



Cumbria
Local Enterprise
Partnership

Cumbria Infrastructure Plan



May 2016



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Foreword

Infrastructure has a crucial role in enhancing and supporting economic growth by attracting visitors, workers and investment to Cumbria. The county is facing unprecedented levels of inward investment and economic growth over the next fifteen years. Maximising this growth opportunity needs significant investment in Cumbria's infrastructure.

We recognise the need to plan strategically and prioritise investment and resources. As such, we are pleased to introduce Cumbria's Infrastructure Plan. This sets out the strategic infrastructure requirements that are necessary to unlock economic growth.

We would like to thank the groups and individuals who have participated in and contributed to the Plan's development including members of the business community and our public sector partners.

Cumbria LEP





Executive Summary

Purpose

The Cumbria Infrastructure Plan is a strategic document that prioritises the infrastructure needed to facilitate economic growth and maximise opportunities from large scale projects over the next fifteen years. The Infrastructure Plan supports the delivery of key infrastructure improvements to meet the priorities set out in the Cumbria Strategic Economic Plan.

Supporting UK growth / Delivering good value

Cumbria presents a unique offer of growth potential and strong project pipeline totalling over £25 billion. Many of the planned investment projects are critical to the future prosperity of the UK and will deliver economic, energy and defence policy objectives at the national and local level. Examples include the Moorside nuclear new build, BAE Systems 'Successor' programme and on-going decommissioning activity at Sellafield. These and other projects have the potential to create over 30,000 additional jobs and an additional estimated £1.3 billion (13% above baseline projections) of economic output per year by 2030. Timely investment in the right infrastructure is crucial to maximising Cumbria's and the UK's growth potential and the delivery of the Northern Powerhouse.

Existing infrastructure / New investment

Infrastructure capacity issues already exist in Cumbria. Road and rail connections away from the M6 and West Coast Mainline routes are characterised by low travel speeds and a lack of resilience. The dispersed nature of Cumbria's population and the county's topography further emphasise the importance of the transport network to growth and development.

Future investment projects will create significant pressure on Cumbria's transport network meaning

to ensure the potential of this investment can be realised, improved journey speeds, capacity and reliability are vital. Here there is a real need for prioritised investment to increase the capacity of the rail network and in relation to road connections east and west of the M6. There is also the potential for improved connectivity via investment in the county's ports and opportunities to maximise Carlisle Airport's potential for both passengers and freight. New transport infrastructure will allow the efficient and sustainable movement of people, goods, materials and plant. At the same time utilities and communication infrastructure are needed to support growth as well as employment sites and premises, and to capture new investment and supply chain opportunities. All of this should sit alongside complementary investment in housing, social infrastructure, people and skills to ensure a longer term legacy is achieved.

Local growth / Future legacy

This Infrastructure Plan is critical to delivering and building upon the priorities outlined within the Cumbria Strategic Economic Plan (SEP). This is achieved by prioritising infrastructure that can unlock key investments and provide the conditions for growth of the existing business base. These improvements are essential to improving access to markets, travel to work and learning, the movement of freight and goods, and opportunities for supply chain development.

The scale of Cumbria's future population, housing and employment growth is a central consideration in the plan and a driver of the level of infrastructure investment needed.

The underlying analysis identifies significant population growth with substantial numbers of additional jobs and homes required. This evidence of growth and the demand from future investment allied with existing constraints and gaps in infrastructure provides a sound basis and justification for future investment and realisation of a longer term legacy.



Balancing demands / Future resilience

The plan highlights the importance of balancing the demands for infrastructure with the need to protect Cumbria's valuable natural landscape, a key driver for Cumbria's strong tourism sector. As such, the projects identified in this Infrastructure Plan will be brought forward in a manner that maintains and protects Cumbria's environment whilst ensuring the county's growth potential can be realised through improvements to the county's roads, rail, broadband and telecommunications network.

Flood risk is an important consideration for Cumbria, with the December 2015 flood events causing considerable damage and disruption and further emphasising the importance of timely and appropriate investment. Flood defence and alleviation schemes are important to safeguard new and existing employment and housing land, and to restore investor and visitor confidence. New infrastructure will need to be delivered, with improved resilience a foremost consideration.

Infrastructure priorities

The following infrastructure priorities are identified in the plan. These represent new investment over and above existing Growth Fund priorities. The projects are those considered to have the greatest potential to address Cumbria's infrastructure needs, contribute to Cumbria LEP's strategic objectives, the Government's productivity agenda and Northern Powerhouse initiative. These are summarised in the table opposite.



Short Term Priorities	Medium / Long Term Priorities ¹
<p>Critical</p> <ul style="list-style-type: none"> • Cumbrian Coastal Railway Enhancements • A595 Corridor Enhancements • Flood Resilience and Mitigation • Connecting Cumbria Phase 3: 4G and Broadband Connectivity • Port of Workington Improvements 	<ul style="list-style-type: none"> • Carlisle Southern Link Road • A590 Road Enhancements • A66 Road Enhancements • Ulverston Bypass • Whitehaven Relief Route
<p>Important</p> <ul style="list-style-type: none"> • Carlisle Station and Surrounding Area • Carlisle Airport Enhancements • Port of Barrow Improvements • Rail Station Improvements • Town Centre Transport Improvements • Optimising Connectivity 	

In addition to the priorities outlined above, the Infrastructure Plan highlights the need for partner support and delivery including wider investment in the rail and road network.

Delivery

The Infrastructure Plan identifies a number of funding sources that will be important in taking forward the priorities. These include a potential Devolution Deal for Cumbria, Growth Deal, the Growing Places Fund and European Structural Investment Funds. Front loading of infrastructure is required so that private sector investment decisions for contributions to infrastructure delivery do not cause delays to projects. The Plan also emphasises the importance of government agencies to play an active role in realising investment.

Infrastructure priorities will be progressed through the development of business cases for priority projects. Cumbria LEP will use the information contained within the Cumbria Infrastructure Plan to bid for and secure funding for the essential infrastructure required to support sustainable growth.

Flexibility

The identification and prioritisation of schemes was based on an assessment of the current opportunities and issues faced by the county. Should a project not be prioritised, it does not mean that it would not be prioritised through further future reviews in light of new or changing circumstances.

¹ Based on current prioritisation and subject to change



Introduction

The Cumbria Infrastructure Plan has been developed to identify the infrastructure investment required to unlock additional economic growth for the UK and Cumbria. This plan reflects the diversity and scale of opportunity in Cumbria and the need for essential and timely investment in transport, employment, telecommunications and flood defence infrastructure.

The scale of investment required is significant and reflects the level of ambition and opportunity within the county. This investment is central to delivering some of the UK's most strategically important projects in energy, defence and manufacturing and in providing the conditions for business growth. The return on investment in Cumbria's infrastructure is realised through long term productivity growth and cost savings to the tax payer, Government and private sector.

The output from this plan is a prioritised list of infrastructure needs in Cumbria. The scale of these needs, combined with the evidence presented in this document provides the case for increased infrastructure investment. It also demonstrates the role that Cumbria Local Enterprise Partnership play in co-ordinating county wide infrastructure delivery and making the case to UK Government for infrastructure investment that benefits Cumbria and the UK economy.





Cumbria Today

Cumbria is unique. It is one of the largest counties in England covering more than 2,600 square miles and home to nearly half a million people. Strategically located between Lancashire and Scotland, the county is of key importance to the UK's energy security, the future economic growth of the UK economy, and the Northern Powerhouse agenda.

Today, Cumbria provides an unrivalled mix of assets and investment projects that offer significant economic growth potential. The economic, physical and spatial characteristics of Cumbria, as outlined below, highlight Cumbria's unique offer, the scale of opportunity within the county, and why providing timely investment in the right infrastructure is vitally important in order to maximise both Cumbria's and the UK's growth potential.

Economy

The diversity of Cumbria's economy is one of its key strengths. Cumbria has been successful in attracting and retaining major employers such as BAE, GSK, Sellafield, Siemens, Iggesund, Innovia Films and Pirelli. It is also home to a diverse range of large, medium and small businesses.

