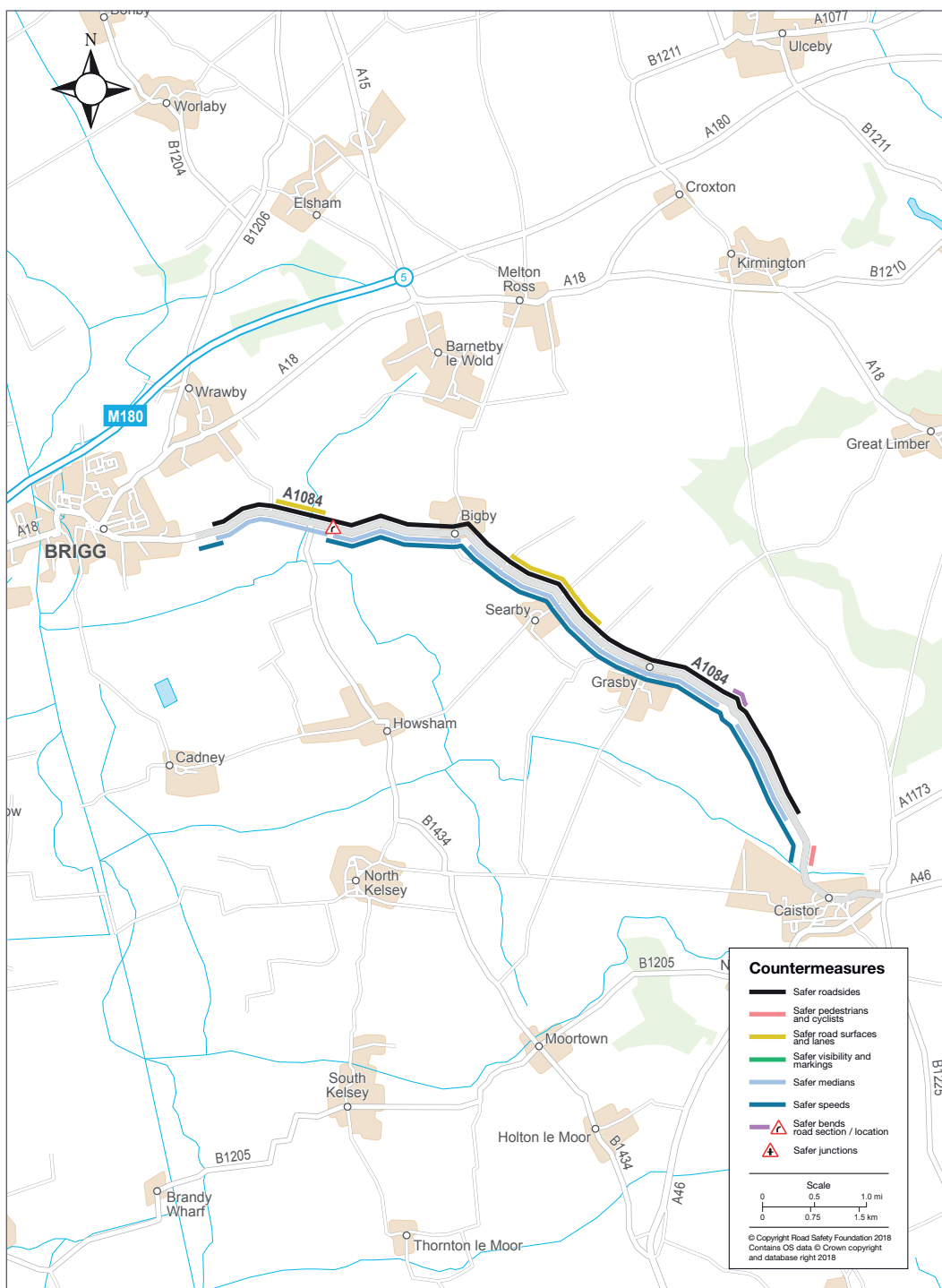


Table 2.30: A1084 – Lincolnshire County Council and North Lincolnshire Council

Capital investment	£1,245,000
Start – Finish	2019–20
Estimated fatal and serious injuries saved (20 years)	20.3
Present value of prevention (20 years)	£8,683,340
Cost (20 years)	£1,979,031
Benefit:cost ratio	4.4
Link to local authority proposal www.lincolnshire.gov.uk/transport-and-roads/major-projects/a1084/a631-safer-roads-fund-improvements	

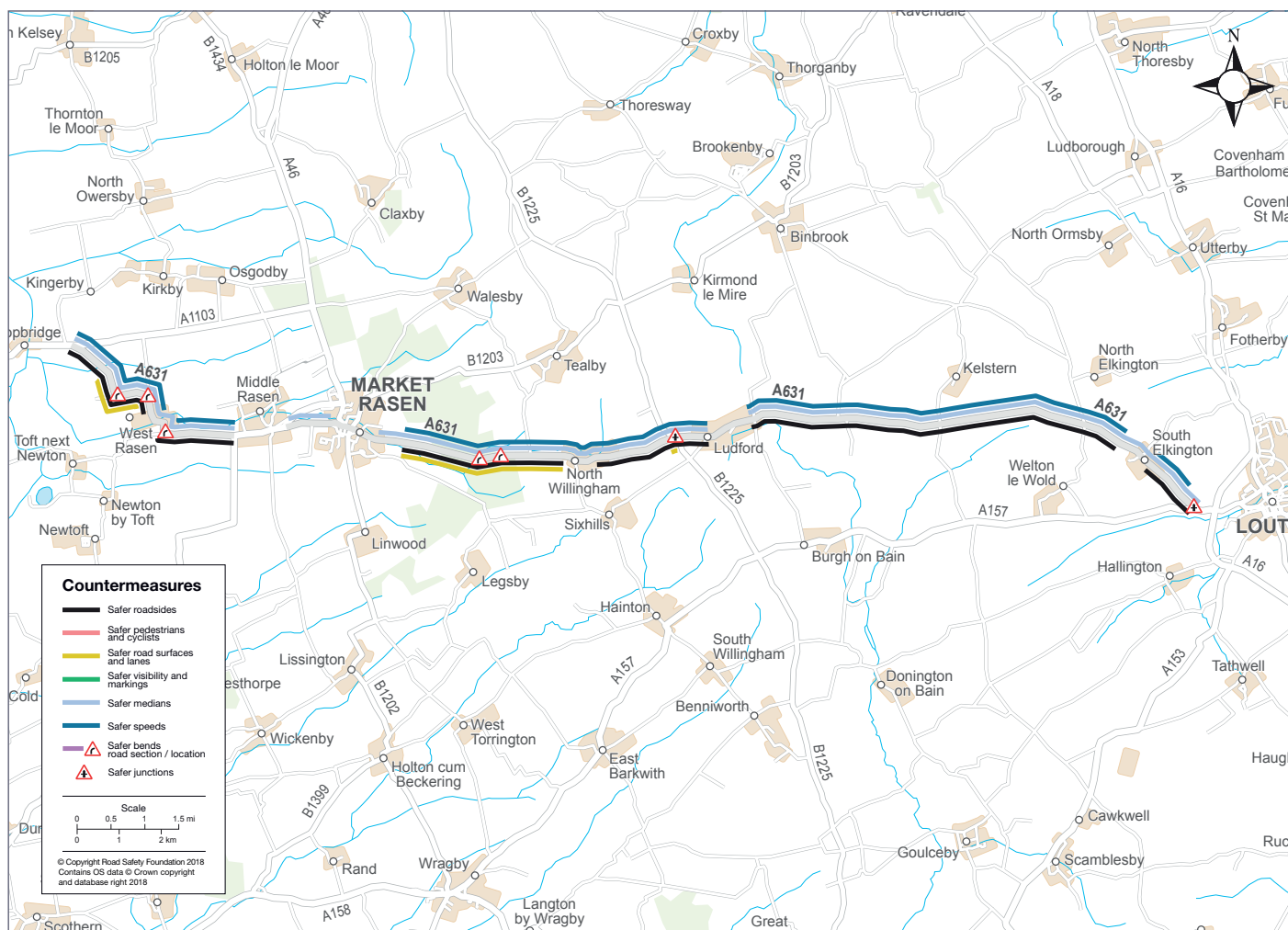


Table 2.31: A631 (West) – Lincolnshire County Council

Capital investment	£645,000
Start – Finish	2019–20
Estimated fatal and serious injuries saved (20 years)	6.5
Present value of prevention (20 years)	£2,717,850
Cost (20 years)	£593,016
Benefit:cost ratio	4.6
Link to local authority proposal www.lincolnshire.gov.uk/transport-and-roads/major-projects/a1084/a631-safer-roads-fund-improvements	

Table 2.32: A631 (East) – Lincolnshire County Council

Capital investment	£2,725,000
Start – Finish	2020–21
Estimated fatal and serious injuries saved (20 years)	42.6
Present value of prevention (20 years)	£16,439,609
Cost (20 years)	£3,796,507
Benefit:cost ratio	4.3
Link to local authority proposal www.lincolnshire.gov.uk/transport-and-roads/major-projects/a1084/a631-safer-roads-fund-improvements	

