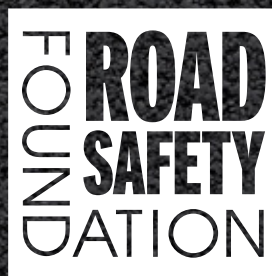


# SAFER ROADS FUND RESULTS



OCTOBER 2018







# FOREWORDS



## Steve Gooding | RAC Foundation

When, in September 2016, we commissioned the Road Safety Foundation (RSF) to embark on the Safer Roads pathfinder project, we hadn't dared to hope that what had started as a fairly small-scale demonstrator project would so quickly attract such a sizeable sum of money from the Department for Transport (DfT).

Establishment of the Safer Roads Fund meant that the project could be extended to the top 50 high-risk local A-road sections in England as identified in the RSF analysis of 2012–14 crash data, but the core objective remained the same: to develop practical guidance on how local highway authorities could identify and prioritise the most effective and economically viable interventions for proactive implementation to make their roads safer.

This report marks the point at which the schemes have been identified and the money allocated. Now the practical works can start. A fuller account of what is being done will be published in due course. The real prize from this initiative will be the evidence generated about how effective those schemes turn out to be, and the consequent ability that this will give us, we hope, to proactively and systematically set about lowering the risk profile of our roads more widely.

## Lord Whitty | Road Safety Foundation

The impressive results presented in this short summary report offer real opportunity. Some 1,450 families will be spared the sorrow of death or serious injury from a first portfolio of schemes which systematically target known high risks on our roads. The economic returns expected are in excess of those generated by most transport projects. 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 seedcorn finance to kick-start this new systematic way of reducing road trauma. I'd like to thank ministers and their senior officials for 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.

When I met with authorities early in the work, I saw for myself how many of them recognised the new potential encapsulated in this project to deliver major reductions in road trauma over the years ahead.

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 effectively. The management of road infrastructure safety has taken a step closer to the approach used in medicine, mining, rail and aviation.

We must not lose momentum. The new skills and learning must be applied to other portfolios and deliver equally impressive saving of life and societal benefit.

I hope this short report will be seen by local authority cabinets, transport leaders and economic advisers everywhere.

## Dr Suzy Charman | Road Safety Foundation

Although we have seen reasonable road casualty reductions on British roads over the last two decades, 2016 saw the highest annual death toll since 2011. Finding the right funding mechanisms for safety improvements to our road infrastructure is absolutely essential if we are to break the current plateau in the number of people being killed on our roads.

DfT's Safer Roads Fund provided a much-needed source of funding specifically for reducing risk on the most 'dangerous' local authority A-roads in England. The Fund was truly innovative, and allowed local authorities to use new proactive risk reduction approaches in the form of the iRAP (International Road Assessment Programme) protocols, and to apply Safe System principles in a way that many of them haven't had the opportunity to do for some time.

The RSF team has very much enjoyed working alongside the tremendously talented local authority road safety engineers, and commends their dedication to reducing road trauma. Some very forward-thinking local authorities are continuing to partner with the RSF by applying the iRAP inspection protocols to more of their roads.