The county is of international importance to the nuclear and energy sectors. Cumbria's nuclear sector employs over half of the UK's nuclear workforce. It is critical to the UK's future energy security and has an international reputation for excellence and innovation. The West Coast of Cumbria is home to Sellafield, Europe's largest nuclear site employing approximately 10,000 people. The county's nuclear expertise is strengthened through the headquarters of the National Nuclear Laboratory, the UK's flagship nuclear research and development facility. The importance of Cumbria's nuclear sector will grow in future years with the delivery of a new £16 billion power station at Moorside, providing the right infrastructure is in place. This highlights the continued importance of

the industry in underpinning the UK's economic growth and energy security.

Tourism is also a major employer in Cumbria with an average of 41m visitors to the county each year generating a total of £2.4 billion for the Cumbria Economy and supporting 34,000 FTE jobs. The key driver for the sector is the high quality environment and natural landscape including the Lake District National Park. Cumbria has a nationally significant visitor economy that has further potential to grow through improved infrastructure investment focused upon improving the county's road, rail, cycling and telecommunications network. However, there is a need to balance economic growth opportunities with the high quality of environment that Cumbria offers.

Cumbria's economic importance is set to grow in the next fifteen years. The county will benefit from major investment opportunities and a development pipeline of international significance. Five of the eight largest proposed investment projects in the North West region are located in the county. These include the NuGen nuclear new build, nuclear decommissioning activity at Sellafield, and Dong Walney offshore wind farm. These sit alongside other significant and nationally important investments including the 'successor class' submarine programme at BAE in Barrow and investment in GSK's 'Biopharm' facilities at Ulverston. It is estimated that by 2030 these schemes can support an additional £1.3 billion of economic output per year (13% above baseline projections) and over 30,000 additional full time jobs.

Cumbria's investment opportunity can only be realised through a step change in infrastructure investment. It is critical that the efficient movement of goods, plant and people enables the pipeline of investment and reflects the importance of Cumbria to the productivity of the UK economy and Northern Powerhouse.



Environment

Cumbria is the second largest county in England and accounts for around 48% of the North West region's land mass. It is predominantly rural in nature, offering a world class physical environment that underpins the vitally important tourism sector. Cumbria's environmental assets and green infrastructure are of significant importance to the county's economy and offer an unrivalled living and working environment. To protect the value of this landscape environmental designations cover a large proportion of the county so the pipeline of infrastructure investment and associated development needs to come forward in a manner that is sympathetic to Cumbria's natural assets. These designations and the topography of Cumbria do present challenges for infrastructure development and can act to constrain internal and external connectivity and journey times.

The size and predominantly rural nature of Cumbria places increased importance on modern, fast and reliable infrastructure to ensure the County is competitive. Fast and reliable broadband and mobile coverage are essential, making Cumbria an attractive place to invest and live. Whilst investment has been made in the telecommunications network, further progress is needed to improve coverage and resilience giving Cumbria the competitive infrastructure required by its residents, businesses and those seeking to invest in and re-locate to the county.

The risk of flooding is an important consideration for Cumbria with recent events causing considerable damage and disruption and further emphasising the importance of timely and appropriate investment. Flood defence and alleviation schemes are important to safeguard existing employment land and housing, and to restore investor and visitor confidence. The road and rail network are particularly vulnerable and the resilience of infrastructure in dealing with these events, which are increasing in frequency, is crucial. Whilst there is a shortlist of projects to safeguard certain areas from flooding, few have progressed to business cases and secured funding. The lack of alternative route options puts the movement of people and goods at risk if natural events occur.

The infrastructure priorities identified in this Plan will be brought forward in a manner that maintains and protects Cumbria's environment whilst ensuring the county's growth potential can be realised through improvements to the county's roads, rail, broadband and telecommunications network.



Spatial Development

Cumbria's population is concentrated in a number of key settlements across the county. The city of Carlisle is the largest urban centre with a population of 73,000 people. Carlisle is central to Cumbria's growth aspirations with a major urban extension of the city planned. Barrow-in-Furness is the second largest urban centre (a population of 56,000), supported by major employers such as BAe. Population and economic activity is also centred along the county's west coast with settlements such as Whitehaven, Workington, Cockermouth and Maryport being particularly important. Penrith, Ulverston, Windermere, Kendal and Keswick are also strategically important centres of employment, services, population and trade.

While Cumbria does benefit from a diverse range of settlements, the dispersed nature of these can increase travel times for workers, businesses and freight. Given the significant investments planned for the county, increasing journey speeds and reliability is an important issue.

The county benefits from a strong north-south transport spine being served by the M6 and the West Coast mainline. These both provide key routes to Scotland in the North, the North West and the rest of England in the South. The M6 motorway provides good road links between key settlements within Cumbria. Improvements are required to improve the resilience of the surrounding road network, secure the future investment pipeline, open up housing and employment sites, and improve the movement of goods and people across the county.

Cumbria benefits from strong rail linkages to Scotland and the south via the West Coast Mainline. Oxenholme, Penrith and Carlisle all benefit from frequent and fast services to London and Scotland. Despite this, there are significant opportunities to make better use of the West Coast Mainline and other lines for both the transportation of goods and people. Improving Cumbria's rail infrastructure is critical to achieving its growth potential, improving internal connectivity and providing reliable linkages to urban centres such as Manchester and Leeds. In addition, there is potential for improved connectivity via Cumbria's ports. Cumbria has

a number of ports situated around the county's coastline that, with further investment, could play a critical role in servicing the needs of the off-shore energy industry and major new investments within the energy sector. They have the ability to provide additional capacity supporting imports and exports. Such investment will relieve pressure on the county's road and rail network, improving journey times and reducing congestion.

Carlisle Airport also offers significant potential for growth in commercial and passenger operations providing the opportunity to widen Cumbria's international connectivity and further develop a strategically significant logistics hub.

The economic growth opportunities offered by Cumbria's economic and environmental assets will be increased further through the major private sector projects proposed for the county, amplifying Cumbria's role in the Northern Powerhouse and the UK economy.