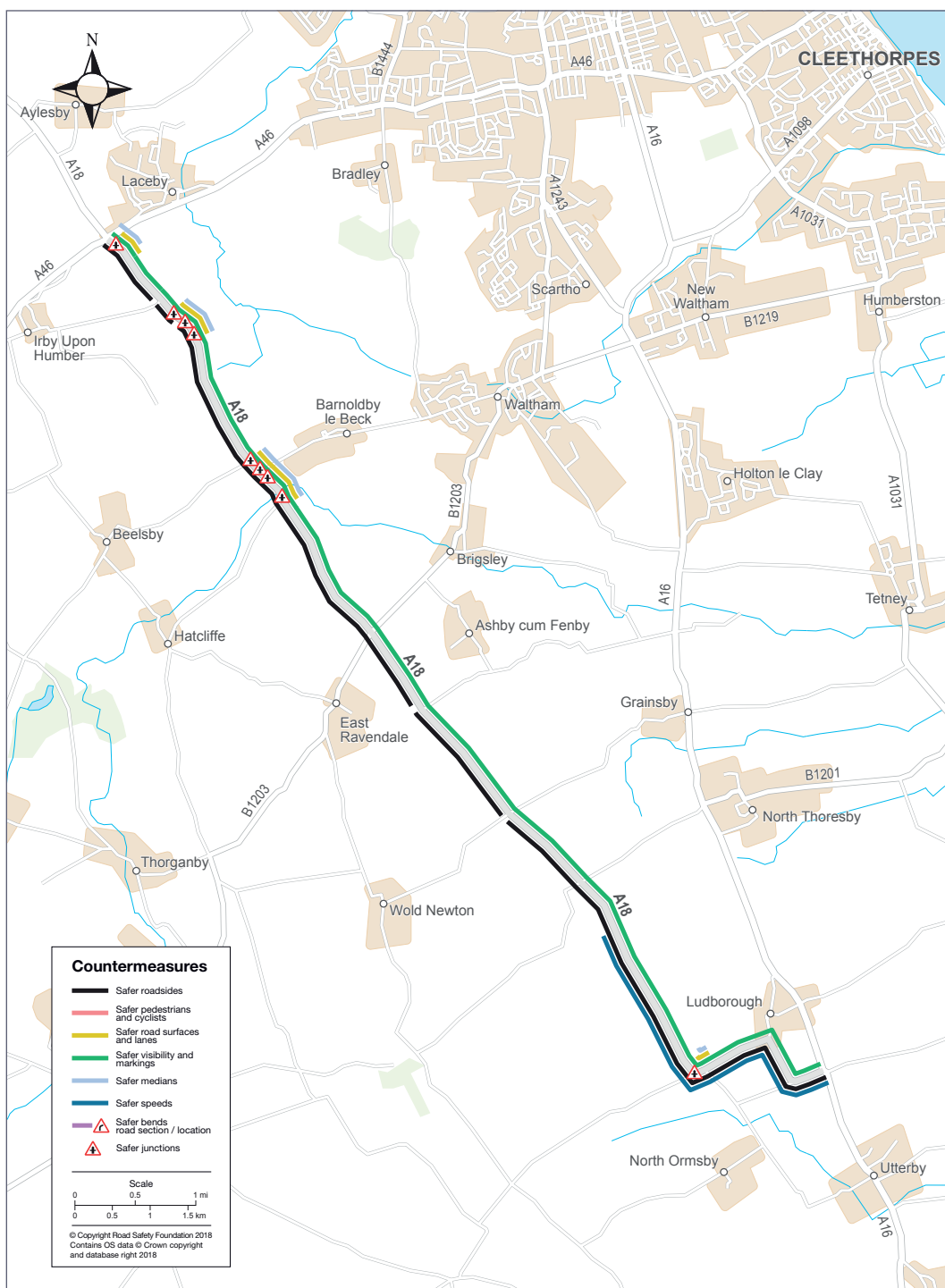


Table 2.33: A18 – North East Lincolnshire Council and Lincolnshire County Council

Capital investment	£2,822,000
Start – Finish	2018–19
Estimated fatal and serious injuries saved (20 years)	90.7
Present value of prevention (20 years)	£12,355,727
Cost (20 years)	£3,382,947
Benefit:cost ratio	3.7
Link to local authority proposal www.nelincs.gov.uk/wp-content/uploads/2015/12/Safer-Roads-Fund-September-2017.pdf	

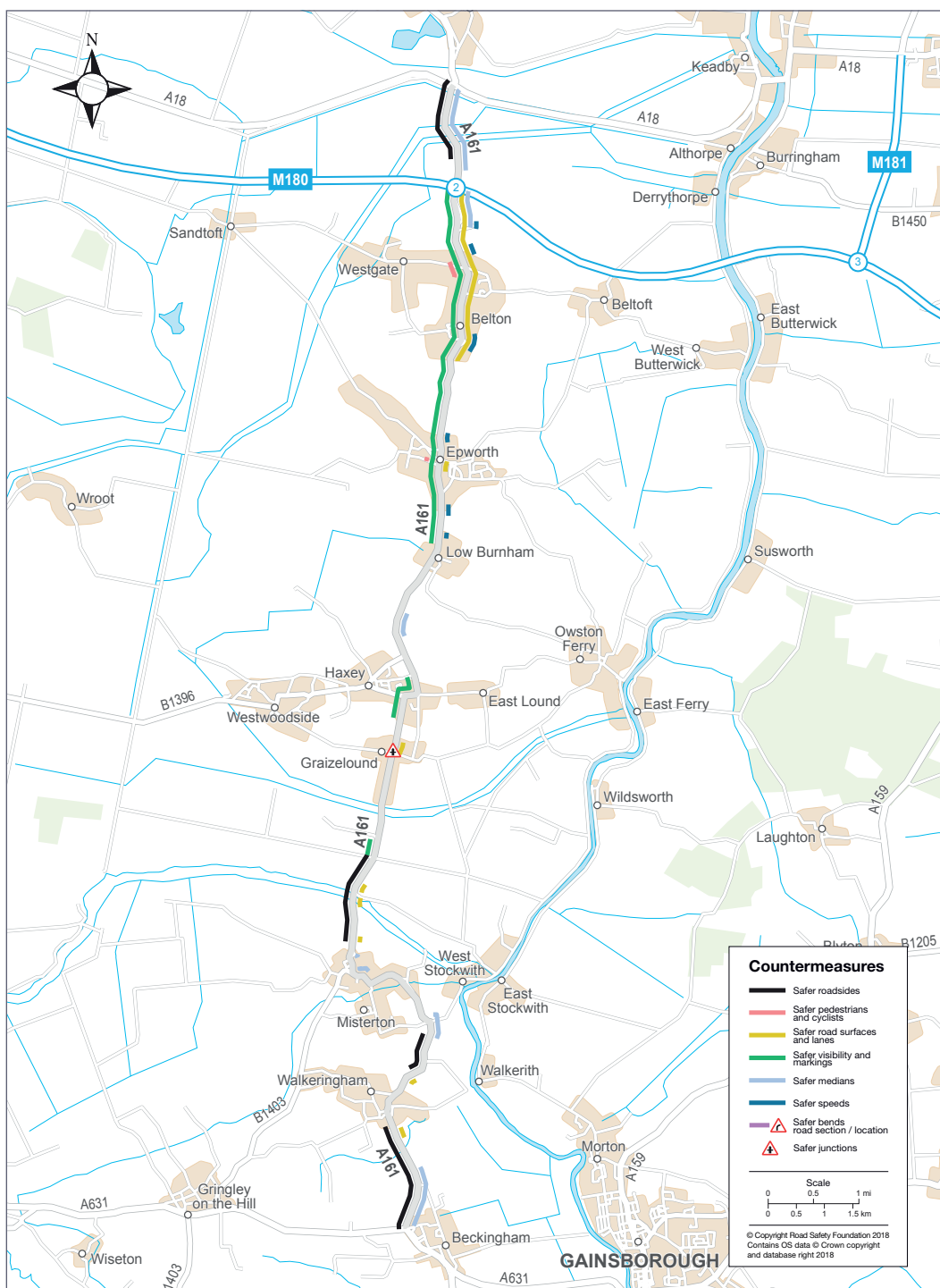


Table 2.34: A161 – North Lincolnshire Council and Nottinghamshire County Council

Capital investment	£3,225,000
Start – Finish	2020–21
Estimated fatal and serious injuries saved (20 years)	28.3
Present value of prevention (20 years)	£11,284,824
Cost (20 years)	£3,223,800
Benefit:cost ratio	3.5
Link to local authority proposal Not yet available.	

