

LEEDS CITY REGION FLOOD REVIEW REPORT DECEMBER 2016



Thank You

This report could not have been prepared without the contributions of The Leeds City Region Enterprise Partnership, All 10 City Region local authorities, North Yorkshire County Council, The Environment Agency, Yorkshire Water, Canals and River Trust, The West Yorkshire Local Nature Partnership.

Executive Summary

The 2015 Boxing Day floods were unprecedented in their impact on Leeds City Region in both the extent and severity of the flooding and the damage and devastation that was caused.

In a 24-hour period the equivalent of five-inches of rain fell, 20% more than would be expected for the month of December as a whole. The rain fell on already saturated ground with November and December 2015 being the third and first wettest months respectively for over 100 years. The run-off in to the river system was rapid across the City Region, and the subsequent rise in river levels allowed little time for communities to prepare.

Purpose of this report

As a response to the broad extent and impact of the flooding, and because the greater frequency and severity of future floods are likely due to climate change, the leaders of the West Yorkshire Combined Authority (Combined Authority) commissioned a review of the flooding, to report on:

- the economic impact of the floods on Leeds City Region;
- the lessons learned by and best practice for our emergency response and civil contingency arrangements;
- how recovery from such civil emergencies can be improved in the future; and
- the potential steps that need to be undertaken to improve our resilience and preparedness for the future.

The remit of this report is to better understand the causes and impacts of the flooding; and develop recommendations for action that, when implemented, would reduce the likelihood and impacts of flooding; and enable more effective and joined up response and recovery phases to be put in place across the City Region.

Economic impact

Over 4,000 homes and almost 2,000 businesses were flooded with the economic cost to the City Region being over half a billion pounds, £100 million of which was damage to key infrastructure such as bridges, roads and Yorkshire Water assets.

The result of the rapid rainfall was widespread flooding across the City Region with the main focus of the damage being in:

- The Calder Valley: Todmorden, Hebden Bridge, Mytholmroyd and Sowerby Bridge;
- Leeds: Kirkstall Road and Otley;
- York City Centre; and
- Bradford: Keighley, Bingley, Ilkley and Shipley.

Whilst the scale of the impacts varied, all districts apart from Barnsley suffered damage due to the floods including Tadcaster, Elland, Brighouse, Wakefield, Skipton, Cross Hills, Silsden, Addingham, Ilkley, Collingham and Ulleskelf. The greatest devastation was experienced in the Calder Valley where the steep valleys and narrow valley bottoms along the River Calder provide a natural topography that magnifies the risk and potential damage from flooding.

Infrastructure

Over 100 bridges within the City Region required remedial works due to damage, including bridges at Tadcaster, Linton and Elland. The financial costs were accompanied by huge inconvenience for local communities and significant indirect economic impacts. East and west parts of Tadcaster are still largely cut off from each other nearly one year on from the floods whilst major repair works to the bridge are completed.

Property

It is estimated that 20,000 properties were saved from flooding due to investments in flood defences since 2010. However, the scale of the problem across the City Region remains significant with over 63,000 residential properties and more than 27,000 non-residential properties still having some degree of flood

risk. Of these, 7,385 residential properties and 4,698 non-residential properties are at a high risk of flooding.

Human impact

Whilst the flooding brought no loss of life this was not due to the scale of the flooding but more a combination of outstanding emergency work and timing; as the floods happened on a Bank Holiday when schools and businesses were closed and travel at a minimum. Kirkstall Road in Leeds which was devoid of its usual 12,000 commuters for example.

For some communities this was the fifth major flood event in four years, whilst for others it was the first time they had experienced flooding. However, for everyone affected by the flooding it brought a degree of shock and emotional toll with the potential to impact on health and wellbeing.

Emergency response

This report shows that the immediate response to the floods, particularly in the worst hit areas of the Calder Valley, Leeds, York and Bradford were on the whole positive and effective. The emergency services, local authorities and the Environment Agency responded rapidly with the initial emphasis being on public safety. The most vulnerable people were targeted first and then the response broadened to incorporate key infrastructure assets.

Community

It was evident that local communities mobilised quickly and played a key role in helping support the evacuation of the elderly and most vulnerable, erect emergency flood barriers and help in the rapid clean up after the flood waters subsided. The dedication and commitment shown by elected members and help from a broad range of organisations was also invaluable. This included support from water companies across the UK and in places the Army; for example, Yorkshire Water pulled in 1,000 staff and accessed every water pump they could from across the country to deal with the incident.

Regional utility companies including Yorkshire Water, Northern Powergrid and Northern Gas Networks played an important role during and in the immediate aftermath of the floods. They helped to manage the incident and mobilised staff to restore or maintain essential services including power and drinking water supply; and in trying to secure further equipment from mainland Europe.