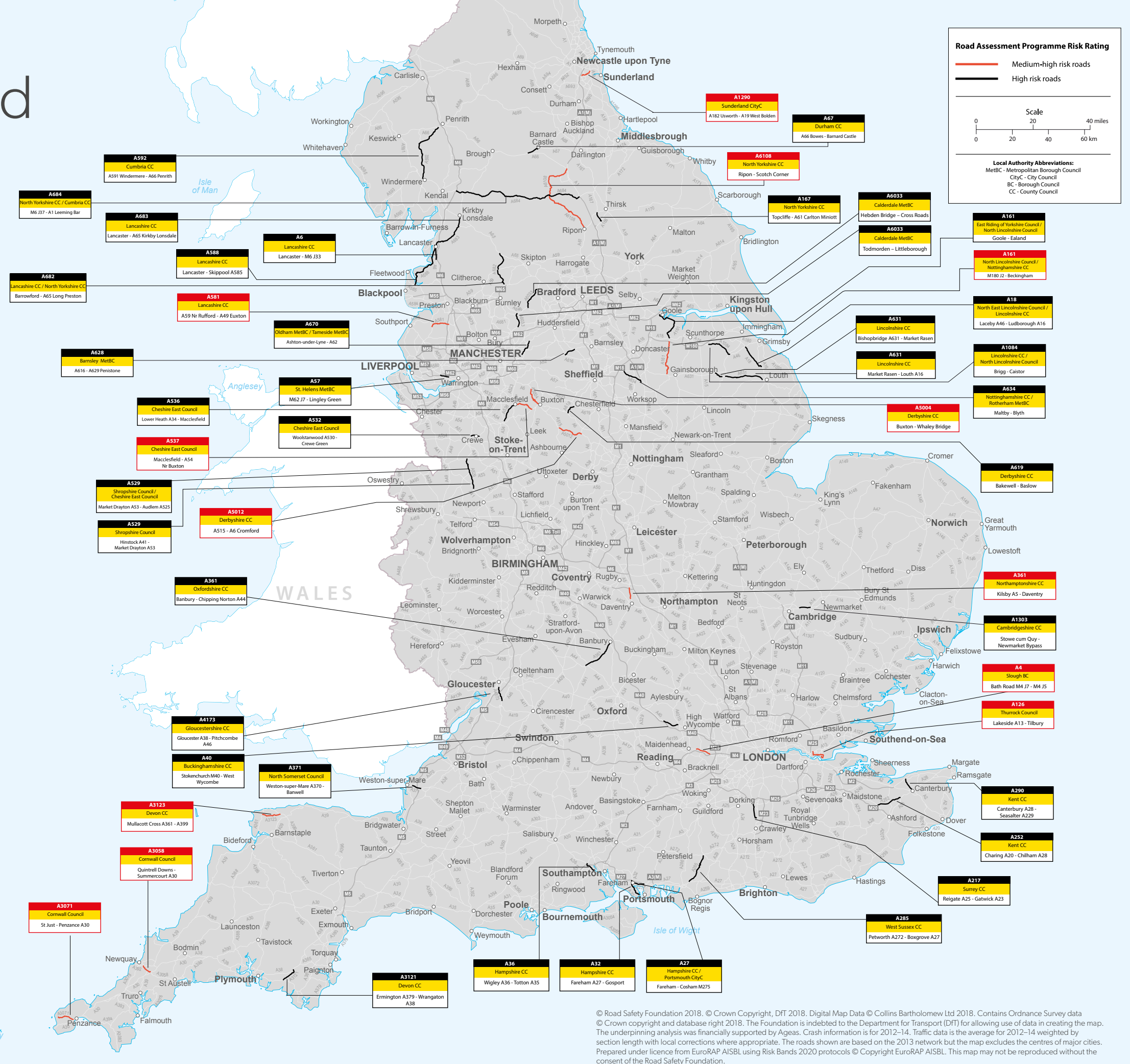
I'm very proud of the collaborative achievements of the Safer Roads Fund. I'm sure that, given the kind of results outlined in this document, we will see further similar investments, with similarly high returns and, ultimately, ensuring that more lives can be saved.

# Safer Roads Fund

In November 2016, the Secretary of State for Transport announced a £3 billion roads investment package which included provision for the innovative Safer Roads Fund targeted at upgrading 50 of England's most dangerous local A-road sections.

The Safer Roads Fund covers the four financial years 2017/18 to 2020/21. The Fund is specifically targeted at delivering road upgrades and improvements with the aim of reducing the number and severity of fatal and serious injury collisions on the 50 highest-risk local A-road sections, based on the RSF's 2016 EuroRAP analysis.