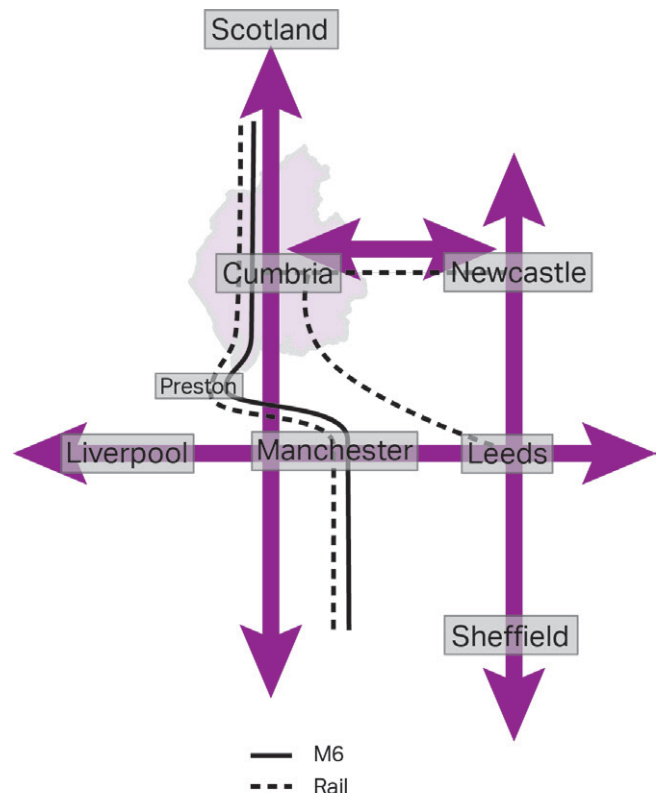
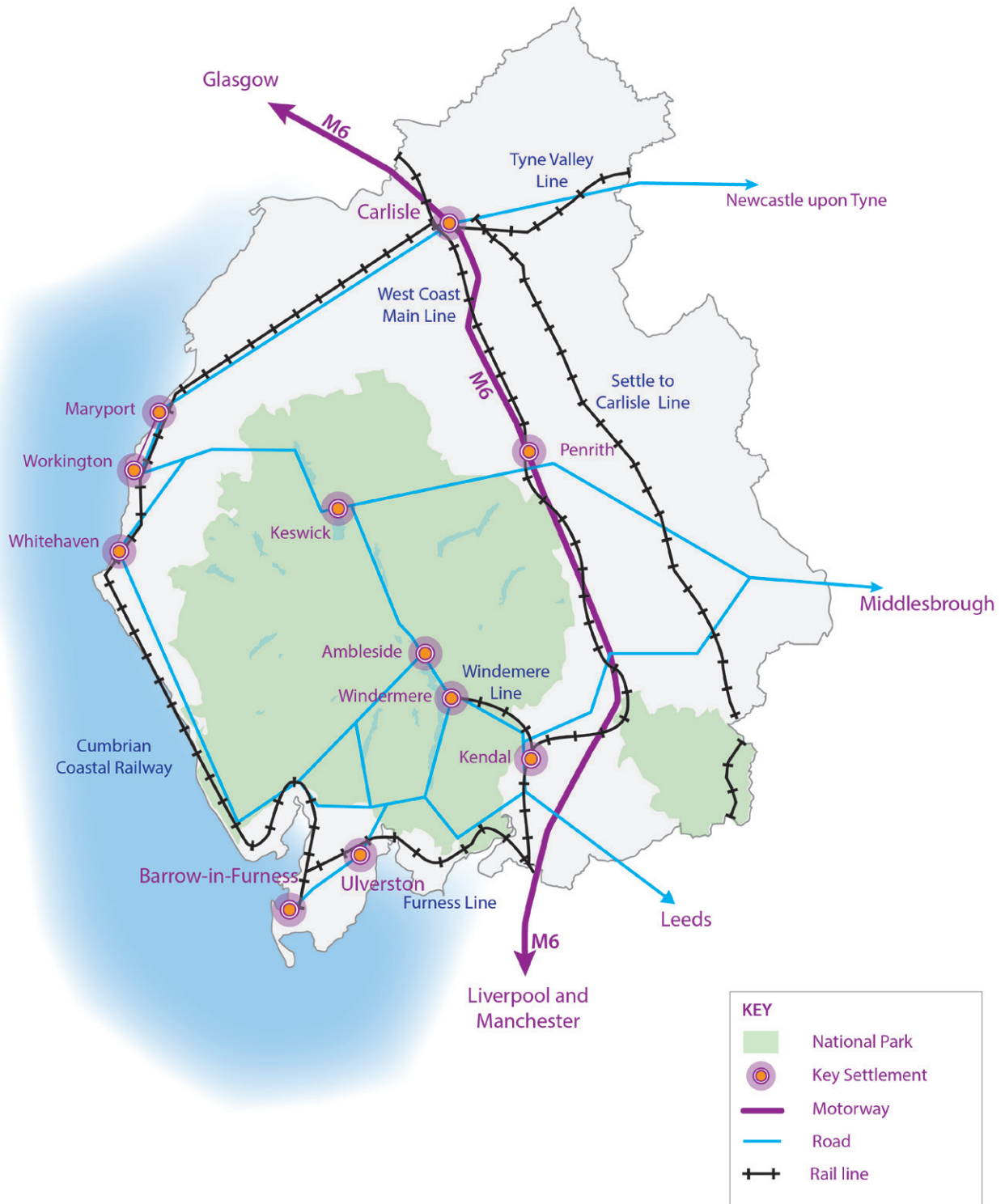


Figure 1: Cumbria's spatial context



Growth Context

Population

Cumbria's population is estimated to grow by around 80,000 to 2032, a significant increase from its 2012 base of 499,104². This growth can partially be attributed to the employment that will be created through the future development pipeline.

Population growth is not distributed evenly across Cumbria with some districts projected to see significant growth while others will decline. In particular growth is forecast to be concentrated in Carlisle and South Lakeland, where increases of more than 20% are expected by 2032.

Employment

Employment in Cumbria is set to grow significantly as major projects come forward. The Moorside development alone is estimated to generate around 21,000 jobs over its lifetime with 6,000 people likely to be employed during the peak years of construction (2022-2024). Cumbria LEP's emerging skills plan identifies that an increase of 31,460 FTEs will be required in the county by 2024. Demand for labour, particularly from outside the county, will be driven by the large investment pipeline and the county's declining working age population.

Employment growth projections vary significantly across the county. Growth is projected to be greatest in Carlisle; with an anticipated additional 6,193 FTEs (13.3%) by 2031. Barrow-in-Furness and South Lakeland are also projected to have significant employment increases of 14.3% and 9.2% respectively. Employment opportunities will be concentrated on several key strategic sites throughout Cumbria with a focus on specific industries such as the nuclear sector and associated industry. Growth is expected to be in: accommodation; food services and recreation; construction; and the transport and storage sectors. Cumbria's Information and communication sector is also forecast to experience rapid growth – increasing by over a third by 2031, highlighting the importance of fast and reliable telecommunications and broadband infrastructure.

The ability to retain the longer term benefits of employment growth is constrained by a number of factors, principally the limited scale and nature of the existing workforce as compared with a much larger future demand for labour and skills. At the same time the projects and businesses generating that demand will be in competition with other projects from outside the county. This will mean significant in-migration of workers to meet needs. Improving Cumbria's connectivity and providing suitable volumes and quality of housing are critical if Cumbria is to provide the expected level of employment required to satisfy the investment pipeline.

Housing

The delivery of an adequate supply of homes is crucial in supporting anticipated population and economic growth.

Annual housing targets outlined in Local Authority Local Plans are set at 1,900 new homes per annum. Over recent years this target has not been met although rates of delivery are showing signs of improvement with a longer term pipeline of supply identified. Proposals are already in place for new housing developments including a major development to the south of Carlisle which will accommodate around 10,000 homes. Moving forward, Local Plans should fully recognise the quantum and location of the housing needed to ensure the levels of housing required to support future economic growth can be delivered. Moreover the dispersed character of Cumbria highlights the crucial role of infrastructure in supporting travel from new homes to employment areas.

² Employment (Experian Local Economic Impact Model), February 2014



Investment Projects

Cumbria is set to benefit from major investment opportunities over the next fifteen years. Five of the eight largest investment projects in the North West are located in the county. Key projects within the development pipeline in Cumbria include:

- **Moorside New Build Nuclear Power Station** - Proposed development of three AP1000 reactors on land to the north and west of the Sellafield complex. The £16 billion Moorside nuclear power station will be capable of supplying up to 3.4GW of electricity, providing approximately 7% of the UK's current electricity requirement equivalent to supplying around 6 million homes.
- **North West Connections Project** - An estimated £1.3 billion investment by National Grid to connect the electricity generated by proposed energy projects in Cumbria to domestic and business customers. The project will upgrade the existing network to help distribute the electricity generated by the Moorside nuclear power station and other sources.
- **GSK** – A proposed development by GlaxoSmithKline (GSK) comprising the construction of a state-of-the-art biopharmaceutical production facility. It will directly provide jobs, both in the construction phase and subsequently an estimated 700 operational jobs (up to 250 in the completed first phase) and stimulate wider growth in the local economy. These jobs will in the main be highly skilled, but there will also be entry and intermediate level opportunities.
- **United Utilities** - A £250 million investment to develop a 60 mile pipeline route connecting West Cumbria to the integrated grid in the North West. The project is expected to have a nine year design and build phase which will maintain the resilience of West Cumbria's water supply.
- **BAE Systems** - Investment in BAE at Barrow includes the development of new build facilities and the refurbishment of existing infrastructure in preparation for the construction of a successor to the Vanguard class submarines. The £12.5 billion successor build submarine programme

will replace the existing Trident force of submarine-based nuclear deterrence, sustaining more than 1,400 employees working at the BAE Systems site in Barrow.

