

Leeds City Region: Flood Resilience for Economic Growth (Phase Two)

Submission to Government (2020)

 **Leeds City Region
Enterprise
Partnership**

Working in
partnership
with the

**West
Yorkshire
Combined
Authority**

Flood Resilience for Economic Growth (Phase Two)

Impact of Flooding in the City Region

The **Boxing Day 2015 floods** affected approximately 6,000 premises with an economic cost to the Leeds City Region of over **half a billion pounds, £100 million** of which was **direct damage** to key infrastructure such as bridges, roads and Yorkshire Water assets. Areas most affected included:

- Calderdale: Todmorden, Hebden Bridge, Mytholmroyd, Brighouse, Elland Bridge and Sowerby Bridge
- Leeds: Kirkstall Road and Otley
- York City Centre
- Bradford: Keighley, Bingley, Ilkley and Shipley

There was a **significant economic impact** in these areas. For example in Mytholmroyd and Brighouse:

- approximately 180 businesses were affected, employing 2,285 staff within various sectors
- 50% of the large advanced manufacturing and specialised engineering firms were affected
- loss of over £1.1 million in business rates in three months within Mytholmroyd

On the **November 7 2019** neighbouring communities in South Yorkshire and Derbyshire were badly hit by heavy rainfall on already saturated land. Leeds City Region was in a similar position having accumulated above average rainfall in the preceding six month period leaving the ground saturated and river levels high. Prior to the storm progressing to the north of England, the Met Office had issued an amber warning for rain with our local teams increasing their levels of preparedness with the risk of 40mm of rainfall across West Yorkshire. Although the flood impacts were greater across South Yorkshire, this was a near miss for the City Region.

The heavy rainfall accompanying **Storm Ciara** (February 8 and 9 2020), led to a number of floods throughout West Yorkshire affecting homes, businesses, schools and infrastructure across large parts of our area. The heavy rainfall caused flooding to properties from a combination of sources, including surface water and river water. More than 100mm fell in the upper Calder catchment and the Yorkshire area had issued one Severe Flood Warning, 119 Flood Warnings, and 35 Flood Alerts (90 of which were in West Yorkshire). This was the second highest flood event recorded in the Calder Valley, second only to the flooding of



Elland Bridge Repair



Boxing Day Flooding in Mytholmroyd



Boxing Day Flooding in Leeds

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Leeds City Region: Recovery, Innovation and Partnership Working

Collaborative Delivery in the City Region

Key partners have been working tirelessly to recover from these flood events and enhance resilience that will help protect communities in the future. This includes work on the 19 Recommendations from the [Leeds City Region Flood Review](#).

Additional funding made available to the City Region has supported delivery of ambitious and innovative FRM schemes which often include a partnership funding model e.g. ESIF, GD3, EA/DEFRA, Local Levy, and Yorkshire Water. These schemes include:

- **Leeds Flood Alleviation Scheme Phase One:** an innovative scheme which delivers the first movable weir in the UK and formed part of a recent tour of the area by Sir John Armit, Chair of the National Infrastructure Commission in November 2018.
- **Wyke Beck Programme:** a £4.75m programme, supporting delivery of housing growth, green space and biodiversity improvements in deprived communities as well as delivering new flood defence assets that will manage surface water and river flooding. This is on site delivering now and utilises a range of funding sources.
- **Skipton Flood Alleviation Scheme** (jointly funded by our neighbouring YNYER LEP) opened recently and was visited by Jake Berry MP (Minister for the Northern Powerhouse and Local Growth). This scheme illustrates how FRM schemes 'enable' as well as 'protect' development. Since completion other investments are now flowing to support housing and business growth in locations that are now more resilient and better protected.
- **Natural Flood Management:** a £1.7 million programme of interventions led by the National Trust and Yorkshire Wildlife Trust in the Upper Aire and Colne/Calder catchments, designed to slow the flow of water and help protect 1,075 businesses and 2,936 homes. This innovative programme, which will be monitored by the University of Leeds, will support the City Region's ambition to become a trailblazer in NFM techniques.