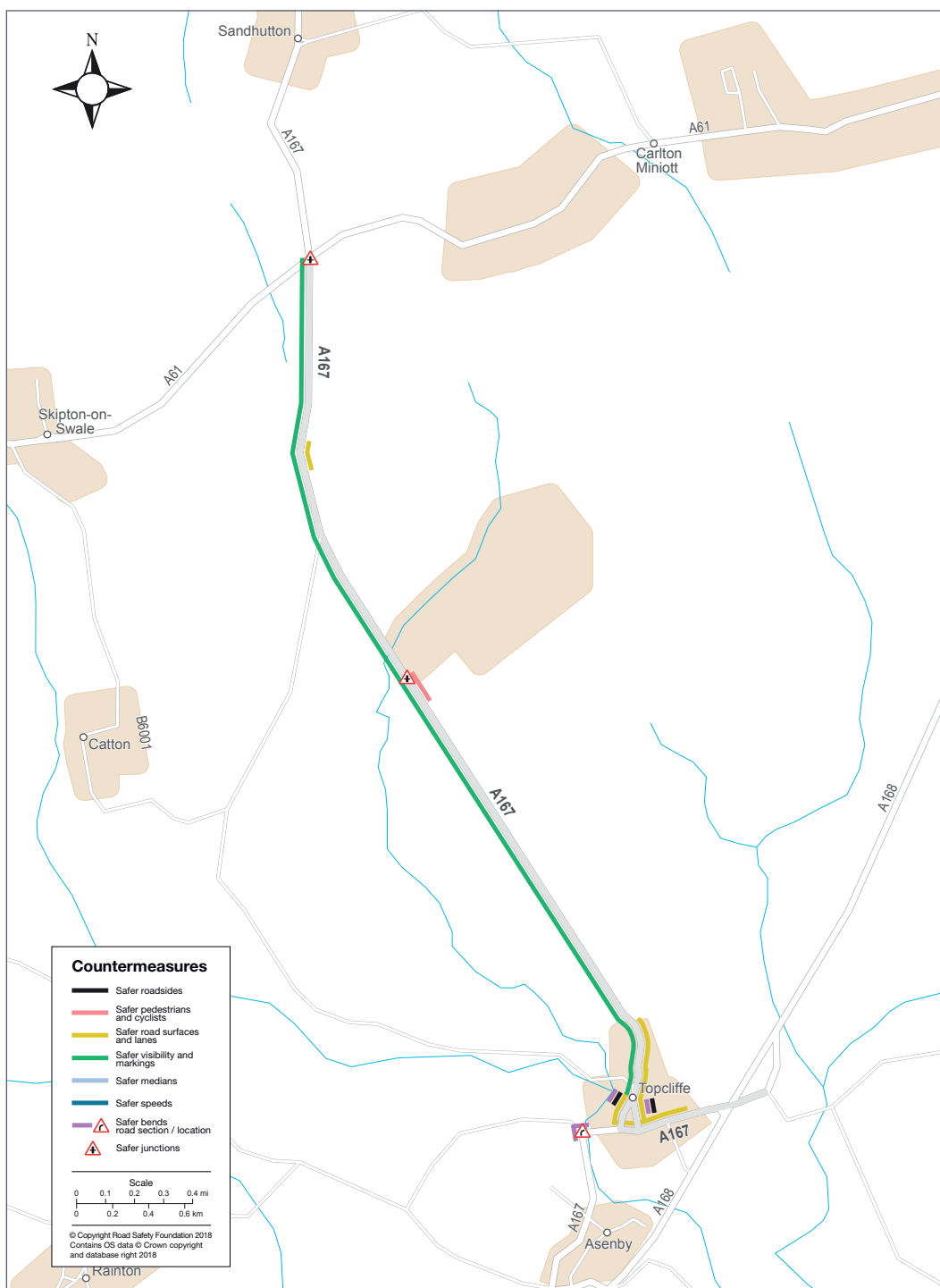


Table 2.35: A167 – North Yorkshire County Council

Capital investment	£900,000
Start – Finish	2017–18
Estimated fatal and serious injuries saved (20 years)	10.8
Present value of prevention (20 years)	£2,124,023
Cost (20 years)	£900,000
Benefit:cost ratio	2.4
Link to local authority proposal www.northyorks.gov.uk/safer-roads-fund-bids	

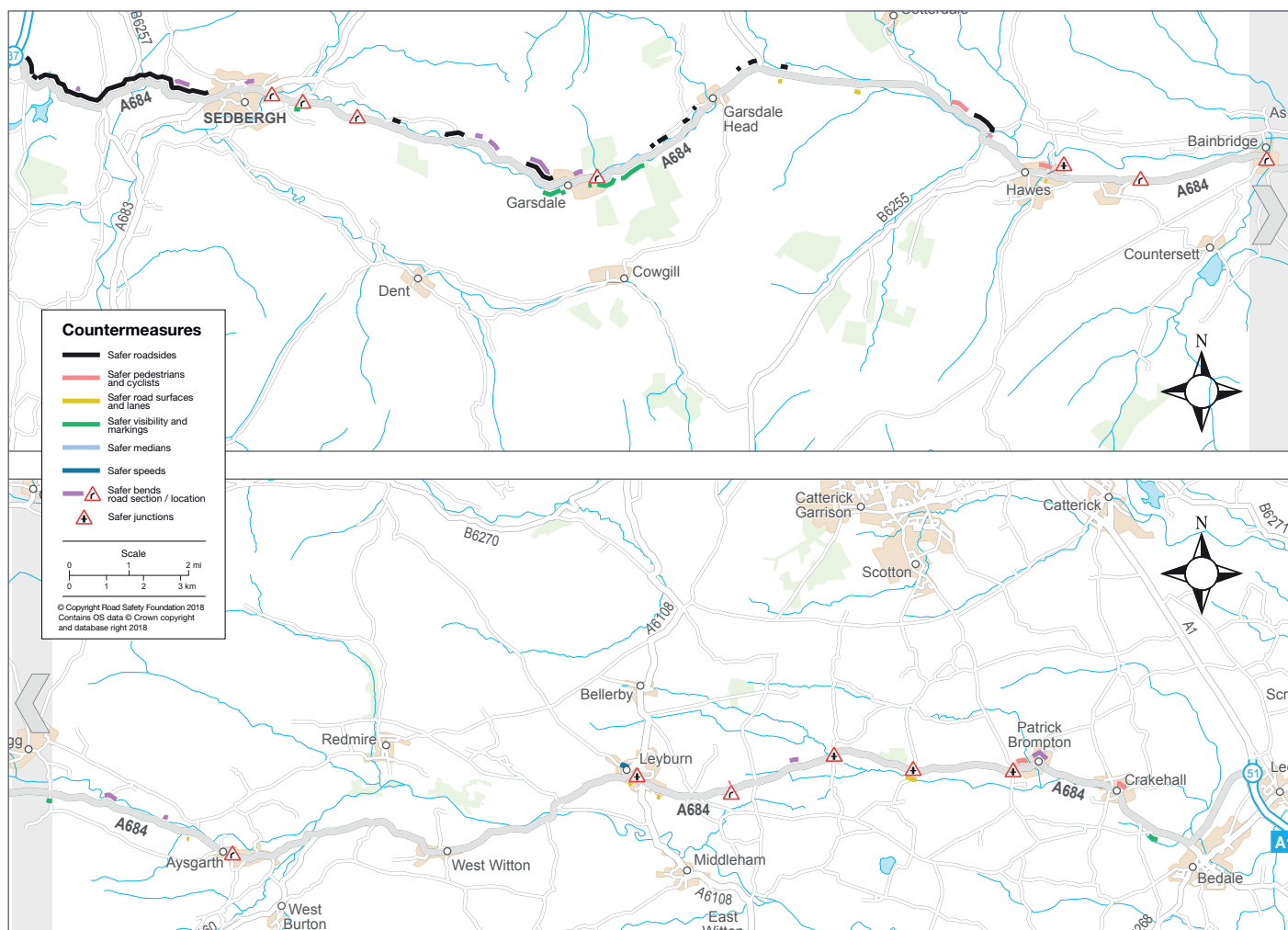


Table 2.36: A684 – North Yorkshire County Council and Cumbria County Council

Capital investment	£9,052,940
Start – Finish	2018–19
Estimated fatal and serious injuries saved (20 years)	55.1
Present value of prevention (20 years)	£19,451,383
Cost (20 years)	£10,112,774
Benefit:cost ratio	1.9
Link to local authority proposal www.northyorks.gov.uk/safer-roads-fund-bids Cumbria County Council: Link not available on publication	

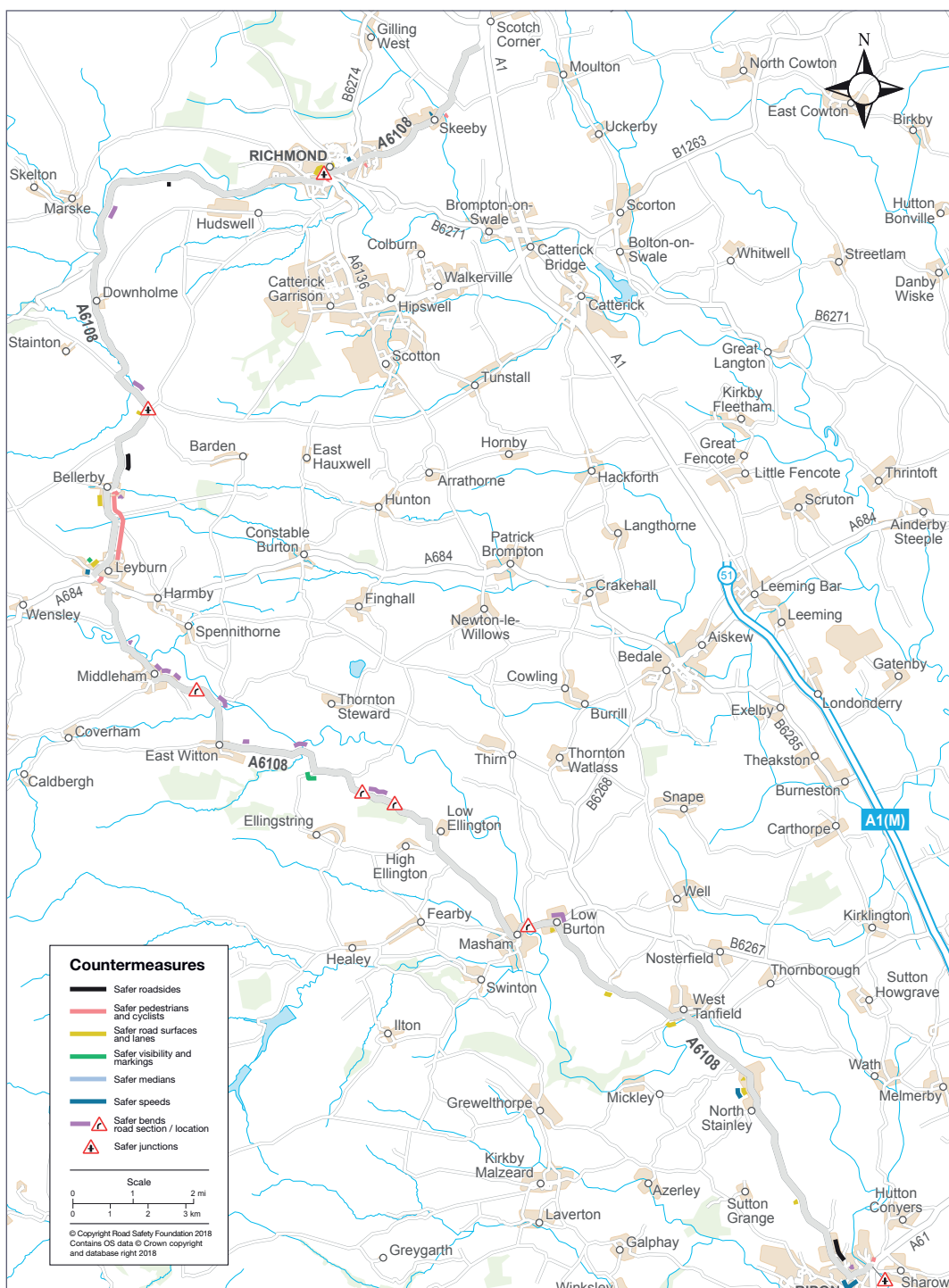


Table 2.37: A6108 – North Yorkshire County Council

Capital investment	£2,972,000
Start – Finish	2020–21
Estimated fatal and serious injuries saved (20 years)	30.3
Present value of prevention (20 years)	£12,536,368
Cost (20 years)	£3,450,015
Benefit:cost ratio	3.6
Link to local authority proposal www.northyorks.gov.uk/safer-roads-fund-bids	