In total, 450 miles of roads were eligible for the Safer Roads Fund, and these are shown on the map.





# What's new?

## THE SAFE SYSTEM

Many countries across the world are now adopting the Safe Systems 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 do occur. This is a fundamental change in approach, based on the principles of *inevitability* that crashes will occur owing to humans being error-prone, and the *survivability* of crashes based on known tolerances of the human body to crash forces.

## PROACTIVE APPROACHES

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

We know from international research that a variety of road features contribute to the likelihood and severity of crashes, which means that we can identify and reduce risk on the basis of 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.

This proactive approach means taking action 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 (the phenomenon that describes collision levels returning to 'normal' following a period of untypically high levels) can flatter results, the proactive approach seeks to focus on management of known risks.

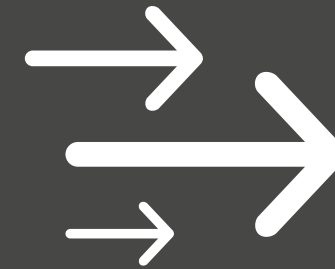
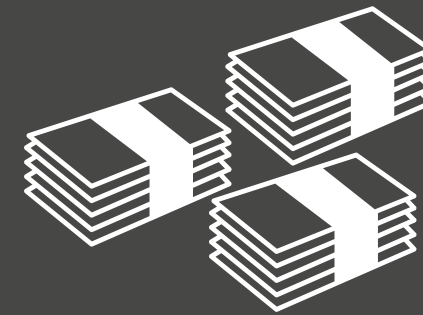
## ROAD SAFETY IMPACT ASSESSMENT

To support local authorities in developing a business case for investment on the basis of a risk management approach, DfT offered authorities the opportunity to use the iRAP Star Rating methodology supported by the RSF. This methodology has now been used in around 80 countries, covering around 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 in reducing that risk. Road safety engineers can then take this information, together with their local knowledge and expertise, and develop their own countermeasure plans.

The RSF developed a new way of modelling these plans, so that the impact of different options could be assessed, and a User-Defined Investment Plan – estimating the number of lives and serious injuries saved by each countermeasure proposed – could be produced.

## Safer Roads Fund investment



£100 m

Capital investment of nearly £100 million to be spent between now and March 2021



Around 1,450 lives and serious injuries estimated to be saved in the next 20 years



£550 m

Value of prevention of injuries (20 years)



Economic cost (20 years) (including maintenance and operation) £125 m



4.4

Portfolio Benefit Cost Ratio

Safer Roads Fund treatments



**150 miles**  
of improved speed limits,  
enforcement and traffic calming



**10 miles**  
of new or improved  
footpaths



**90 miles**  
of cleared or protected  
roadsides



**300**  
improved bends



**20 miles**  
of new or improved  
cycle facilities



**90 miles**  
of improved visibility  
and signing



**80 miles**  
of improved medians  
(hatching / wide centrelines)



**290 miles**  
of improved roadside shoulders



**135**  
new or improved  
pedestrian crossings



**70 miles**  
of improved  
road surfaces



**225**  
improved junctions



# Case study

## CALDERDALE COUNCIL: A6033

Capital spend	£2.3 million
Fatal and serious injuries prevented (20 years)	51
Net present value of safety benefit (20 years)	£20.6 million
Economic cost (20 years)	£2.7 million
Benefit Cost Ratio	7.6

### MEASURES INCLUDE:

- » 2 improved pedestrian crossings
- » 1.5 miles of bicycle facilities
- » 6 improved junctions
- » 4.5 miles of improved roadside shoulders
- » 4 miles of cleared or protected roadsides
- » 12 improved bends
- » 1 mile of improved medians
- » 3 miles of improved road surfaces