Lessons learned

Inevitably there are lessons and insights that emerge from the experience, including:

- a need for more structured support for residents and businesses in high flood risk areas to enable them to prepare better to help themselves in times of flooding;
- greater use of flood wardens and flood groups which provide immediate on the ground informed help;
- more effective use of the knowledge and resources within local communities, including a better understanding of key infrastructure, assets and vulnerable groups;
- improvements to communications associated with the emergency response command and control structures and processes in places; and
- improvements to infrastructure resilience preparatory work and how essential works to sewerage facilities and power networks are prioritised in times of flooding.

The West Yorkshire and the North Yorkshire Resilience Forums are responsible for planning and co-ordinating flood responses in their respective areas, and so this learning will need to be incorporated in the reviews of their Local Flood Resilience Plans.

Improvements to recovery

Local authorities play the key role in the provision of leadership, advice and support in the recovery phase. Authorities worked in partnership and offered mutual support in the weeks and months following the flooding to those districts that were most badly affected. This was vital to enabling the recipient

authorities to effectively cope with the demands of residents and businesses.

Investing in people, places and business support

Almost 12 months after the floods, households and businesses in several areas are still dealing with the physical damage and associated emotional stress. For some it is about completing the process of rebuild and recovery whilst for others it was and is a question of whether they should remain and live with the risk of a re-occurrence of the flooding. Some local businesses have already moved out of the City Region as a consequence of the floods, so building resilience within our businesses and communities, and investing in people, places and business support as well as infrastructure, is key to enhancing how we deal with and recover as a City Region from future flood events.

Command and control structures

This report finds that although a key attribute of the emergency response phase is the command and control structures that are put in place to allot responsibilities and to guide and structure the activity undertaken, the recovery phase can suffer from the lack of a similar approach. In some places the move from the emergency response phase to the recovery phase happened too early and didn't include all the necessary agencies, resulting in the transition being less coordinated and effective. In Calderdale and Leeds, council's responded quickly to put in place a structured approach through their Single Integrated Recovery Plans. This could provide a template through which similar approaches could be developed elsewhere.

Funding

Critically, this report shows that government, local authorities and the Leeds City Region Enterprise Partnership (LEP) were quick to identify additional funding for recovery and repairs to key infrastructure and to put in place support for businesses to continue operating; for example, the LEP's Business Flood Recovery Fund provided a life-line to support small and medium sized enterprises (SMEs) to clear up, replace machines and equipment, and provide cash flow to enable them to continue operating and paying salaries.

Insurance

Crucial to recovery is also the ability to not only secure the appropriate insurance but also to be able to claim against it. However, due to the known risk of flooding events in some areas many have either been left unable to secure reasonable insurance; which is a situation compounded by the size of premiums, excesses and the potential impact on securing future insurance if a claim is made. This report suggests that a more streamlined and simple claims process is needed to speed up claims and ensure residents and businesses can have the means to return to normality as soon as possible after a flood event.

Improving our resilience and preparedness for future events

It is crucial that the experience of the Boxing Day floods, combined with the knowledge that climate change is likely to worsen the situation, is used to strengthen our strategic approach to the threat of flooding. Local authorities are already acting upon the experience of the Boxing Day floods in terms of their own procedures and responses but it is essential that this knowledge, insight and best practice is shared and rolled out across the City Region.

Implementing consistent planning policies

The local planning system has an important part to play in helping better prepare and mitigate future flood events through local plan policy and implementation. This report finds that although all districts were adopting a sequential approach to flood risk, more consistent planning policies across the City Region would provide greater integration. This would particularly be the case in relation to whole river catchment areas which all transcend multiple districts. This includes developing a strategic approach to sustainable urban drainage systems (SUDS) as implementation is currently hampered by a lack of robust national guidance.

Further investment

Further investment in flood defences and other flood mitigation and adaptation measures will continue to be critical. The recently published Yorkshire Flood Risk Capital Investment Programme incorporates

the announcements for 'booster' funding that was made in the 2016 Budget to support additional flood mitigation measures across the City Region. The allocation for the Current Spending Review Period in Leeds City Region is £207 million (2016-21).

However, this report shows that a pipeline of projects remain that could be enhanced and / or be brought forward if further additional funding could be secured from government or other sources; thereby protecting more communities, businesses and homes earlier. It is estimated that a further circa £5 million per annum is needed over the next five years to support this work. In November 2016, the Combined Authority agreed to invest £7.8 million to fund an initial three schemes in Leeds, Mytholmroyd and Skipton to help enable and accelerate delivery of key schemes.

In addition to the funding above, further work is required to understand the full costs and wider considerations of:

- a comprehensive maintenance regime for waterways;
- the risks associated with third party assets;
- natural flood risk management opportunities; and
- upland management, including upstream storage and reservoirs.

Reservoirs

Whilst reservoirs could have the potential to play a much greater role as part of whole river catchment management programmes, this report concludes that water companies are constrained in their ability to use these assets as part of a package of flood mitigation measures because their primary role is to ensure that there is adequate water available for public supply. Any proposal to use reservoirs for flood storage would require careful consideration of all related issues and may also require regulatory or legislative changes.