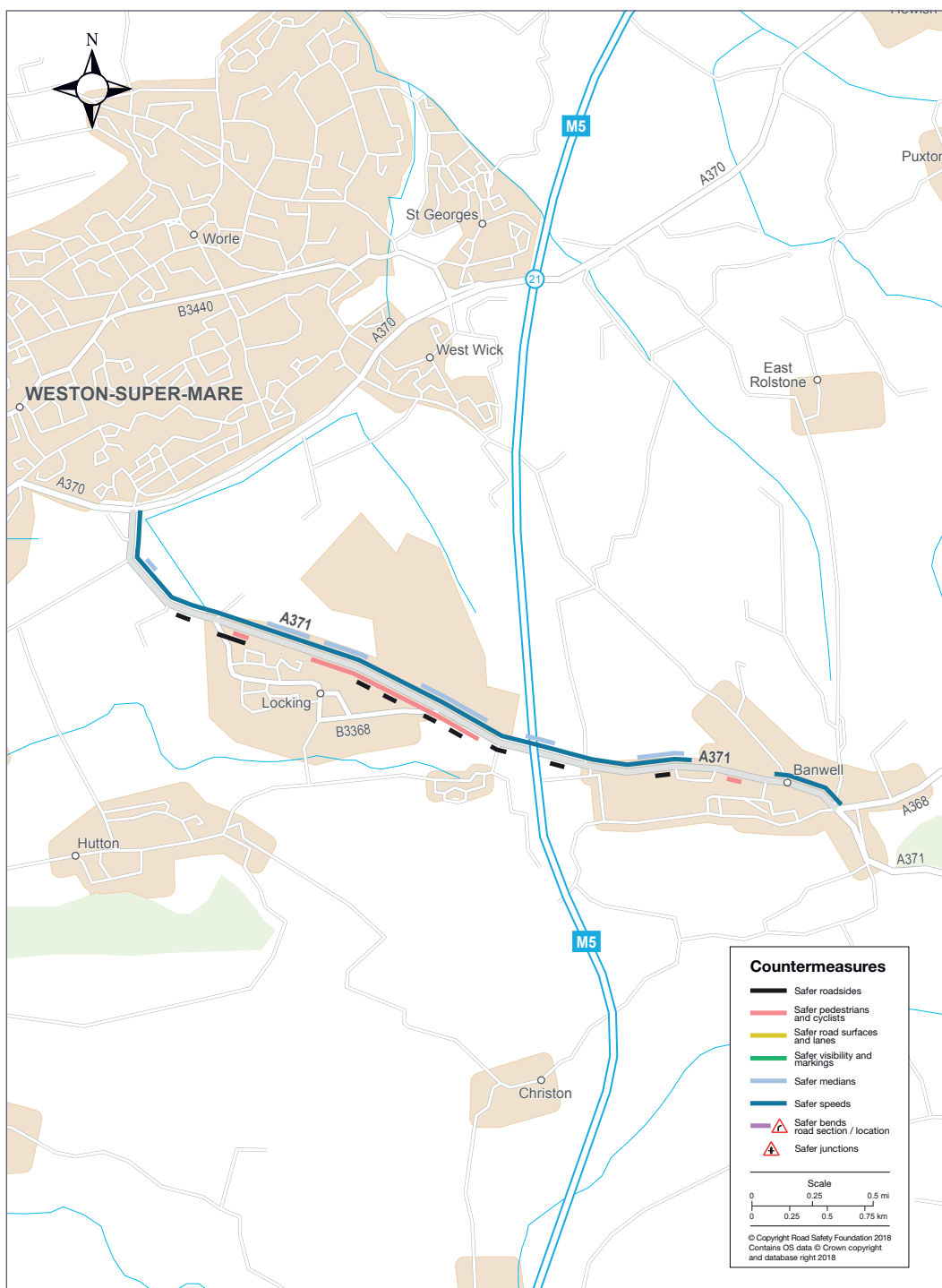


Table 2.38: A371 – North Somerset Council

Capital investment	£982,000
Start – Finish	2019–20
Estimated fatal and serious injuries saved (20 years)	25.4
Present value of prevention (20 years)	£10,256,061
Cost (20 years)	£869,220
Benefit:cost ratio	11.8
Link to local authority proposal https://s3-eu-west-1.amazonaws.com/travelwest/wp-content/uploads/2017/10/Annex-C-DfT-Safer-Roads-Fund-Application-Formv2-Revision-1-Economic-Case.pdf	

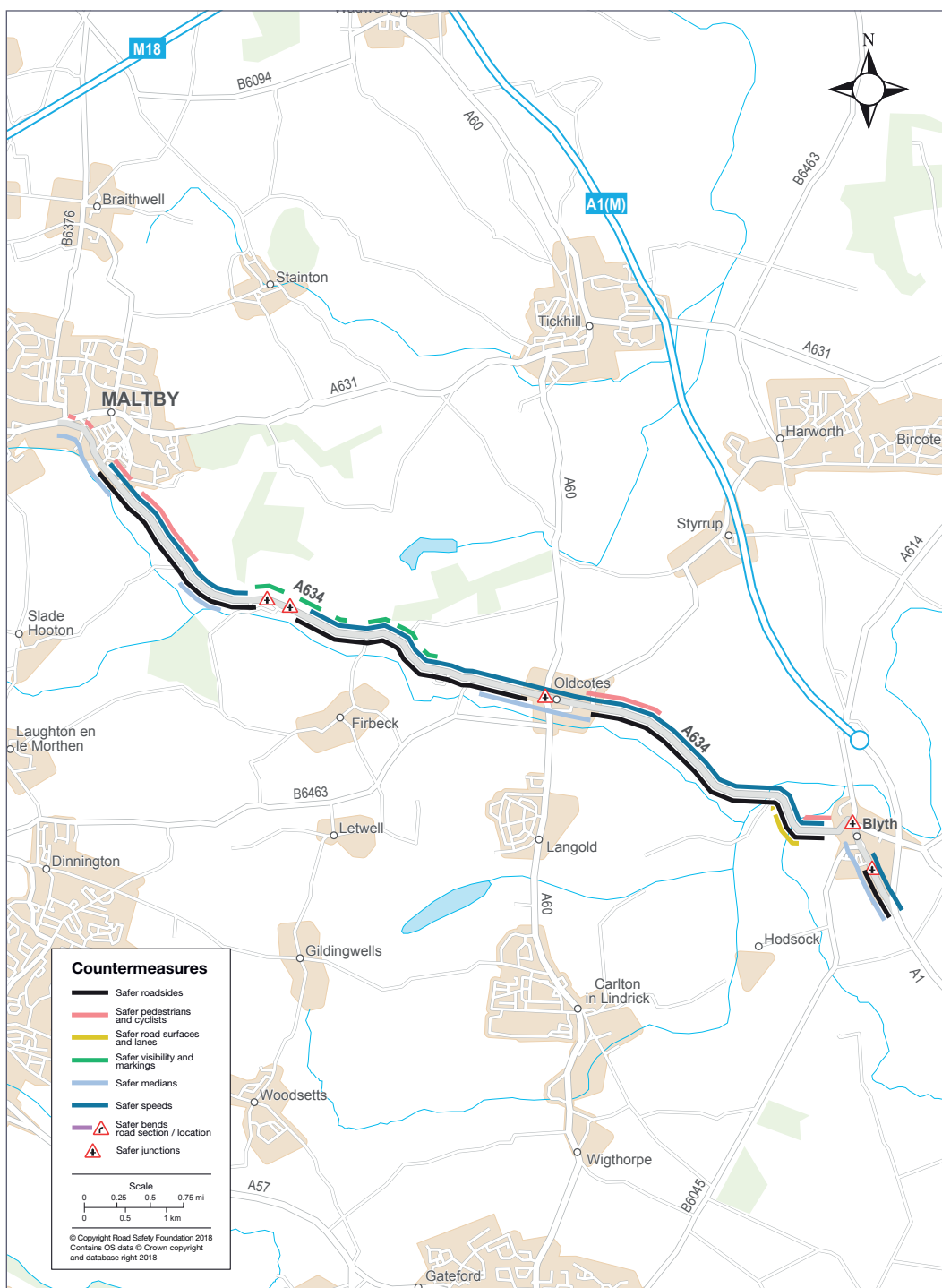


Table 2.39: A634 – Nottinghamshire County Council and Rotherham Metropolitan Borough Council

Capital investment	£2,181,000
Start – Finish	2017–18
Estimated fatal and serious injuries saved (20 years)	25.2
Present value of prevention (20 years)	£5,468,769
Cost (20 years)	£2,300,400
Benefit:cost ratio	2.4
Link to local authority proposal www.nottinghamshire.gov.uk/media/120752/safer-roads-fund-bid.pdf	