- **Continued Investment in Sellafield** - Approximately £10 billion of investment is anticipated at Sellafield up to 2030 to support ongoing decommissioning. Investment at Sellafield also includes the Silos Direct Encapsulation (SDP) project and Box Encapsulation Plant as part of the Intermediate Level Waste (ILW) Programme.
- **Tidal lagoon** - Cumbria is the proposed location for one of six tidal lagoons planned for England and Wales with a total investment value of £5 billion. A range of other tidal power proposals also offer potential opportunities for growth.
- **Walney Offshore Windfarm Extension** - DONG Energy are investing a further £1.3 billion to extend their windfarm off Walney. When complete this will be one of the largest off shore windfarms in the world and can support high-skill supply chains linked to servicing and maintenance.
- **West Cumbria Coal Mine** – West Cumbria Mining Ltd. are looking to create a coking coal mine approximately 200km² off the coast near Whitehaven which will produce an estimated two to three million tonnes of hard to semi-soft coking coal a year.

The scale of pipeline investment will deliver strategic economic policy objectives at the national and local level through the creation of economic growth and jobs during construction and operational phases, and associated supply chains opportunities. The prioritisation of infrastructure schemes that have the most potential to support and maximise the long term benefits for Cumbria is essential.



Figure 2: Key investment projects in Cumbria





Infrastructure Priorities

The scale and location of infrastructure investment plays a crucial role in maximising Cumbria's economic growth potential. Anticipated increases in population, employment and housing provide an indication as to where the demand for infrastructure is greatest. The Cumbria Strategic Economic Plan has four priorities for maximising Cumbria's economic potential:

- Advanced manufacturing growth;
- Nuclear and energy excellence;
- Vibrant rural and visitor economy; and
- Strategic connectivity of the M6 Corridor.

The Infrastructure Plan supports the delivery of these priorities by helping to prioritise investment in infrastructure across Cumbria that can unlock key investments and their supply chains as well as provide the conditions for growth of the existing business base.

The scale of Cumbria's future population, housing and employment growth is a central consideration in this Infrastructure Plan and a driver of the level of infrastructure investment needed. The plan recognises the need for the supporting development of housing and employment sites and wider social infrastructure to deliver a longer term legacy as well as support economic growth. The evidence of future growth and contribution to the UK economy also provides a compelling ask of Government for resources to realise this potential.

Current Constraints

Identifying the existing constraints and gaps in infrastructure provision alongside, evidence of growth and the aspirations for future investment provides a sound basis and justification for future investment. There are a number of infrastructure constraints across Cumbria as set out below.

Rail

Rail is a key element of efficient and sustainable transport networks; in particular it can support high levels of integration between settlements, but also other transport modes. This includes the international connectivity for freight and passengers at ports and airports.

Cumbria's rail network includes the West Coast Mainline - the busiest mixed-traffic railway in Europe as well as a major TENS (Trans-Europe Network) route linking Scotland and London via the North West of England and West Midlands. The West Coast Mainline provides a vitally important fast and frequent passenger service to and from London and Glasgow and its capacity is critical to the UK. Capacity is constrained on the line due to a mix of services on the route such as fast, 100mph plus passenger services and diesel-hauled freight services. Passenger numbers are growing significantly on the line with TransPennine services often overcrowded. Given the anticipated growth in passenger traffic, capacity issues are likely to increase.

Freight capacity issues that exist on the line are also likely to increase as major projects develop. Data modelling indicates constraints at various points along the route with Carlisle in particular not able to continue to operate with existing freight traffic without substantial infrastructure investment.

Away from the West Coast Mainline, rail infrastructure has suffered from under investment meaning it is of poor quality and not fit for purpose



to support major project developments in the county. Capacity, line speeds, rolling stock and timetabling all require upgrading particularly along the Furness Line, Coastal Rail Line, Settle to Carlisle Line and the Carlisle to Newcastle Line. Demand on these lines will only increase going forward. Cumbria's rail network is characterised by a number of critical factors. These include:

- Journey times between urban areas are not competitive with the car – journey times by car are at least 10% faster than rail between key settlements of Carlisle and Workington, Whitehaven, Barrow and Windermere;
- Significant stretches of slow (15-25mph) running such as along the coast at Parton/Harrington, through Maryport and Whitehaven stations;
- A lack of electrification on all lines with the exception of the West Coast Mainline³;
- Poor quality rolling stock and passenger facilities on the Furness and Cumbrian Coast Line;
- The Cumbrian Coast and Furness lines are particularly vulnerable to disruption at certain locations where the railway forms the sea barrier (e.g. between Sellafield and St Bees) and where it runs along the foot of cliffs (e.g. between Parton and Harrington);
- No Sunday service between key settlements such as Whitehaven and Barrow;
- A lack of capacity to meet the needs of major project developments (e.g. Moorside) on lines that are vulnerable to adverse weather at points where the line forms the sea barrier;
- The majority of route mileage is still operated using traditional local mechanical signal boxes and Absolute Block working. This creates inefficiencies on the network being expensive to staff whilst limiting capacity and route opening hours; and
- Key areas of the Cumbria Coast Line are single track, constraining the line's capacity.

It is essential that improvements are made to Cumbria's rail network to begin to address the above issues. The improvements required include increases in the number of services to support nuclear development along the Cumbria Coast line; investment in rolling stock, and an increase in services between Barrow and Manchester Airport, along the Cumbrian Coast Line and additional evening and weekend services across the county. However, more needs to be done to improve Cumbria's rail services and network over and above the enhancements planned via refranchising. These are needed to ensure projects of national significance (e.g. Moorside) can be delivered on time and their impacts effectively managed.

Across the county, Cumbria's rail stations play a major strategic role, by supporting the movement of people but also as drivers of investment in themselves. However in many cases, facilities are of poor quality and require further investment and improvement to ensure they can accommodate passenger requirements, and in so doing support local industries and enhance travel to work areas. A key priority for investment is Carlisle Station which is strategically important being a major interchange station on the West Coast Mainline and a key gateway to Carlisle, West Cumbria and South West Scotland. The importance of this station can grow further as High Speed Rail is extended north.

Addressing the various issues affecting the rail network would bring significant benefits for Cumbria by increasing its capacity to support major investment projects, the movement of workers and visitors to the county and the development of supply chains.

³ It should be noted that there is an existing commitment to electrify the Windermere line as part of the wider electrification programme currently being undertaken by Network Rail.





Road

Investment in road infrastructure is essential in delivering growth across Cumbria and is an important consideration for both businesses and visitors to the county. It supports the movement of both freight, travel to work journeys and visitor traffic. The M6 motorway provides good road links between the key settlements of Carlisle, Penrith and Kendal and beyond to Lancashire and Scotland. However, road connections east and west of the M6 are variable and challenged by Cumbria’s topography. The A66, A69 and A590 are crucial in supporting trans-northern movements although journey time unreliability across Cumbria to the M6 is a major issue for the strategic road network. For instance, low peak hour speeds and delays particularly on the A595 between Workington and Sellafield are due to sections of single carriageway passing through built up areas with significant numbers of Sellafield employees commuting along the route. Low peak hour speeds also exist on the A590 at the western end near Barrow-in-Furness along with capacity issues at junctions 40 and 44 of the M6. In addition, route safety issues are a concern on the A590, A595, A66 and A69. A number of factors contribute to these issues including a large proportion of HGV’s and agricultural vehicles making short local journeys, with numerous bends, hills and side road junctions present. The vulnerability of the road network has also been highlighted by the recent flood events.

Cumbria’s tourism industry presents a number of challenges for the county’s road network particularly in peak season with longer journey times and congestion around key settlements such as Keswick and Windermere. Moreover, the effects of the December 2015 floods have created significant disruption to the rural road network, not least the severance of the A591.

The variability and unpredictability of the strategic routes act as a brake on the Cumbrian economy, hampering access to markets, the movement of freight and the ability of supply chains and clusters to become embedded and grow. Addressing these issues would bring significant benefit by extending travel to work areas associated with the major investments proposed within the county and enabling routes through Cumbria to support the operation of the UK economy.

Figure 3: Average Annual Daily Traffic (AADT) along Key Corridors





Sea and Airports

Cumbria's ports and airport can play a key role in delivering economic growth in the county. They increase access to markets and support the movement of freight and exports. Maximising the potential of Cumbria's ports would also reduce the reliance on road and rail freight movements required to realise the development of major inward investment projects.