Prioritisation of resources

The long-term costs of protecting properties at risk of flooding in the City Region will be in the hundreds of millions of pounds. As public resources are being increasingly stretched, the effective prioritisation of limited resources will be increasingly important. This report recommends the need for stronger collaboration with a range of partners who have a role to play in investing in combined multi-benefit infrastructure schemes that increase the resilience of existing economic activity and enhances our economic growth. This will lead to better long-term strategic thinking and future investments more closely linked to the LEP's Strategic Economic Plan (SEP).

Partnership working

This report concludes that there would be significant benefits in adopting new ways of closer partnership working between the Combined Authority, Environment Agency, local authorities and other partners to join up flood resilience planning and investment with future housing and economic growth and development. This would include a stronger strategic evidence base for infrastructure investment prioritisation linked more closely to economic and housing growth plans as set out in the SEP and local authority plans. This would help realise the benefits more quickly and better align and make best use of funding from all available sources.

Collectively, this greater alignment is already underway by developing a long-term City Region Flood Resilience Delivery and Investment Plan. There could also be opportunities to consider longer term issues through the devolution discussions with government to maximise effective, more integrated arrangements in the future.

Key strategic recommendations

This report identifies the following key strategic recommendations in response to the Boxing Day floods of 2015 and any future flooding:

Economic impacts of flooding

1. The Combined Authority, in partnership with the Environment Agency, local authorities, local resilience forums and other partners, map and undertake a full assessment of the resilience of the critical infrastructure to cope with major future flood events within whole river catchment areas, further developing the approach taken by the National Flood Resilience Review.
2. Develop a City Region Flood Resilience Delivery and Investment Plan drawing together all funding sources to enhance and / or bring forward flood mitigation projects over the next five years and beyond to protect communities and support economic growth and development. This will include setting out the approach to addressing the long-term infrastructure resilience needs across Leeds City Region, including the contribution of green infrastructure.
3. Carry out further work to quantify the indirect economic impacts of flooding in the City Region to better understand infrastructure resilience needs.

Emergency response and recovery

4. Undertake a review, led by the West Yorkshire and North Yorkshire Resilience Forums, of the emergency command structures to identify any potential improvements and ensure they are fit for purpose.
5. Undertake a review, by all 10 City Region local authorities, of their approaches to recovery, including the appropriate time period to move from the response to the recovery phase and prepare / update Single Integrated Recovery Plans referring to the Calderdale Integrated Recovery Plan as an example of good practice.
6. Support people and businesses in high flood risk areas to prepare their own 'Personal Emergency Plans' and provide suitable materials, flood boxes and support for future flood events.
7. Increase the number of trained flood wardens across the City Region in preparation for future flood events led by local resilience forums and local authorities.
8. Explore the benefits and practicalities of establishing a single public emergency contact telephone number for the City Region.
9. Build stronger relationships between local resilience forms and local authorities with local media to raise awareness of real time issues and access to emergency help, and embed best practice from social media into emergency plans.
10. Identify best practice and explore the benefits of adopting a consistent definition of critical infrastructure to be protected in the event of floods for the West Yorkshire and North Yorkshire Resilience Forums; for example, hospitals, schools, vulnerable residents, communications infrastructure.
11. Explore the opportunities for a simpler claiming process for individual residents or businesses after flood events with government and the insurance industry.

Planning, risk reduction and mitigation for future events

12. Consistent planning policies and approaches across the City Region developed by the Combined Authority and local authorities to mitigate flooding and improve resilience, including preparing City Region supplementary planning guidance to provide a stronger steer for the adoption of SUDS.
13. Adopt a whole catchment approach to flood risk and resilience and ensure that resources are

made available to promote and instigate natural flood management, identifying best practice and building on what is already being done across the City Region. This should include a focus on the identification and development of funding mechanisms to enable more rapid and expansive progress on natural flood and upland management.

14. Explore with Department for Communities and Local Government (DCLG) and the Combined Authority, the opportunities for updating building control legislation to help deliver greater resilience and resistance to flooding of new buildings and development.
15. Consider extending climate change allowance modelling for fluvial flooding beyond existing scenarios to align with the SEP forecasting timescales and support delivery of longer term Strategic Priority Growth Areas.
16. Convene a strategic working group of local partners reporting to the Combined Authority to share expert advice and good practice, and coordinate actions to deliver these recommendations.
17. Identify resource-sharing opportunities between the Combined Authority and local authorities to ensure the necessary flood and drainage expertise is in place to inform the local planning process across the City Region.
18. Further collaboration between the Combined Authority and Yorkshire Water to identify where reservoirs may better assist with flood risk management as part of a package of measures, without compromising the supply of water to the City Region. This may include amendments sought by the Combined Authority to legislation and regulations to enable water companies to manage their reservoirs to more effectively contribute to reducing the impacts of flooding.
19. Exploration between the Combined Authority, the LEP and government through devolution, the potential long-term opportunities to maximise effective, more integrated arrangements for flood risk management and investment in the future.