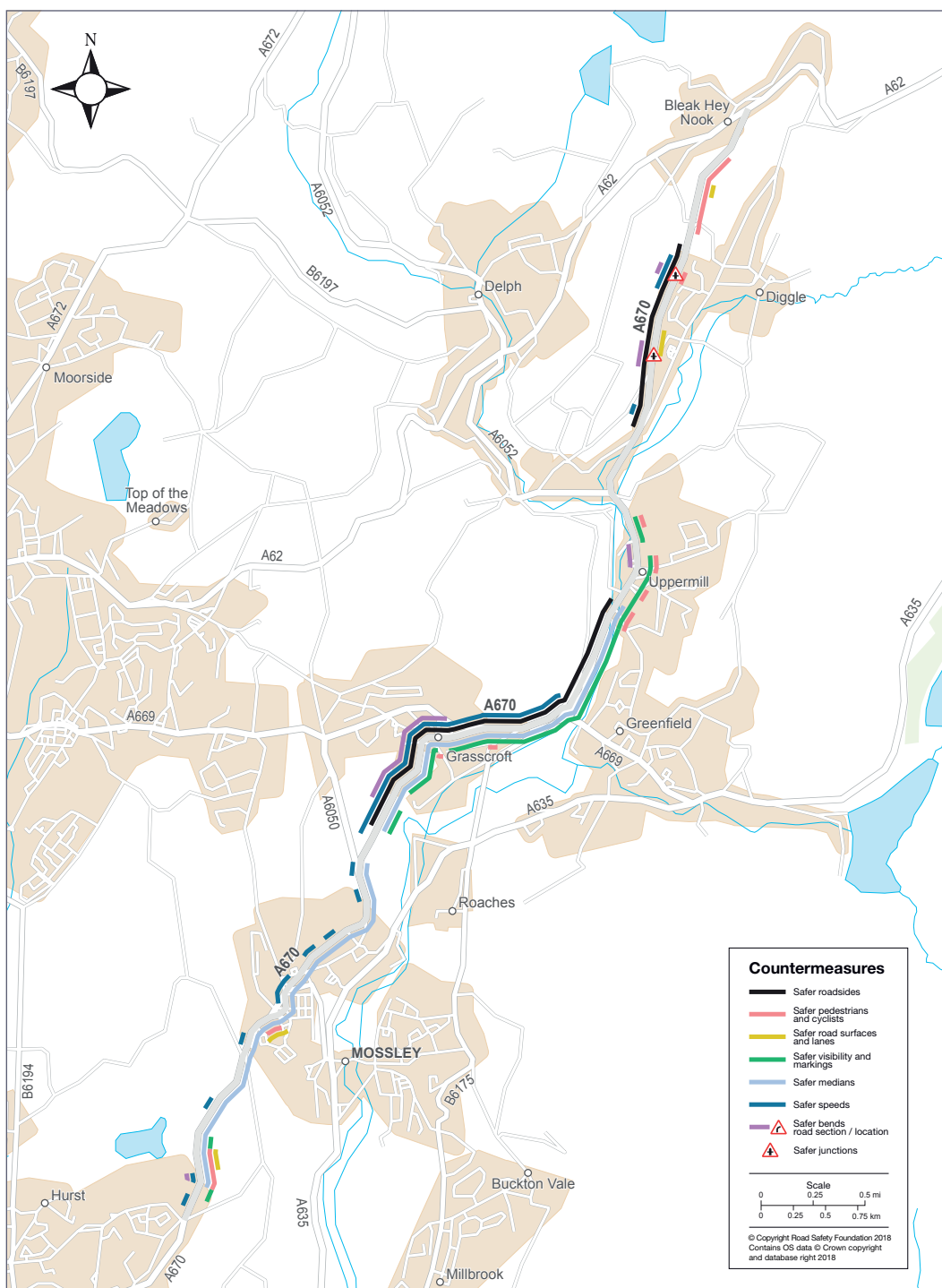


Table 2.40: A670 – Oldham Council and Tameside Metropolitan Borough Council

Capital investment	£962,000
Start – Finish	2019–20
Estimated fatal and serious injuries saved (20 years)	33.6
Present value of prevention (20 years)	£11,519,975
Cost (20 years)	£1,749,169
Benefit:cost ratio	6.6
Link to local authority proposal https://www.oldham.gov.uk/sfr https://www.tameside.gov.uk/TamesideMBC/media/trafficregulationorders/A670-Road-Safety-Improvements-(Oldham-Tameside)-FINAL.pdf	

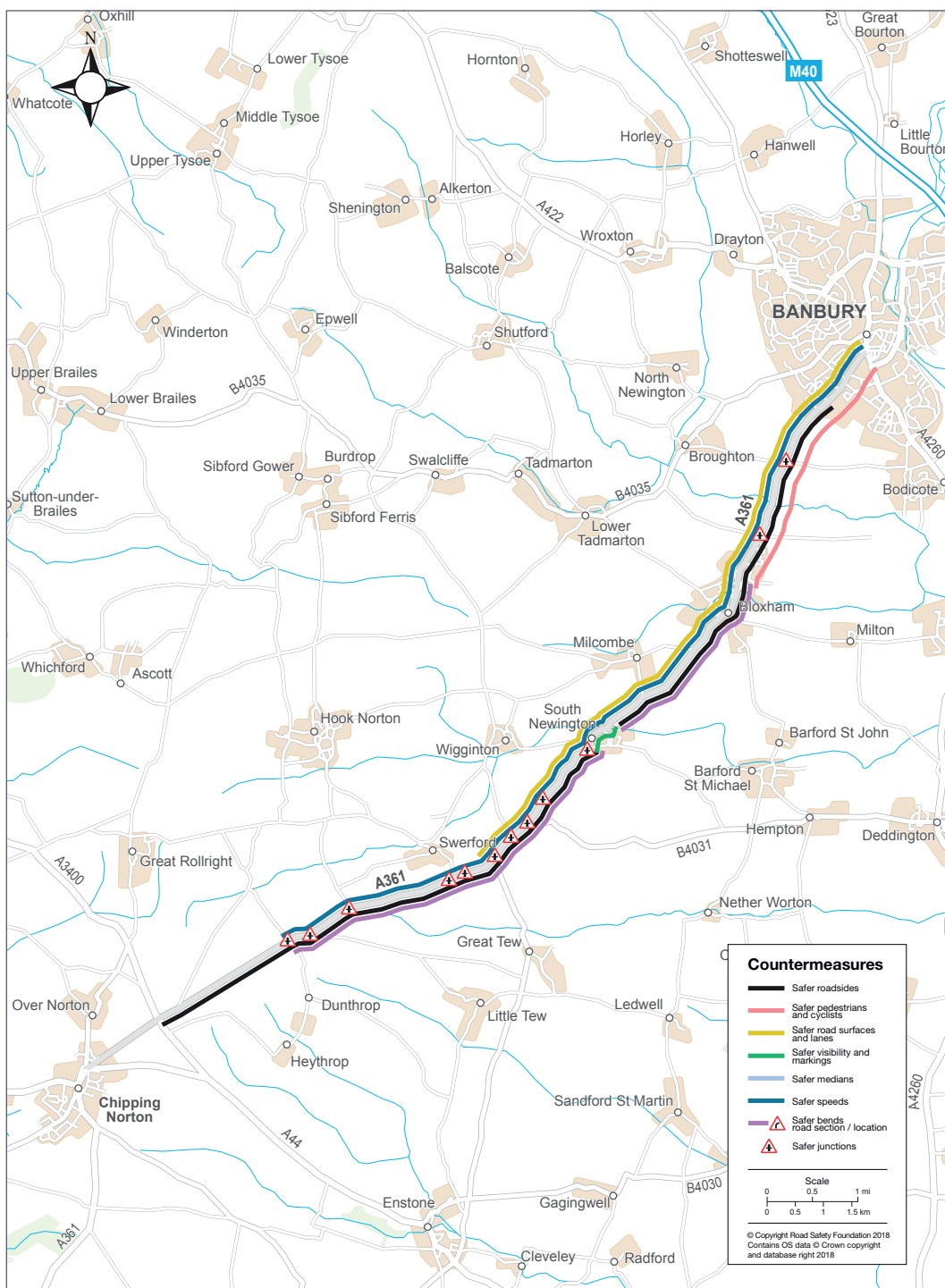


Table 2.41: A361 – Oxfordshire County Council

Capital investment	£4,135,000
Start – Finish	2017–18
Estimated fatal and serious injuries saved (20 years)	46.0
Present value of prevention (20 years)	£14,929,461
Cost (20 years)	£2,879,075
Benefit:cost ratio	5.2
Link to local authority proposal www2.oxfordshire.gov.uk/cms/sites/default/files/folders/documents/roadsandtransport/majorprojects/DfTSaferRoadsFundSubmissionA361.pdf	