Knostrop Weir, Leeds FAS 1



Eller Beck Dam, Skipton FAS



Esten Beck, North Yorkshire (Craven)

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The City Region is at a unique stage in its development with a series of key infrastructure investments coming forward in the future. It is critical that this investment is resilient and safeguarded. The City Region has a strong track record of delivering innovative and complex FRM schemes on budget. These schemes have been delivered in partnership using a cocktail of funding which have been able to safeguard existing economic and infrastructure assets and unlock new growth opportunities and support inclusive growth. If additional resource is provided more can be delivered using our experience and local skills base. This will support delivery of schemes that have been identified by a regional prioritisation process through the Yorkshire and Humber Regional Flood and Coastal Committee (YHRFCC).

The **rationale** for the programme is:

- The schemes will play an important role in **meeting local and national priorities** such as:
 - The City Region Strategic Economic Framework's (SEF) objectives to develop an whole catchment based flood risk reduction programme incorporating green and blue infrastructure/natural flood management.
 - National ambitions to boost productivity and increase levels of innovation via emerging Local Industrial Strategies.
 - **Alignment with the objectives of the FCRM Strategy** by including a range of flood risk mitigation measures that support delivery of carbon reduction, climate resilient places and infrastructure.
- Government investment of **£120.8m** will:
 - Provide investment of **£109.7m to unlock local contributions and private funding to deliver 30 FRM schemes with a total capital value of £176.4m**. These schemes will be delivered at catchment scale across the City Region which will deliver significant economic outcomes and inclusive growth benefits.
 - Create a **£10m City Region Natural Flood Management programme** to deliver new NFM schemes and imbed NFM innovation in other infrastructure projects.
- This is a critical programme of interventions to **ensure that the City Region's businesses are safeguarded** and that the growth we need can be achieved in our strategic development and investment locations.
- A key element of our proposal is **integrated and aligned investment**. We have successfully managed this before with public and private sector investments. Creating better value for money by taking advantage of the opportunity to align with existing programmes and infrastructure spending.
- The **partnership** will maximise the impact of all future investment to satisfy insurance companies as well as grow the confidence of businesses to stay in their location.

The programme will:

- Safeguard approximately 2,700¹ businesses, 3,500 homes and 13,000 jobs (equivalent to £1.1 billion in GVA p.a.).
- Enable further growth in jobs and housing by reducing the constraints posed by flood risk including enhanced delivery of 320 hectares of development land, with capacity for approximately 6,900 new homes and 525 new jobs
- Enable around £100m in additional (GVA) over a 10-year period.
- Protect and enhance land values of c£140m and support wider economic growth and investment confidence.
- Provide enhanced flood prevention to vulnerable and deprived areas, including those defined as the top 10-20% most deprived IMD.
- Deliver innovative schemes incorporating new methods that will be transferable to other areas.
- Support a range of environmental improvements including approximately 2,912 tCO₂ saved (equivalent of taking 236 cars off the road for a year) over the period 2021-36.

¹ Business figure derived from the national MINT business database and will be refined as FRM schemes develop

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West Yorkshire Economic Recovery Plan

UK Government has already demonstrated that it understands the value of investing in West Yorkshire, as evidenced by the recently agreed £1.8bn devolution deal, the biggest ever of its kind.

This follows our success in delivering the largest Local Growth Deal in the UK for Leeds City Region, generating £4 private investment and £10 in GVA for every £1 of public money.

Whilst the challenges facing the region as a result of COVID-19 are stark (a cost of £2.4bn to the Exchequer in 2020 alone), by realising our plan, built on our strengths and overcoming our challenges, we can begin to achieve the levelling up of the economy the Government has set as its target.