Opportunities exist to improve the connectivity to and from Cumbria's ports to complement existing investments in port facilities. Key ports should be well integrated into the road and rail network to maximise freight movements and employment opportunities and enable West Cumbria and Northern England to play a role in the European logistics market. This is also true for Carlisle Airport which has invested in site facilities to enable the handling of additional freight and potentially commercial flights in the future.

Carlisle Airport has historically suffered from a lack of investment which has meant missed opportunities to increase tourism and inward investment. The airport is considered a key strategic asset for Cumbria. It provides a unique opportunity to develop passenger and commercial flights both internally in the UK and internationally. Developing the airport's passenger offer will also play an important role in maximising Cumbria's tourism potential by facilitating an increase in international tourism visits.

Improving infrastructure that supports port and airport facilities, will help facilitate economic growth, attract international visitors and reinforce Cumbria's position in the nuclear and renewable energy sectors. It could also help other sectors to move existing freight away from road and rail, therefore reducing congestion on current road and rail networks.

ICT

Digital connectivity is a critical element of a vibrant economy. Good quality ICT is critical in reducing the constraints caused by the rural nature of Cumbria. It is especially important to the development and operation of supply chains and exporters, and is a vital element in supporting the operation of the rural economy.

The delivery of superfast broadband throughout Cumbria is a priority in meeting the needs of businesses and communities in the county who currently lack access to higher speed broadband and face constraints in its use. It would support businesses in achieving their growth potential and reduce the social exclusion felt by residents and communities who lack access to private transport.

Flooding

The December 2015 flood event highlighted the seriousness of flooding as an issue across the county. The effects of flooding are serious to those whose homes and businesses are affected. Flooding has led to the closure of roads and rail lines whilst also providing a negative external image of Cumbria's resilience to flooding events. These matters are all important for investor confidence and the future growth of the Cumbria economy. It is therefore essential to ensure that new development and investments are protected from flooding.

In the aftermath of this flooding event it is crucial that concerns about flooding can be addressed through new and worthwhile improvements, moreover new infrastructure will need to be delivered with resilience to the effects of flooding (coastal and fluvial) a foremost consideration.

As well as identifying the key thematic constraints and issues, a series of area specific infrastructure issues have been identified in reviewing the evidence and through consultation with stakeholders from across Cumbria. These are set out in Appendix 2.



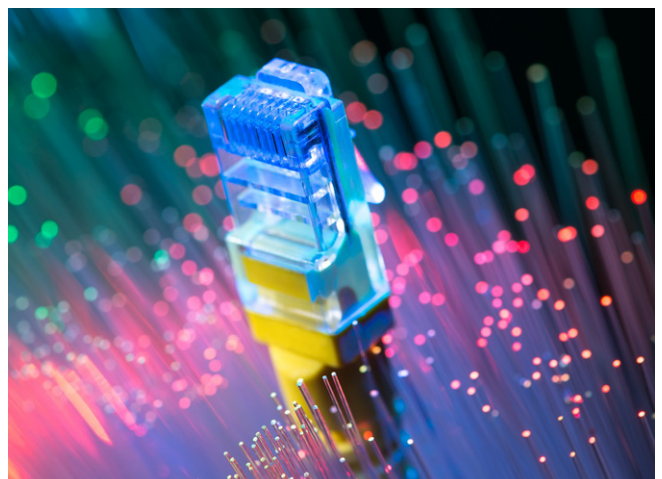
Existing Investment

Cumbria LEP has identified a number of priorities for investment, some of which have already received initial funding to support their delivery. The Strategic Economic Investment Programme outlined in the SEP summarises 12 investment projects and activities where Local Growth Funding will be required for delivery. These are underpinned by investment in the four economic drivers of business support, skills development, infrastructure improvements and environmental sustainability. Existing initiatives include:



Strategic Economic Investment Programme Projects and Activities	
<p>Advanced Manufacturing Growth</p> <ul style="list-style-type: none"> • Advanced Manufacturing Initiative • Growth in Ulverston • Barrow Waterfront 	<p>Nuclear and Energy Excellence</p> <ul style="list-style-type: none"> • Centre of Nuclear Excellence • Low Carbon Cumbria • Infrastructure, Connectivity and Employment Sites
<p>Strategic connectivity of the M6 Corridor</p> <ul style="list-style-type: none"> • Employment Sites • Housing Delivery • Culture, Education and Leisure 	<p>Vibrant Rural and Visitor Economy</p> <ul style="list-style-type: none"> • World Class Visitor Destination • Rural Growth Network Sites and Growth Hub • Environmental Infrastructure

Supported by the SEP, the Cumbria LEP has secured Growth Deal funding to deliver a range of schemes across the county, these include: transport improvements in Kendal; road and flood defence improvements in Ulverston; investment in Barrow Waterfront; delivering access to employment land at Durranshill, Carlisle; access improvements to the Port of Workington; the continued roll out of broadband in the county; and sustainable transport improvements along a number of tourist corridors.



Future Priorities

The Cumbria Infrastructure Plan has been developed to identify and prioritise the infrastructure requirements that are over and above the existing investment commitments. These are framed by the growth context within the county and assessment of infrastructure constraints/ barriers (see Appendix 1 methodology). The delivery of growth will involve a range of infrastructure interventions and delivery routes. These are categorised as:

1. Strategic Interventions – priorities for future investment
2. Partner Interventions – support to partners to enable delivery
3. Strategic Site Enabling
4. Developer Led Opportunities

Strategic Interventions

The following infrastructure schemes have been identified as priorities for investment and will help address some of the spatial challenges faced by the county. They have been selected as they have the most potential to address Cumbria’s infrastructure needs, support the imminent demands that will arise from major private sector investment projects and maximise Cumbria’s contribution to the northern economy. The delivery of these schemes is likely to be phased with the immediate priority being schemes categorised as critical:

Short Term Priorities	
Proposed Scheme	Description
Critical	
Cumbrian Coastal Railway Enhancements	Package of measures to enhance the Cumbrian Coastal railway between Carlisle and Carnforth via West Cumbria and Barrow. Measures include line speed and infrastructure improvements, signalling changes, station upgrades and improved access. These enhancements are required to provide increased capacity, usage and resilience to support economic, supply chain and employment growth across Cumbria while also supporting the delivery and operation of new investments in the west of the county. This improvement can also support the growing importance of the Port of Workington. The measures would also help to address issues of line efficiency and vulnerability to flooding and coastal erosion.
A595 Corridor Enhancements	This package of measures will seek to enhance the A595 between the A689, A66 and Sellafield to ensure this network is capable of supporting the economic growth of West Cumbria. Currently the route suffers from low peak hour speeds and delays. The scheme would include junction and capacity improvements and measures to improve safety. It would support the movement of workers, freight and supply chain opportunities.