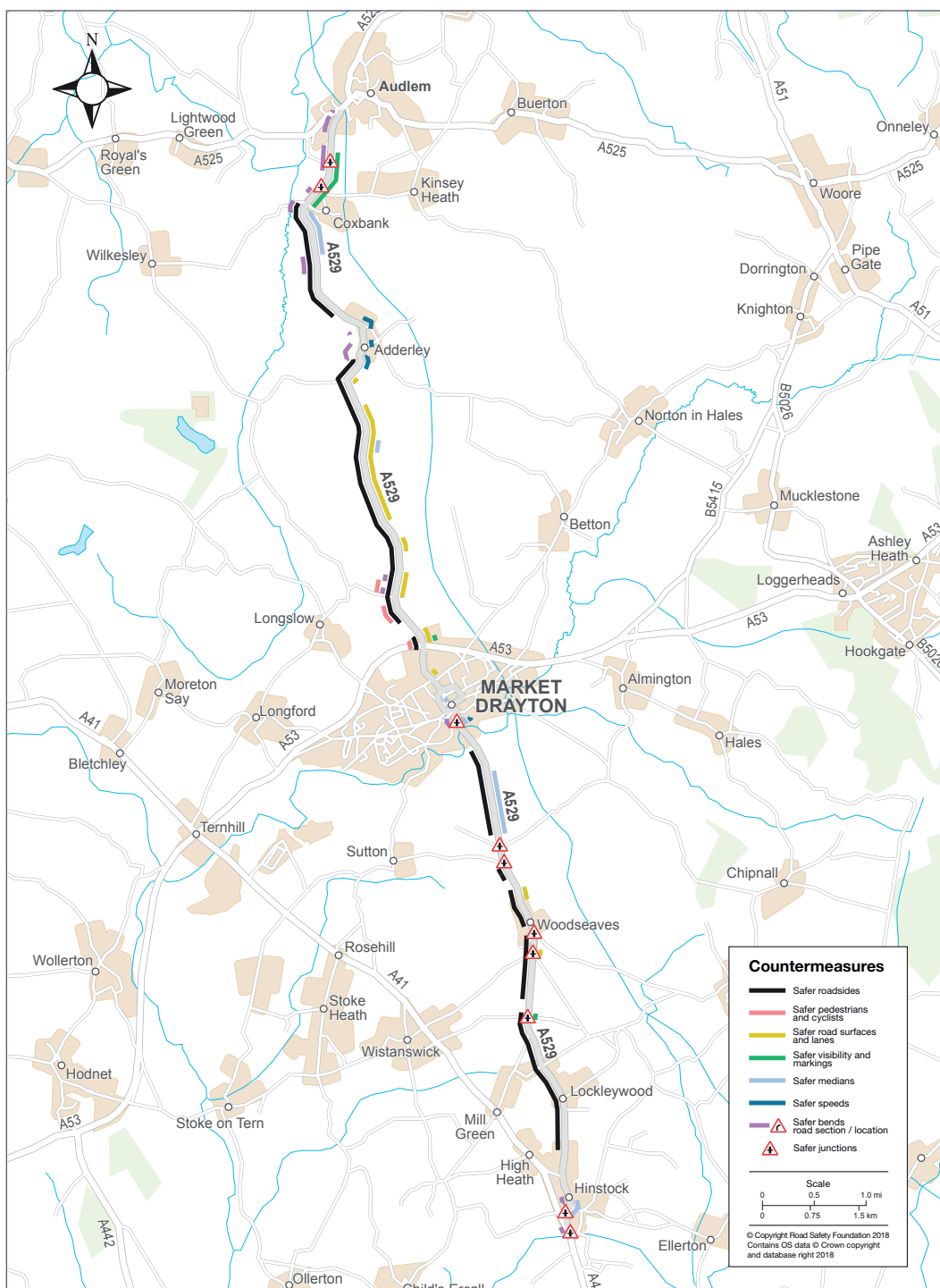


Table 2.42: A529 – Shropshire Council and Cheshire East Council

Capital investment	£3,888,000
Start – Finish	2018–19
Estimated fatal and serious injuries saved (20 years)	68.4
Present value of prevention (20 years)	£29,122,183
Cost (20 years)	£4,004,853
Benefit:cost ratio	7.3
Link to local authority proposal https://shropshire.gov.uk/roads-and-highways/roadworks-and-road-closures/large-scale-project-works/safer-roads-fund-a529-improvement-works	

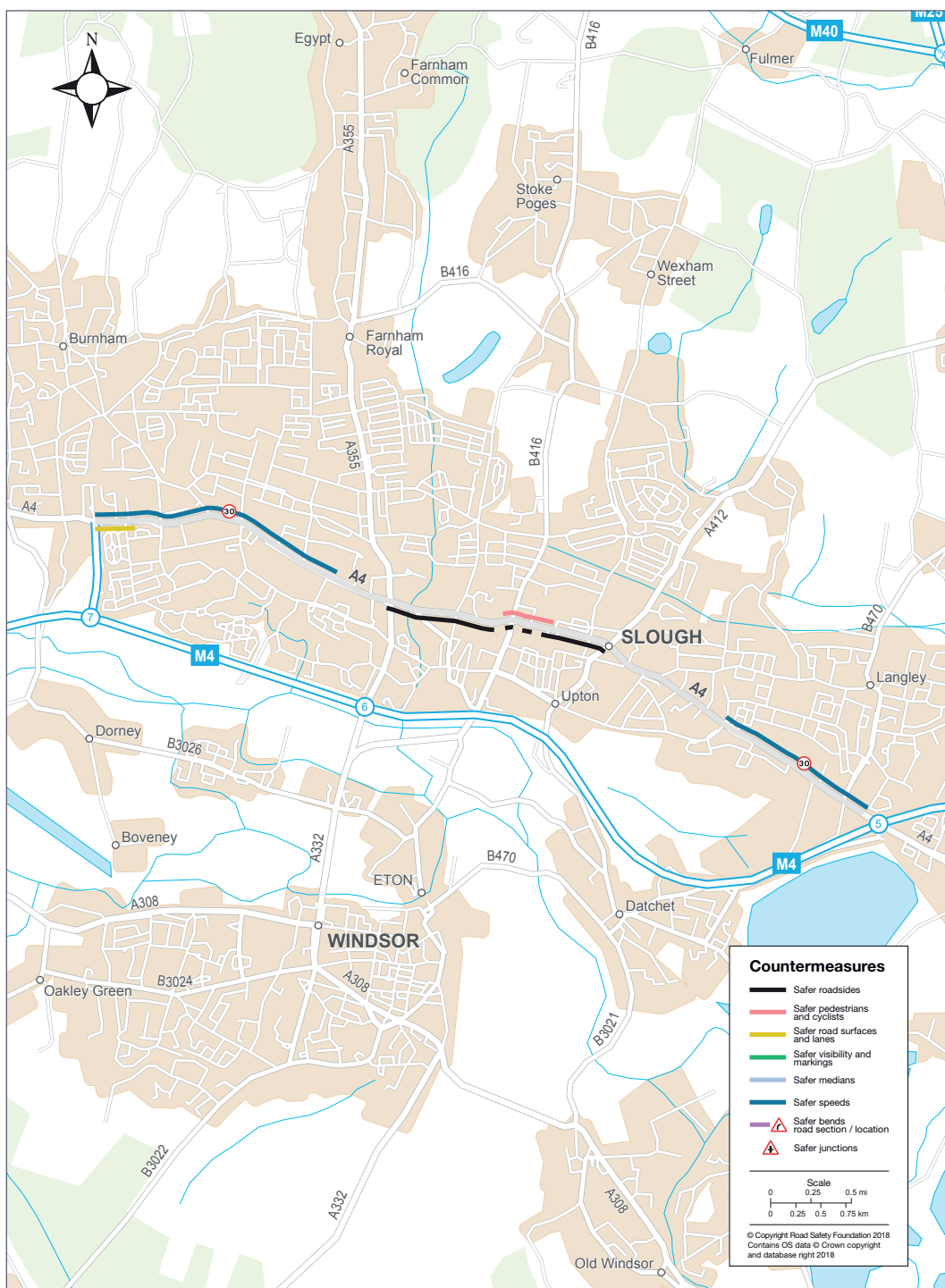


Table 2.43: A4 – Slough Borough Council

Capital investment	£1,711,000
Start – Finish	2020–21
Estimated fatal and serious injuries saved (20 years)	54.1
Present value of prevention (20 years)	£18,367,082
Cost (20 years)	£2,288,282
Benefit:cost ratio	8.0
Link to local authority proposal http://www.slough.gov.uk/parking-travel-and-roads/a4-safer-roads-fund.aspx	