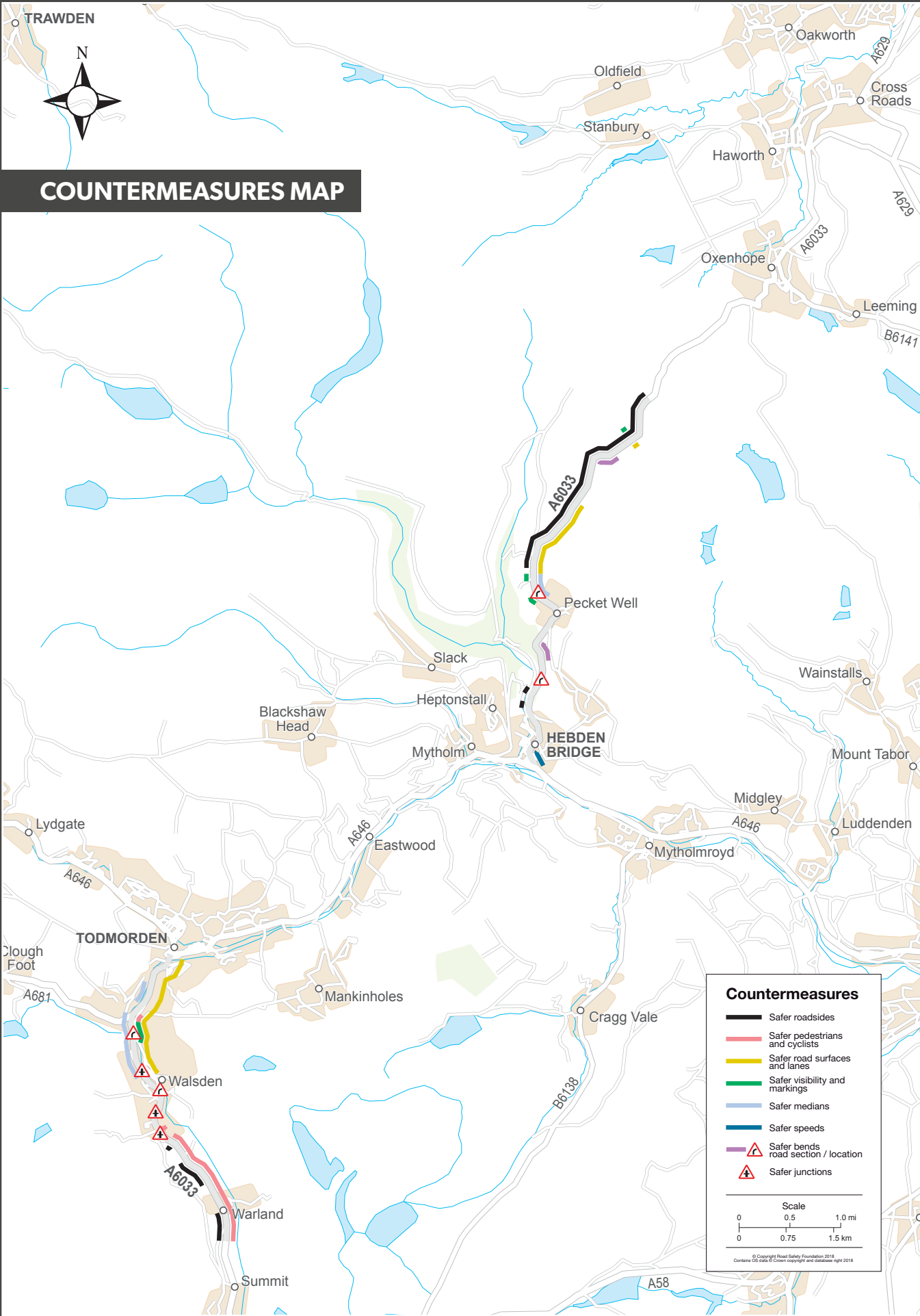
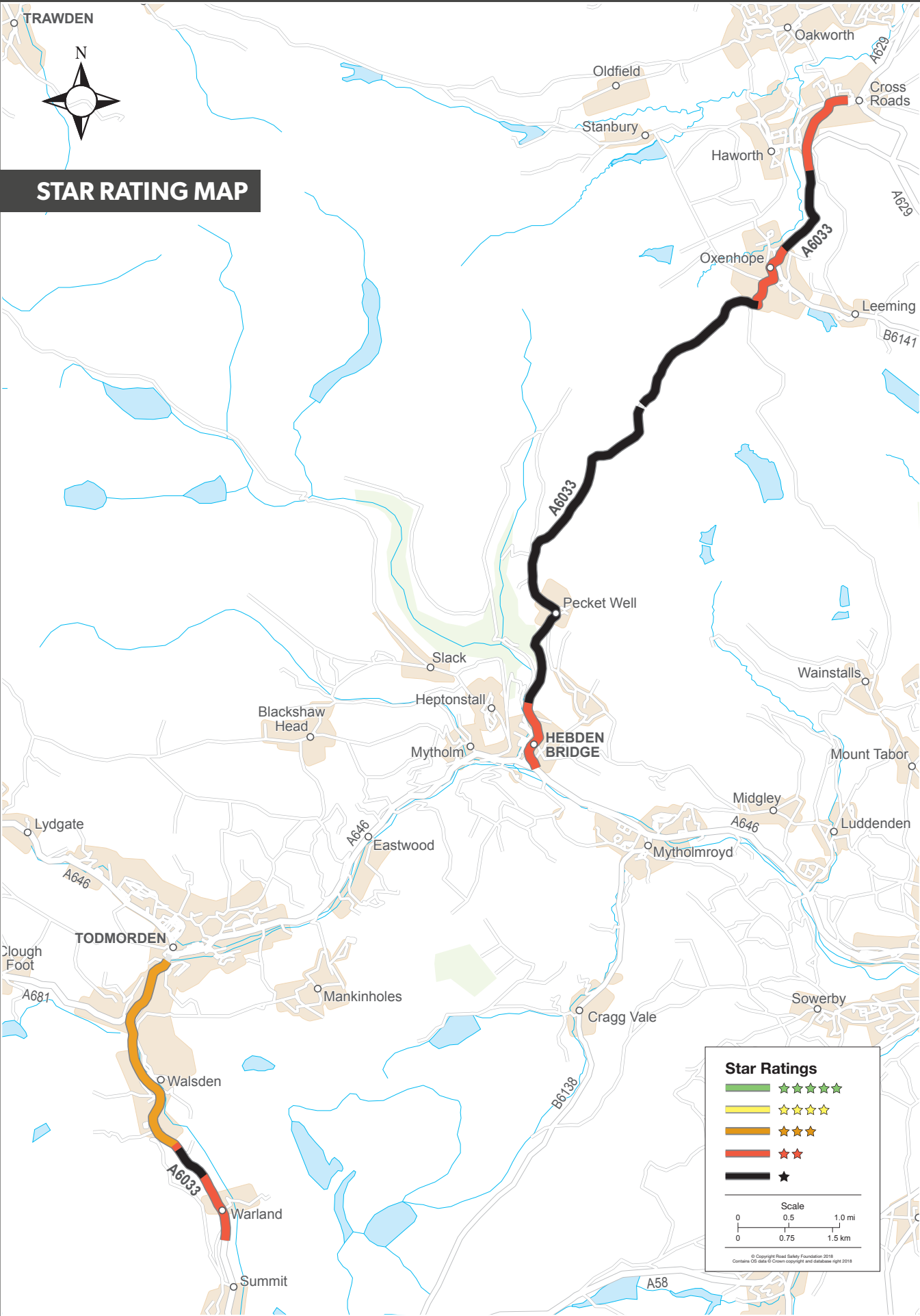
**Steven Lee**  
Assistant Director – Strategic Infrastructure  
Calderdale Council