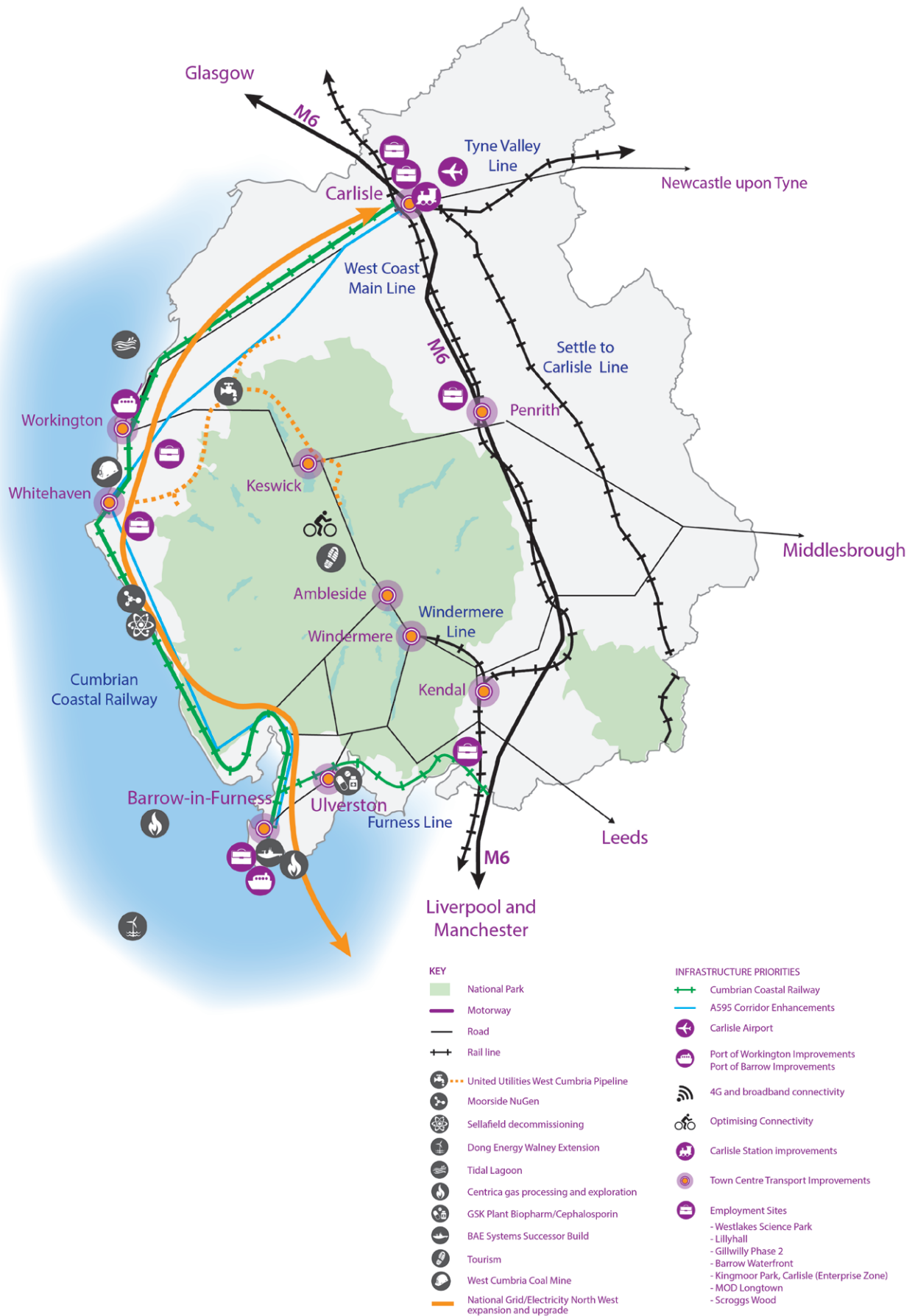


Short Term Priorities	
Proposed Scheme	Description
Flood Resilience and Mitigation	Improve flood resilience to safeguard existing infrastructure, new investment, employment and housing from flooding events. Improvements will be prioritised towards key areas of need including flood defences, flood risk management schemes and improvements to urban drainage schemes. Priority areas for funding are considered to be Carlisle, Ulverston and Kendal.
Port of Workington Improvements	Package of measures at the Port of Workington. The scheme is expected to include road access improvements and enabling works to open up employment sites. These improvements would help the Port support the major investments planned in West Cumbria while also delivering a significant area of new employment land. The Port would be able to make a significant contribution to the port capacity for the north of England, supporting wider economic growth.
Connecting Cumbria Phase 3: 4G and Broadband Connectivity	Delivery of county-wide 4G mobile phone coverage and superfast broadband across Cumbria. This will improve connectivity to markets and support the rural economy. It will address market failures which have been a barrier to private sector investment in broadband infrastructure and the need identified within the county to have substantial improvements in access and usage. The delivery mechanism and detailed scope of this scheme is yet to be determined.
Important	
Carlisle Station and Surrounding Area	Comprehensive improvements to passenger and rail facilities including increased freight capacity in and around Carlisle Station is important. This will ensure it can fulfil a strategic role in supporting the movement of passengers and freight to West Cumbria and the major investments there (including increased freight capacity via a freight avoiding line). Better facilities will also ensure the station can play a prominent role on the West Coast Mainline and ensure the station is ready for high speed rail. Improvement should drive investment and regeneration in Carlisle with several transformative opportunities within the immediate vicinity of the station.
Carlisle Airport Enhancements	Delivery of infrastructure necessary to facilitate the development of scheduled air services. The airport has suffered from a lack of investment which has meant missed opportunities to increase tourism and inward investment. The enhancements will include improvements to the airport's runway including re-profiling the runway surface, alterations to runway drainage, the installation of new aerodrome ground lighting and resurfacing works to taxiways. Passenger terminal facilities and car parking facilities would also be improved. These improvements would open Cumbria up to more international visitors, a key priority for maximising the potential of Cumbria's tourism sector.

Short Term Priorities	
Proposed Scheme	Description
Port of Barrow Improvements	The Port is strategically important in terms of proposals from Dong, BAE and Marina Village. It is considered that improvements should focus on ensuring access and port facilities support investment and supply chains in the town (e.g. associated with Walney Wind Farm and BAE). The scheme will aid future investment in the advanced manufacturing and energy sectors and help to ensure that the port continues to be a key contributor to Barrow-in-Furness.
Rail Station Improvements	A fund to support packages of measures at rail stations across Cumbria. The nature of improvements at each station will vary at each location but could include improved parking, station access, ticketing and platform improvements. This will help to address issues of congestion on the roads by encouraging journeys by train.
Town Centre Transport Improvements	Package of transport and highway improvements within town centres across Cumbria to improve access and promote the use of sustainable modes and to enable the delivery of locally significant housing and employment sites. These schemes may include junction improvements, walking and cycling infrastructure and marketing/communications to increase the use of sustainable modes. The schemes would support the delivery of development in towns across the county.
Optimising Connectivity	This scheme includes a wider package of projects designed to provide high quality transport infrastructure and sustainable transport services aimed at visitors. This could include packaging schemes such as The Water Cycle, improvements to the Keswick/Borrowdale corridor and the Windermere corridor. This will help to address a lack of sustainable connectivity at key gateways and hubs on the edge of the Lake District, a lack of connections between visitor attractions and public transport hubs, and missing links in high profile cycle routes. The improvements would support the growth and diversification of the visitor economy whilst also potentially helping to reduce congestion.



Figure 4: Key investment projects and short-term infrastructure priorities



Medium/Long Term Priorities 5-15 years ⁴	
Proposed Scheme	Description
Carlisle Southern Link Road	Development of a new link road connecting J42 of the M6 and A595 to enable the strategic growth to the south of Carlisle whilst also improving strategic east to west connectivity and reducing congestion in the city centre. Delivery of this scheme would extend beyond 2030 and would provide longer term continuity in the supply of development land to enable the growth of the city. When completed it is anticipated that this urban extension could accommodate as many as 10,000 new homes alongside new community facilities, schools and strategic employment opportunities. Initial work on planning this growth location and the new link road has commenced.
A590 Road Enhancements	Package of schemes which seek to enhance capacity and reliability on the A590. The package includes junction and capacity improvements and measures to improve safety. Improvements would provide improved links across the south of the county and with the M6. This would support access to markets, the development of supply chains and travel to work areas.
A66 Road Enhancements	Package of schemes which seek to enhance capacity and reliability on the A66. The package includes junction improvements and capacity improvements and measures to improve safety. Improvements will ensure improved access between West Cumbria and the M6 and would therefore support economic growth by aiding the movement of goods and people.
Ulverston Bypass	A bypass of Ulverston to accommodate future growth along the A590 Corridor. The scheme would help to unlock employment and housing sites and support the future investment plans of key businesses. This improvement would therefore support the continued growth of Ulverston and the wider Furness area.
Whitehaven Relief Route	Development of the Whitehaven Relief Route. This would leave the A595 north of Whitehaven, connecting areas of development land east of Whitehaven and re-joining the A595 between Mirehouse Road and West Lakes Science Park. It has an important link to nuclear new build proposals as the route opens up proposed sites for associated developments and new housing and employment land.