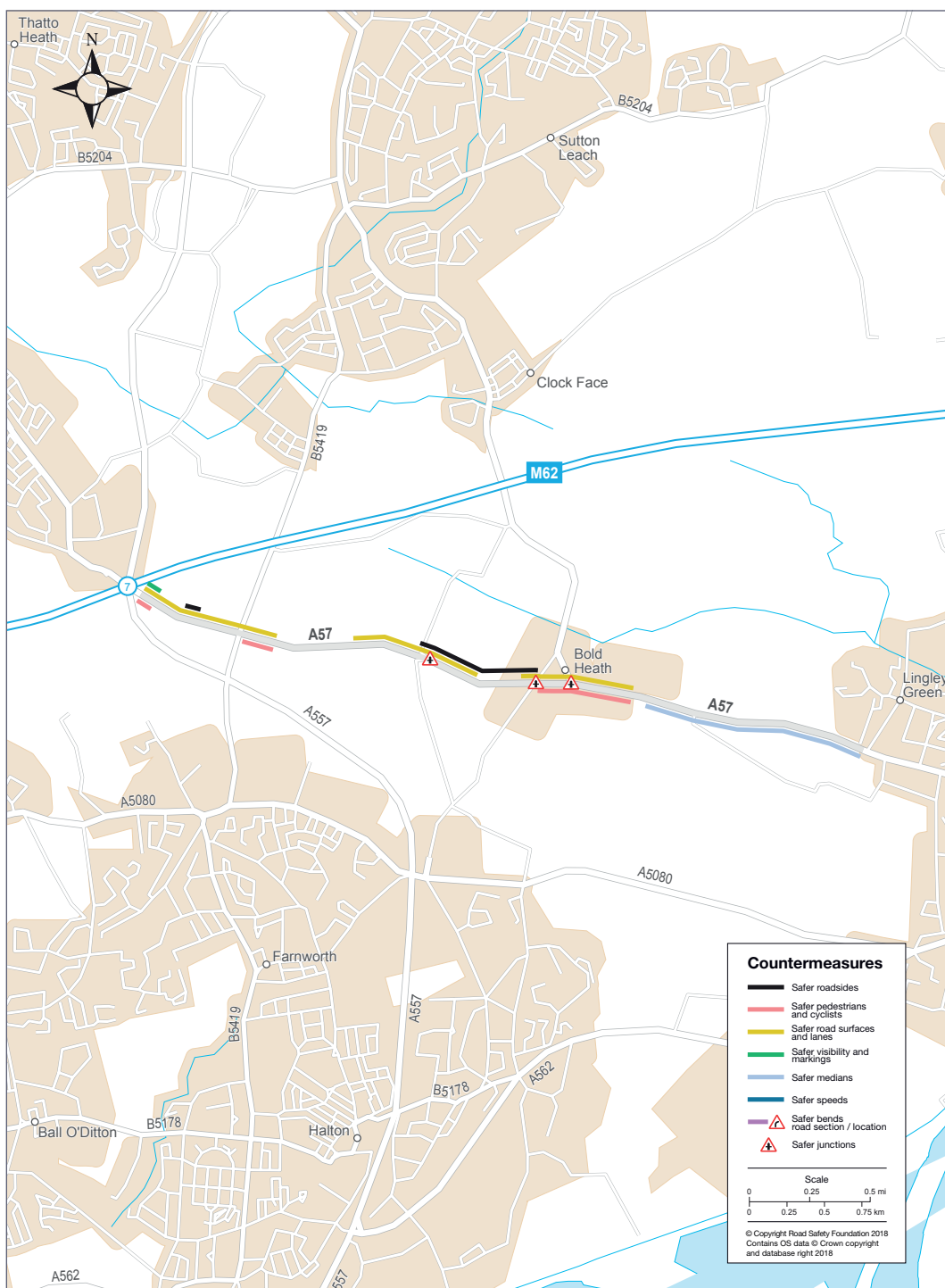


Table 2.44: A57 – St Helens Council

Capital investment	£1,040,000
Start – Finish	2019–20
Estimated fatal and serious injuries saved (20 years)	18.4
Present value of prevention (20 years)	£7,437,661
Cost (20 years)	£1,282,216
Benefit:cost ratio	5.8
Link to local authority proposal https://www.sthelens.gov.uk/traffic-travel-parking/highway-maintenance/safer-roads-funds/	

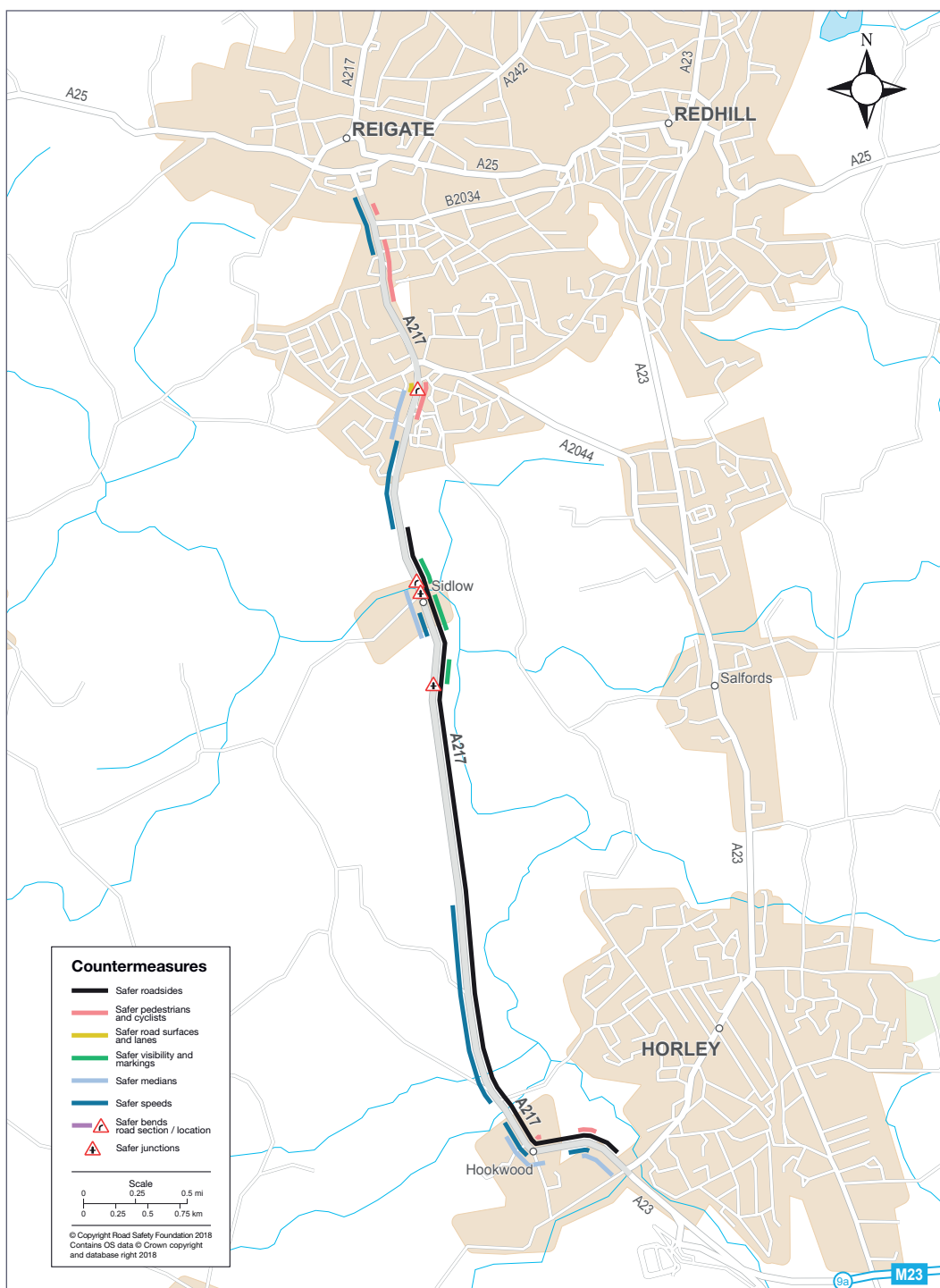


Table 2.46: A217 – Surrey County Council

Capital investment	£1,117,000
Start – Finish	2020–21
Estimated fatal and serious injuries saved (20 years)	8.3
Present value of prevention (20 years)	£3,347,392
Cost (20 years)	£1,142,264
Benefit:cost ratio	2.9
Link to local authority proposal www.surreycc.gov.uk/_data/assets/pdf_file/0007/144835/DfT-Safer-Roads-Fund-Application-Form-A217-Reigate-to-Horley.pdf	

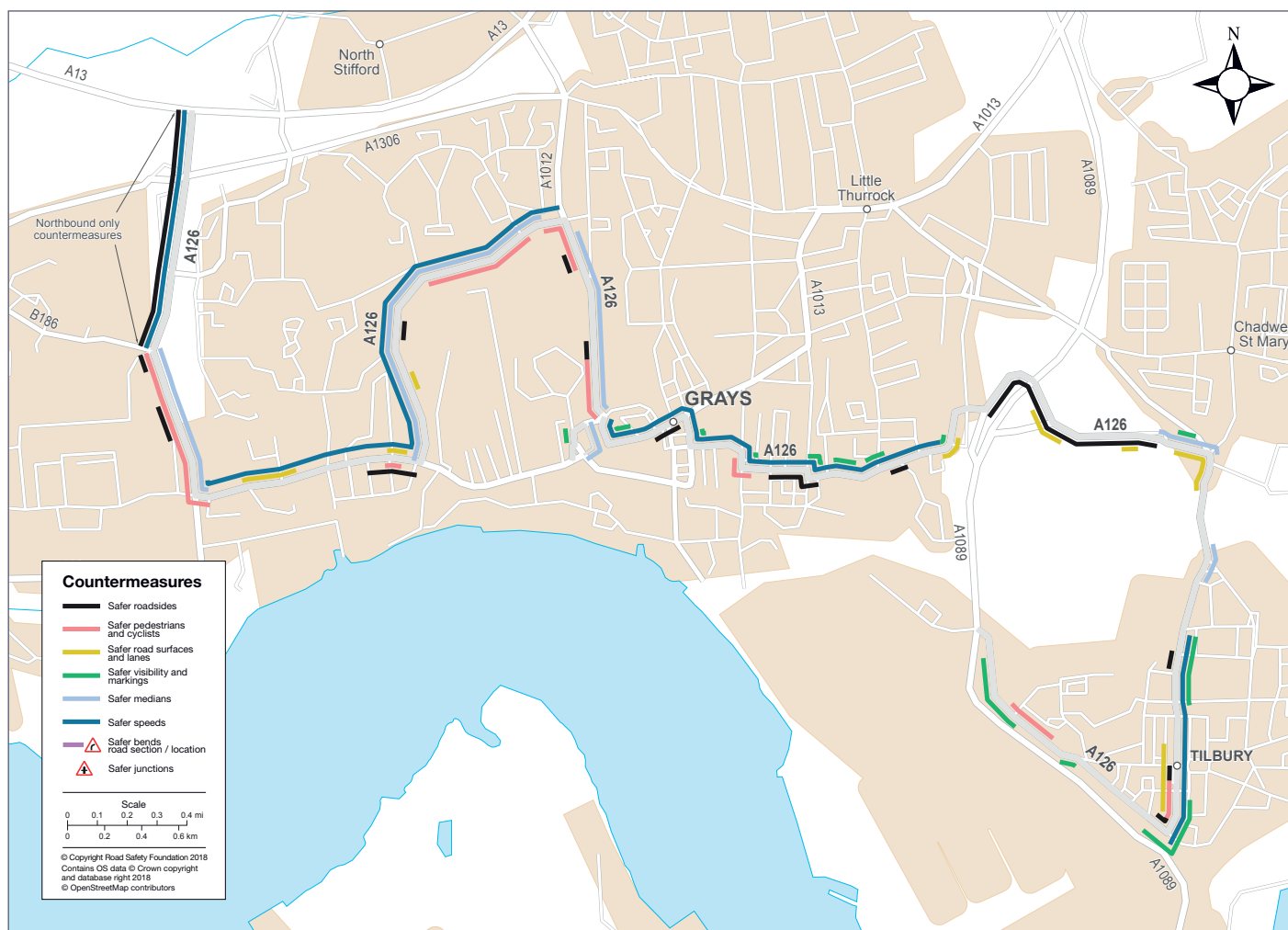


Table 2.47: A126 – Thurrock Council

Capital investment	£2,488,792
Start – Finish	2020–21
Estimated fatal and serious injuries saved (20 years)	13.2
Present value of prevention (20 years)	£5,326,938
Cost (20 years)	£2,256,909
Benefit:cost ratio	2.4
Link to local authority proposal www.thurrock.gov.uk/sites/default/files/assets/documents/dft-srfa-application-2017-v01.pdf	