“We are committed to improving safety and reducing casualties on our roads. The Safer Roads Fund has provided a welcome opportunity to improve safety for all road users on the A6033 Todmorden to Littleborough and Hebden Bridge to Cross Roads. This is particularly important for Calderdale as we seek to build upon the huge uptake in cycling though this area since the Tour de France in 2014.”



**Peter Stubbs**  
Transport Policy and Strategy Manager – Highways and Transportation  
Calderdale Council

“The Safer Roads Fund and the expert support from the RSF have provided a real opportunity for the highways authority to change its approach towards road safety engineering. Use of the iRAP methodology has given us a more efficient and objective way to assess risk, identify potential schemes and, crucially, to develop funding bids to carry out necessary works. It has been refreshing to take a proactive approach to improving this length of road, and we plan to apply the lessons learned to other roads across Calderdale.”





# Case study

## DERBYSHIRE COUNTY COUNCIL: A5004

Capital spend	£2.5 million
Fatal and serious injuries prevented (20 years)	33
Net present value of safety benefit (20 years)	£15.8 million
Economic cost (20 years)	£4.2 million
Benefit Cost Ratio	3.8

### MEASURES INCLUDE:

- » 3 improved pedestrian crossings
- » 6 miles of bicycle facilities
- » 4 improved junctions
- » 6 miles of improved roadside shoulders
- » 2 miles of cleared or protected roadsides
- » 5 improved bends
- » 0.5 mile of improved medians
- » 0.5 mile of improved road surfaces