⁴ Based on current priorities and subject to change



Partner Support and Delivery

There will be a need to continue to work with the Department for Transport and Transport for the North to secure further additional infrastructure improvements to the strategic road and rail networks:

Proposed Scheme	Description
<p>Electrification of Furness Line, Lakes Line and Hadrian's Wall Country/ Tyne Valley Line in addition to improvements to Cumbrian Coast Line</p>	<p>The lack of electrification has resulted in a number of connectivity shortfalls. In particular the Furness Peninsula has infrequent direct train connection to Manchester / Manchester Airport (e.g. four direct services a day), impacting on interregional and international connectivity. Electric trains are not able to traverse the Tyne Valley connection between the electrified East and West Coast Main Lines, reducing resilience for major north-south electrified rail arteries and inter-regional connectivity between the North East and southwest and central Scotland via Cumbria. Passenger services are limited to diesel multiple units running mostly between Carlisle and Newcastle. The shortfall impedes business-to-business connectivity for the advanced manufacturing sector in South Cumbria, and between North City Regions, West Cumbria and central Scotland.</p>
<p>Improvements to the A66, A69 together with A595 and A590 including Ulverston by-pass</p>	<p>The current strategic route studies for the A69 and A66 together with the study underway for west of the M6 will need to feed into RIS2. Continued engagement with Highway's England will be important in delivering this plan. Upon these routes, journey times are unpredictable, reducing the attractiveness and use of the routes. There are geometric variables along both routes, with numerous bends, hills and side road junctions present. Piecemeal safety interventions at a local level at various locations interrupt journey speeds. Long term interventions along the A590, A66 and A69 would improve access and connectivity for the Advanced Manufacturing and Energy sectors, including Nuclear developments on the west coast of Cumbria, marine and bio-pharma industry in Furness and strategic developments such as Carlisle Airport and sub-regional employment sites such as Kingmoor Park.</p>



Developer Led Proposals

In addition to the schemes listed, there may be opportunity for the energy sector to bring forward major development which could accommodate a clear infrastructure element. Potential schemes could relate to tidal lagoons and tidal barrages which could incorporate new road links. These schemes would be for specific developers to progress.

Strategic Site Enabling

The focus of this plan is to prioritise investment in hard infrastructure to support and facilitate economic growth rather than direct investment in land and property. Recognising this, the plan identifies a number of strategic housing and employment sites identified through the Local Plan process. Strategic sites for the purposes of this Infrastructure Plan are sites that are already identified in Local Plans and defined as being over 10 hectares and sites capable of delivering more than 500 housing units. This doesn't include smaller sites of less than 10 hectares or 500 housing units which may be grouped together to form a linked suite of sites.

Delivery of strategic sites may require gap funding or investment to accelerate or unlock critical investment. While a number of key sites have been identified below there should always be scope for scheme promoters to seek appropriate enabling development for alternative proposals.

A summary of the key housing and employment sites are outlined in Appendix 3.

Progressing Infrastructure Schemes

Infrastructure schemes that already have a business case will be progressed through additional study work. Where there aren't currently business cases for schemes, these will be developed to ensure that the priority schemes come forward.

In addition, the LEP will further develop the Strategic Investment Plan to take account of any Devolution Deal and the emerging priorities from the Cumbria Infrastructure Plan.

The identification and prioritisation of schemes was based on an assessment of the current opportunities and issues faced by the county. Should a project not be prioritised, it does not mean that it would not be prioritised through further future reviews in light of new or changing circumstances.



Figure 5: Strategic Employment and Housing Sites





Funding Sources and Scheme Delivery

The Cumbria Infrastructure Plan needs to deliver against Cumbria LEP and Government objectives to maximise positive impacts for the county. Given the competition and relative scarcity of finance there is a need to demonstrate that projects respond to real and evidenced demand within individual project proposals and business cases. The following funding sources and delivery mechanisms will be important in taking forward the infrastructure priorities outlined in this document.

Government Agencies

There is a need for government agencies including national and regional bodies, central government and asset owners such as Network Rail and Highways Agency to play an active part in realising investment. This is relevant for both rail and road infrastructure improvements which remain the highest priority.

Devolution Deal

Cumbria LEP and its partners have been engaging in negotiations around a Devolution Deal for Cumbria. The provision of long term funding commitments together with increased autonomy this could bring would significantly assist the delivery of the transformational infrastructure schemes outlined in this plan and could enable Cumbria to establish the following funding opportunities:

- **Investment fund** – An investment fund is likely to be a critical part of any Cumbria Devolution Deal. It will be used to accelerate the delivery of crucial infrastructure schemes that can unlock growth, alongside other schemes;
- **Transport funding pot** – This could be used to improve Cumbria’s road, rail, port and airport networks. With a need to plan and implement improvements over a longer time period, the transport fund will require the first six years funding up front and have an indicative allocation for the subsequent four years;
- **Housing programme** – This will unlock residential development by bringing sites forward that are not viable to the private sector and support the delivery of the infrastructure required to deliver the additional homes;
- **Skills funding pot** – A cross agency fund between the LEP and the county’s key skills providers which will allow joint decision making on the training programmes and facilities required to align skills provision with developer needs; and
- **Project development fund** – Such a fund would speed up the development of ideas and infrastructure schemes into project proposals, strategic outline business cases, feasibility studies, and other research to develop full business cases if required. The development fund would also need revenue support to provide staffing capacity and a delivery vehicle for the development of any project ideas.

In addition to the Devolution Deal and Growth Deal, there are a number of other funding sources which can help to fund infrastructure:

Local Growth Fund

The Cumbria Growth Deal from July 2014 sets out key funding levers for the LEP area. The Growth Deal allocated the LEP with £47.7m from the Government's Local Growth Fund to support economic development. Future rounds of Local Growth Fund could play an important role in unlocking some of Cumbria's infrastructure constraints. However, the level of infrastructure development required across the county can not be met via Local Growth Fund allocations.

Local Infrastructure Fund

The Local Infrastructure Fund was launched by the Homes and Communities Agency in 2013 with the aim of providing immediate economic benefits. Organisations can bid competitively for funding to support land and property schemes that deliver economic growth and in which the government can invest in on a recoverable basis. The focus for investment through the fund is on enterprise zones and the acceleration of large scale housing developments.

Growing Places Fund

Cumbria LEP was allocated £6.1m of the Growing Places Fund in 2012 which was renamed the Cumbria Infrastructure Fund. The fund aims to generate short term economic activity by addressing immediate infrastructure and site constraints; allow LEP's to prioritise their own infrastructure needs; and establish revolving funds that can be reinvested to enable further development and leverage private sector investment.

European Structural Investment Funds

Cumbria LEP will be able to draw down around £87m from the 2014-2020 European Structural and Investment Funds (ESIF) which includes the European Regional Development Fund, European Social Fund and the European Agricultural Fund for Rural Development. The funds aim to facilitate smart growth, sustainable growth and inclusive growth. ESIF funds are used to provide match funding to address market failures and address economic underperformance. ERDF where possible will be used to support ICT improvements and flood resilience schemes.

Developer Contributions

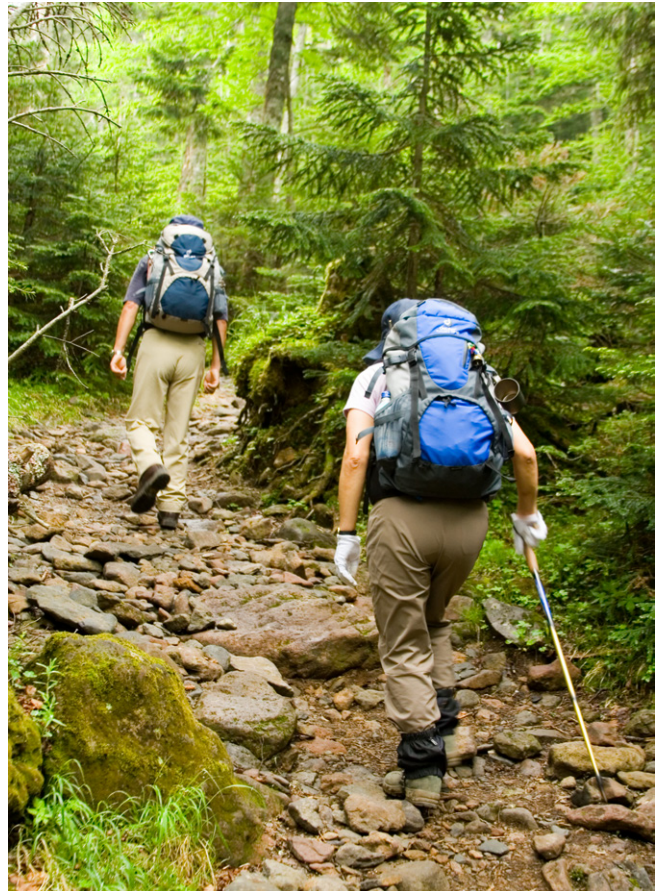
Developer contributions such as Community Infrastructure Levy (CIL) and Section 106 agreements can play a significant role in delivering infrastructure. Section 106 agreements are especially well suited to addressing the individual impact of developments. CIL is suited to funding strategic improvements by delivering infrastructure outright or by providing a funding match to other streams. It is recommended that a stronger commitment is made by the Local Authorities within Cumbria in exploring and implementing CIL in the future.