Rescue 6-12 months

Acting now – supporting communities, saving key industries & getting people into jobs, infrastructure projects ready to go

Re-imagining 1-2 years

Setting the aspiration for the future – skills & retraining, supporting growth industries, low carbon infrastructure and transition

Resilience 2-5 years

Delivering future prosperity – skills & career pathways, innovation, stronger communities, greener environment

Vision and Goals

1. Vision

To grow a more inclusive, resilient, sustainable economy with more productive businesses, better levels of skills and entrepreneurialism, less inequality, better environmental sustainability.

Flowing from our Vision, the two Goals for the Plan are Inclusive Growth and Sustainable Development. This approach recognises the role sustainable development and environmental enhancements can play in tackling the climate emergency but also supporting the economic recovery of the region. A key part of this approach is delivery of our priority flood risk management schemes. Particularly the schemes included in this programme that offer enhanced protection to business areas and have the ability to unlock and accelerate new growth locations.

Priority 3: Accelerating Infrastructure focuses on element of the Plan, with interventions spread across three timeframes: Rescue; Re-imagining and Resilience. Investment in our priority flood schemes would take place across all three phases of our Plan, thereby supporting the immediate rescue phase – supporting key industries and also longer term resilience – delivering future prosperity.

Flood Resilience for Economic Growth (Phase Two)

Programme Highlights: Leeds City Region Natural Flood Management Fund

Our proposed projects also include an innovative proposal to establish a fund for a catchment scale approach to the delivery of natural flood management (NFM) measures, building on the success of the existing projects funded through Flood Resilience for Economic Growth (Phase 1) and other programmes.

PROJECT RATIONALE

This project aligns with national and local priorities. This includes the 25 year Environment Plan and the City Region's Green and Blue Infrastructure Strategy. NFM projects being implemented across the City Region are demonstrating the value of NFM in helping to mitigate flooding in the region.

While these projects are a good starting point, further projects need to be implemented, either as standalone or as part of wider flood resilience projects, to continue to demonstrate the value of NFM.

The City Region approach to NFM is **innovative with the ability to provide learning** to other areas.

Currently Flood Defence Grant in Aid (FDGiA) does not easily fund NFM measures. For FDGiA to fund NFM measures a wider, more robust evidence base needs to be built. As such there is a need to continue the implementation and monitoring of NFM projects at a catchment scale.

The City Region has recently adopted strategies on energy and GBI. Reducing CO₂ emissions is a key priority for the region and as such the emerging Local Industrial Strategy will focus on bold steps aimed at driving clean growth living. NFM is a key part of this.

The natural capital of the region, of which natural flood management schemes contribute, has recently been conservatively estimated to provide £3.353bn or 6.1% of GVA to the West Yorkshire economy.

DELIVERY TO DATE

To date, the £1.7 million Growth Deal Three NFM programme, delivered in partnership with Yorkshire Wildlife Trust and National Trust, has delivered:

- 294 leaky dams (stone and timber)
- 39 hectares of NFM landscape restoration, including peat and heathland
- 40 hectares of soil aerated
- 21 earth bunds
- 8 ponds
- 9000 trees and whips planted
- Protection to UKBAP species White Claw Crayfish in east Leeds; and
- 6.4km fencing to protect new planting from grazing

All projects are on track to complete by the end of March 2021 in line with the funding requirements for Growth Deal Three.

As part of the West Yorkshire devolution deal, our region was designated as one of 15 places to trial the Green Infrastructure Standards set out in the 25 Year Environment Plan. Significant mapping and benchmarking information is being produced by Natural England for the trial and will be used to strengthen the evidence base to ensure the natural environment is considered more robustly in decision making. It will also assist West Yorkshire in developing a pipeline of low carbon projects that address the climate emergency, of which natural flood management schemes will be a key element.

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Programme Highlights: Leeds City Region Natural Flood Management Fund

An overview of the NFM Fund is set out below.

PROJECT DESCRIPTION

The project would put in place a designated NFM Fund for the City Region. It builds on the innovative and ground-breaking work already occurring across the City Region to demonstrate the value of NFM in mitigating flood events. The Fund is an enabler for NFM measures and projects in the City Region and aligns strongly with other projects, including the Northern Forest. The Fund would be delivered in partnership with a range of bodies including Yorkshire Wildlife Trust, Yorkshire Water, the Environment Agency and our council partners.