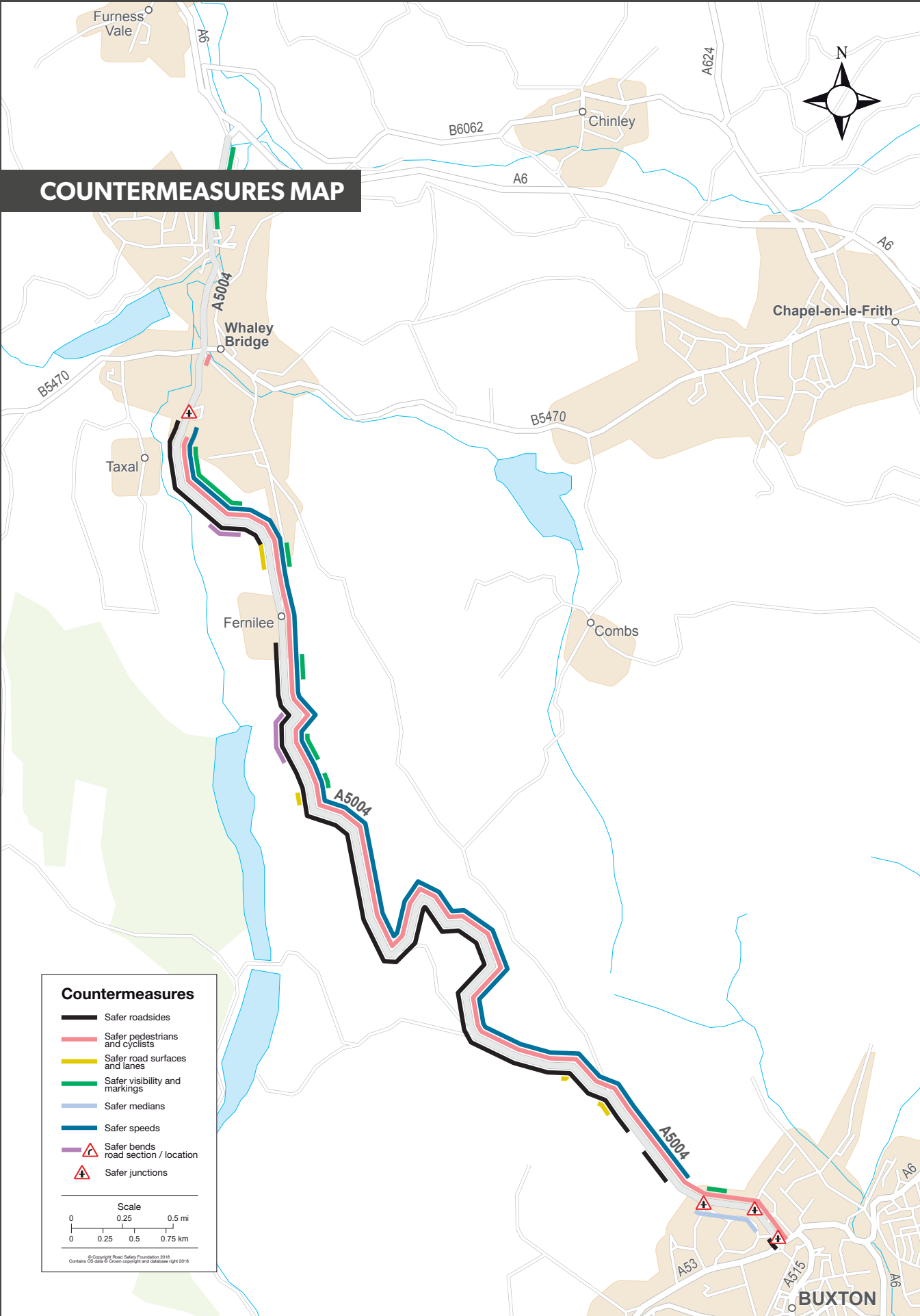
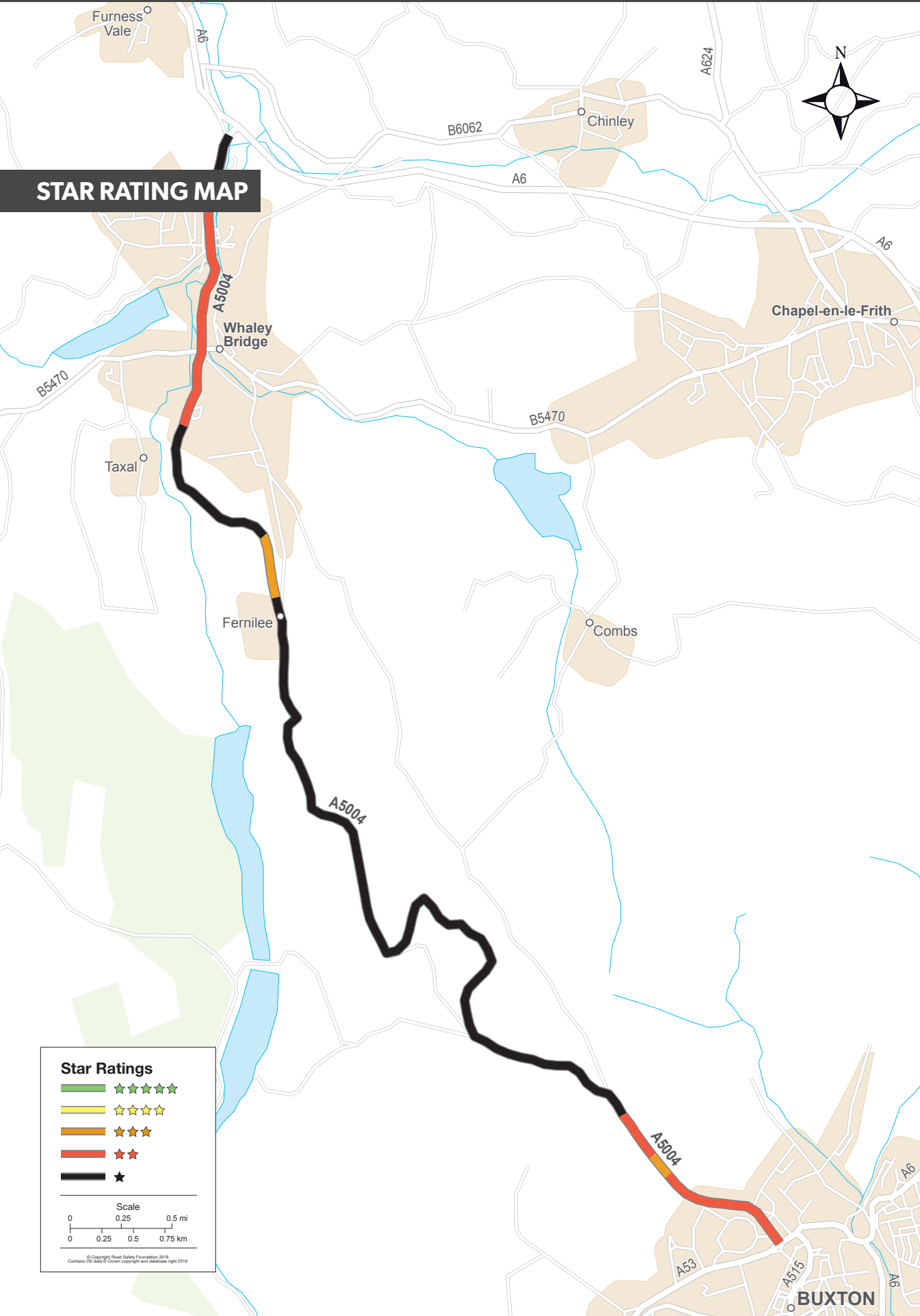
**Cllr Simon Spencer**  
Cabinet Member for Highways, Transport and Infrastructure  
Derbyshire County Council