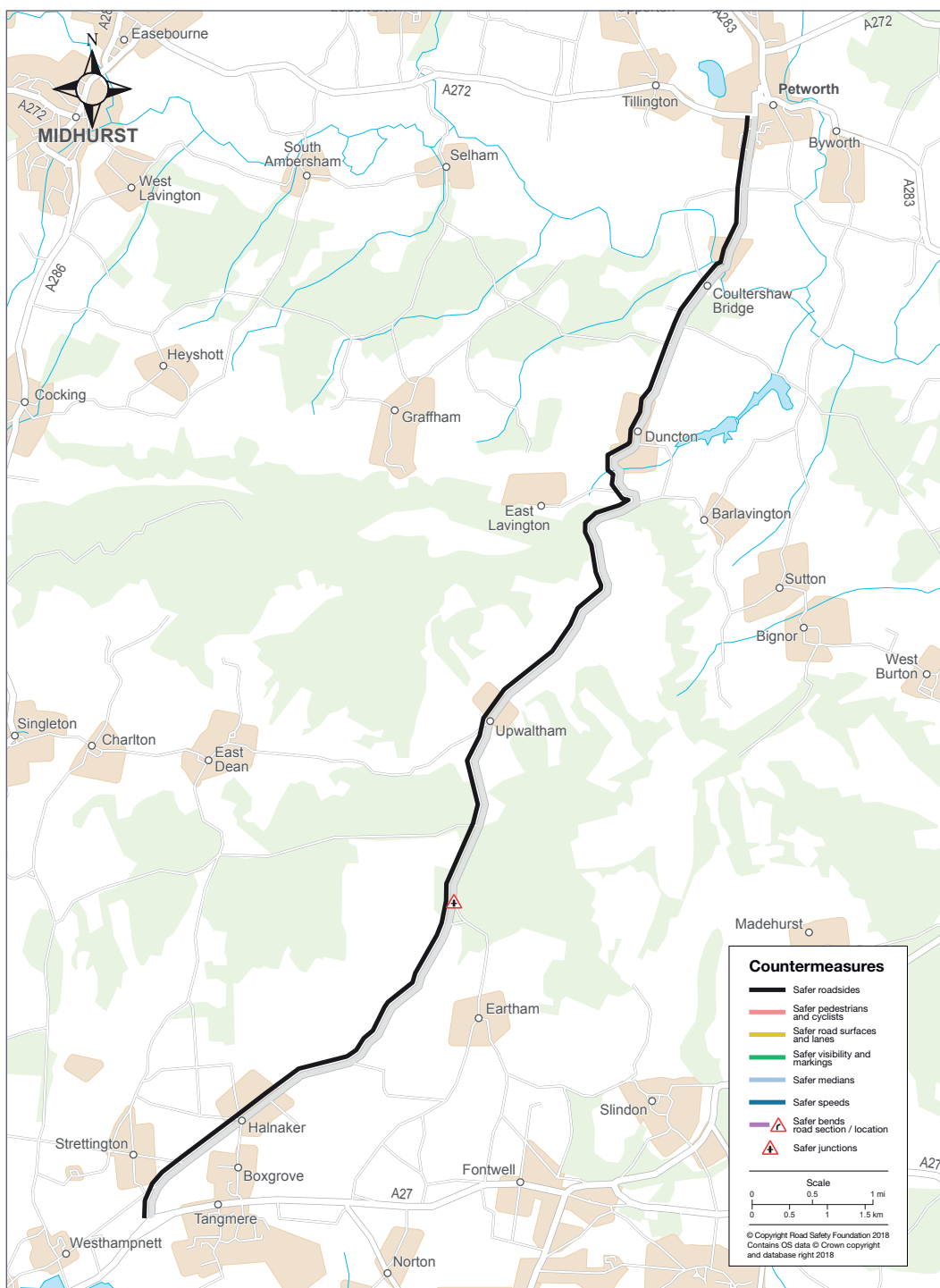


Table 2.48: A285 – West Sussex County Council

Capital investment	£2,458,700
Start – Finish	2017–18
Estimated fatal and serious injuries saved (20 years)	24.0
Present value of prevention (20 years)	£4,010,098
Cost (20 years)	£1,736,200
Benefit:cost ratio	2.3
Link to local authority proposal www.westsussex.gov.uk/roads-and-travel/roadworks-and-projects/road-projects/a285-safer-roads-investment-plan	

3. Evaluation



The DfT commissioned an independent evaluation of the Safer Roads Fund, which will use both qualitative and quantitative methodologies. Published as *Process Evaluation of the Safer Roads Fund Phase 1 Report*¹², it outlines a qualitative evaluation completed soon after local authorities submitted their proposals. The findings of the evaluation align well with the qualitative evaluation undertaken by Road Safety Foundation. Some key findings of the survey are outlined in the sections that follow.

3.1 Current approach – identification and treatment of priority sections

All local authorities that responded to the survey described a data-led approach using routine or ad hoc analysis of STATS19 data supplemented by other information sources. Reference was generally made to both site and route analysis, with some pointers to area analysis. Local authorities have not previously adopted a proactive risk assessment approach.

Proactive approaches are not commonly applied across local authority roads, and there is an opportunity to address the way that crash risk is treated.

¹² <https://www.gov.uk/government/publications/safer-road-fund-process-evaluation>

3.2 Safer Roads Fund – selection of sections

The road sections were identified for the Safer Roads Fund on the basis of risk (crashes per billion vehicle kilometres driven) rather than a more traditional metric of crash density (fatal or serious crashes/km). This means that the roads were not always considered by the local authorities to be high priority. Selecting purely on the basis of crash risk meant inclusion of some roads that were very low flow, with crash numbers subject to random fluctuation. Moreover, because of the time gap between the analysis period on which the selection was done and the start of the work, some authorities had already made efforts to address safety concerns on their section.

Selection of further tranches should include safeguards such as a crash density threshold, further analysis to ensure statistical robustness (e.g. the persistently higher risk calculation that the Road Safety Foundation uses or Bayesian modelling) and a check to ensure that eligible roads have not already been treated in the inevitable time lag between analysis and selection.

3.3 iRAP software and outputs

Local authorities welcomed the iRAP results and SRIPs generally, though they recognised that not all recommendations were practicable. They appreciated the opportunity to review the results and generate their own plans. The new UDIP process was straightforward but required the Road Safety Foundation team to receive information about the proposed remedial treatments and model this 'offline', which created a time lag and a bit of a 'black box' experience.

The iRAP software could be enhanced to allow road safety engineers to interact with the recommendations and amend the SRIP according to local information and policies. Interacting with the results in this way would be a great benefit and would allow the refinement of proposals.

3.4 Future use of proactive approaches

Local authorities were keen to continue to use the iRAP proactive inspection approach, but were concerned that, if they did so, they would not be able to find the funds to address the issues identified. Where there was reluctance to use the iRAP approach, it was largely because established historical crash data analysis was considered to be more 'politically acceptable' or pragmatic.

Some practitioners remain unconvinced about the implementation of the Safe System and proactive risk reduction on the road network. Local authorities are facing huge challenges currently with reducing capacity, vastly reduced budgets for road safety and a lack of accountability at the highest levels for road safety. There is a wider issue to be addressed to ensure that road safety attracts the interest and investment that it deserves.

4. Discussion



The first two Rounds of the Safer Roads Fund have provided staggeringly positive results, with a portfolio investment that is set to prevent almost 1,450 fatalities and serious injuries over the next twenty years. The overall 20-year benefit:cost ratio of the portfolio (4.4) would allow this work to compete with major transport investment programmes.

The Road Safety Foundation report *Cutting the Cost of Dangerous Roads: British EuroRAP Results 2017*¹³ identifies a further 550 road sections with unacceptable levels of risk, and so there is no shortage of further candidates for investment.

As with all pioneering programmes, there are opportunities to further improve and refine the process, and there is no doubt that the lessons learnt through this project will allow even better road safety schemes to be developed in the future.

As the Road Safety Foundation has undertaken this work, it has become increasingly clear that road safety engineers in local authorities are doing their best, despite the reducing staff numbers focused on this topic as well as the extremely limited funding available for investment. It is clear that the highest level of local government does not give road safety the attention that it deserves, and mechanisms to establish local accountability and funding need to be determined as a matter of urgency.

¹³ <https://roadsafetyfoundation.org/project/cutting-cost-dangerous-roads-british-eurorap-results-2017>



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RAC Foundation
89–91 Pall Mall
London
SW1Y 5HS

Tel no: 020 7747 3445
www.racfoundation.org

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