The Fund would focus on **providing support for the development and delivery of the future pipeline of NFM projects in the region.**

A catchment approach would be taken enabling the ambition set out in the City Region GBI Strategy to become a UK trailblazer in catchment planning and NFM to be delivered.

The Fund will also help to store carbon, supporting the Combined Authority and local authorities in addressing their climate emergency motions and carbon reduction targets. This includes supporting carbon reduction but also in helping to build climate resilience across our currently flood vulnerable communities and businesses



ASK, OUTPUTS & BENEFITS

The ask for the NFM Fund is £10 million and we would seek match funding to double the Fund value.

Estimated outputs that the Fund could deliver are:

- At least 10 schemes in the programme that use NFM to provide climate change resilience rather than hard defences
- 2,912 tCO₂ saved (equivalent of taking 236 cars off the road for a year) over the period 2021-36.

Benefits that could be delivered include:

- Reduced flood risk to homes and businesses
- Reduction in the economic cost of flooding
- Increased innovation in the area of flood mitigation
- Ability to provide learning to other areas
- Reduced CO₂ emissions and improved resilience to the effects of climate change
- Improved health and well-being
- Improved biodiversity and increased GBI
- Increased agricultural productivity
- Job creation and skills opportunities

If support for the Fund was to be provided, further work would be undertaken to refine the delivery outputs and benefits as specific projects are developed.

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Programme Highlights: Key Schemes

Our **proposed priority projects** include integrated infrastructure schemes that reduce fluvial flood risk and improve surface water drainage systems, incorporating green and blue infrastructure to safeguard jobs, businesses, homes and unlock growth opportunities. A schedule of all proposed projects and their additionality are provided on the next slides.

BRIGHOUSE FLOOD ALLEVIATION SCHEME PHASE THREE

The Brighouse Catchment Improvement Project is a package of complementary schemes that will reduce flood risk in Brighouse and deliver environmental benefits within the catchment. This scheme will be delivered by the Environment Agency in partnership with Calderdale Council, Yorkshire Water and Yorkshire Wildlife Trust. This scheme offers continued protection to Brighouse town centre including 57 homes and 258 existing businesses. The scheme will also safeguard 2,036 existing jobs.

Brighouse is a key economic location for Calderdale Council and the City Region. The Clifton Business Park Enterprise Zone (23 hectares) with potential to generate 6,000 new jobs will be supported by this scheme. Major transport links and key diversionary routes relating to the M62 will be better protected and more resilient following delivery of this scheme. It will also enhance protection for infrastructure investment by the West Yorkshire Transport Fund along the A641 Bradford - Huddersfield Corridor and potential future allocations for Brighouse via the Towns Fund Programme.

The project will create a robust and resilient green and blue corridor along the Clifton Beck Catchment. These works will improve Water Framework Directive status, create and enhance habitats, biodiversity, flood plain connectivity, Natural Flood Management. The environment elements ensure that this project is not only a traditional flood alleviation scheme, but delivers truly multi-benefit catchment enhancement outcomes for Brighouse and the surrounding area. This project complements other significant initiatives in the catchment.

KEIGHLEY AND STOCKBRIDGE FLOOD ALLEVIATION SCHEME

A joint Environment Agency and Bradford Council scheme to develop and enhance flood protection in the Keighley and Stockbridge area.

The scheme supports transport links and strategic growth sites. It also safeguards employment zones and will help improve and grow the local economy. Existing communities will also be protected, this includes 497 homes and 280 businesses. It aligns with the City Region's inclusive growth aspirations by providing protection to communities within one of the IMD's top 10% of most deprived areas.

The further contribution will enable this scheme to happen. It has the potential to deliver innovative solutions which will be incorporated into the project to reduce flood risk and also deliver efficiencies and stronger value for money. These include management of water on a catchment scale e.g. Natural Flood Management plus localised interventions such as retro fitted SuDS and wetlands.

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