“Keeping Derbyshire’s roads safe for all road users is a top priority for us. However, some of the county’s roads present particular challenges because of their popularity, for example, with motorcyclists, so we welcome this extra funding from the Safer Roads Fund to improve safety. Our bid put forward a very strong case for extra measures to be put in place to reduce collisions, and this new money will help us to carry out major safety improvements on three of our most challenging roads. This extra funding means that we can shortly start work on our first project, improvements to the A5004 Long Hill, and we are confident that over the next three years we will be able to implement all the schemes to improve safety for all users of these roads.”



**Geoff Pickford**  
Service Director – Highways  
Derbyshire County Council

“We have long realised the importance of investing in road safety measures. We welcome having had the opportunity to use the Road Safety Foundation’s iRAP assessment methodology to design the most cost-effective solutions. We are always keen to explore new ways of doing things, and, as it advances, this innovative system will help us take a more scientific approach to developing the most appropriate road safety initiatives. We have been able to use this new assessment technology to fine-tune our safety schemes. At Long Hill this is set to include removing a sharp bend, and adding new signage and road markings, crash barriers, rumble strips and average speed cameras. Alongside engineering improvements, we will also be using some of this extra funding to continue our targeted programmes to educate and encourage safer driving and riding among all road users.”





DfT's Safer Roads Fund was established at the end of 2016 and has already allowed local authorities with one of the top 50 high-risk local A-roads in England apply for funds to improve the safety standard of these roads. The speed at which this Fund has been established, and work has begun to rehabilitate these roads, is to be commended. The dedication of the Local Authority teams has been truly exceptional, and together the schemes are estimated to save around 1,450 lives and serious injuries throughout their 20-year economic life. That means there are 1,450 families who won't need to care for, or worse grieve for, a loved one because of this investment.

The schemes reported here have a portfolio Benefit Cost Ratio (BCR) of 4.4 when evaluated over a 20-year period. This portfolio BCR compares very favourably against most major transport projects.

The RSF's annual reports identify main roads which carry unacceptably high risk and particularly persistently high risk roads which need urgent treatment. These roads are likely to generate schemes with similarly appealing BCRs and these schemes would contribute to our joint efforts to reduce road trauma.