Other Funding

A number of other funds could be utilised to promote and develop Cumbria's infrastructure. These are:

- The retention of business rates in the Carlisle Enterprise Zone from any future uplift in business rates;
- Third-party grant funding opportunities such as the Coastal Communities' Fund;
- Public sector disposal of assets including land held by local and county authorities and the Homes & Communities Agency. This would facilitate private sector led development of sites which would generate further CIL and S106 contributions; and
- Prudential borrowing opportunities to allow the public sector to borrow at a low cost from the Public Works Loan Board to fund spending.





Appendix 1: Infrastructure Plan Development

This appendix explains how the Cumbria Infrastructure Plan was developed. It outlines the method used at each stage, from profiling the baseline to consultation and project prioritisation.

Baseline Context and Growth Forecasts

Cumbria's baseline conditions were reviewed and assessed to understand the scale and geography of its economy, population, transport and power networks, and natural environment. Population, economic and housing forecasts were also reviewed as were Local Plan allocations and historical housing completion data.

The purpose of this exercise was twofold, firstly, to understand short and long term demographic and labour market trends and secondly, to determine how well the existing infrastructure and environment are working and what adaptations are needed.

Project Long Listing

A key stage in the infrastructure plan was to identify forthcoming infrastructure projects in Cumbria in the following areas:

- Transport;
- Flood protection;
- Coastal protection;
- Water and waste water;
- Broadband and mobile; and
- Energy.

Consultation

Extensive consultation has been undertaken to underpin this Infrastructure Plan. Engagement has focused upon local and county authorities, project developers, organisations responsible for managing and maintaining key aspects of infrastructure, key large businesses, and smaller businesses with the help of representative organisations such as Cumbria Chamber of Commerce. The consultations focused upon helping to expand the long list of potential projects, identifying projects in various stages of development from established business cases to emerging ideas. The consultations also confirmed our understanding of baseline conditions, assumptions on growth forecasts and allocations for housing and employment land. The consultation exercise, along with the analysis of baseline information, assisted with the identification of gaps within the initial project long list.

Prioritisation Process and Project Short Listing

A process of project prioritisation was undertaken to move from a long to a short list of projects. The purpose of this was to identify the projects which have potential to address Cumbria's infrastructure requirements, contribute to Cumbria LEP's strategic objectives and the Government's productivity agenda. Projects were objectively assessed based on their evidenced need and demand, and where possible backed up by written proposals, feasibility studies and business cases. Weighting was given to projects which had clear strategic alignment and the potential to be transformational in generating growth.





Appendix 2: Local Issues

In undertaking the work to inform the infrastructure a series of key infrastructure issues have been identified by geographic area:

Proposed Scheme	Description
West Cumbria	<p>The West Coast of Cumbria is home to an extremely diverse nuclear sector and is key to investment in the UK's nuclear industry and energy security. Its importance will grow given the major new investments and a dynamic supply chain. The right infrastructure is needed to deliver investment and to ensure realise the full economic potential of West Cumbria can be realised. This includes improvements to:</p> <ul style="list-style-type: none"> • The Cumbrian Coast Rail Line • A595 and A66 connectivity • Facilities and access to the Port of Workington • Support the delivery of key housing and employment sites. • Flood resilience
Furness and A590 Corridor	<p>Barrow-in-Furness and Ulverston are key centres for advanced manufacturing in Cumbria and is home to significant engineering expertise including BAE Systems, GSK and Siemens. This expertise should drive considerable economic growth and be able to support a diverse supply chains. Key areas for improvement include:</p> <ul style="list-style-type: none"> • A590 connectivity • Facilities and access at the Port of Barrow • Support for the delivery of key housing and employment sites. • The Furness Line • Flood resilience
Kendal, Penrith and M6 Corridor	<p>The strategic connectivity of the M6 Corridor provides a gateway into the county, containing the key settlements of Kendal, Penrith together with Carlisle. These represent key points on the strategic road network, bridging east and west of the M6. Their connectivity, combined with attractive town centre, ensure these are key elements in Cumbria's offer and are well placed to support the professional services industry, the visitor economy, logistics alongside the wider energy and advanced manufacturing industries. Key areas for improvement include:</p> <ul style="list-style-type: none"> • A66 connectivity • Support for the delivery of key housing and employment sites. • Improved station facilities • Flood resilience

Proposed Scheme	Description
Carlisle	<p>As one of the key cities in northern England, Carlisle offers significant potential for growth. In order to maximise this potential, Carlisle must have an offer that is attractive to residents, visitors and investors. Carlisle Station is a critical asset acting as a key interchange for freight and workers travelling to West Cumbria and on the West Coast Mainline (with the potential for future HS2/3 connectivity). Proposals for the city also include a major new urban extension to the south of its urban boundary (c. 10,000 new homes). To allow Carlisle to fulfil its economic potential, key infrastructure improvements include:</p> <ul style="list-style-type: none"> • A69 connectivity • Improved station, freight and commercial facilities at and around Carlisle Station • Carlisle Southern Link Road • Support for the delivery of key housing and employment sites • Flood resilience • Carlisle Airport
Rural Cumbria	<p>The rural parts of the county house a diverse economy, incorporating a major visitor economy offer, agriculture and food production alongside a wide range of SMEs. This economy has the capacity to grow, but to do so, will require improved infrastructure. Key improvements include:</p> <ul style="list-style-type: none"> • Sustainable transport to reduce congestion and aid international visitors • ICT improvements to reduce the impact of peripherally • Improvements to A591 • Flood resilience







Appendix 3: Strategic Employment and Housing Sites

Strategic Employment Sites	
Site	Description
West Lakes Science Park, Whitehaven	The site is one of the most significant employment sites in West Cumbria, in terms of the role it plays in the local economy and the availability of land. Westlakes is considered a unique employment site given the high value nature of the jobs and employers located on the site and its key importance for the nuclear sector. Improvements would focus on enabling future development areas to be delivered.
Lillyhall Enterprise Zone, Workington	Strategic employment site which is well positioned to support the significant new investments planned in West Cumbria. Improvements would focus on enabling future development areas to be delivered, however the exact details of the scheme are unknown and would require further scoping.
Kingmoor Park Enterprise Zone, Carlisle	Kingmoor Park is the key strategic employment site within Carlisle and is the LEP's Enterprise Zone. It is well related to the strategic road network and is particularly well suited to support the logistics and advanced manufacturing sectors. Potential improvements would likely be focused on bringing forward future phases of development.
MOD Longtown, Longtown	The proximity of the site to the M6 and presence of a rail-head makes this site well suited to support the logistics and energy sectors. Potential improvements would be likely to link to improving direct access to the road network, formalising rail connectivity and site preparation costs.
Land at Gilwilly, Penrith	Gilwilly represents Penrith's key employment site. Its location upon the junction of the M6 and A66 means it's extremely well positioned to support the logistics and manufacturing sectors. Building on previous investment, potential improvements would likely be focused on bring forward future phases of the development.
Barrow Waterfront Business Park, Barrow	Waterfront Business Park is positioned at the heart of Barrow Port. Improvements focus upon ensuring the port is well positioned to support the significant marine engineering (Walney Windfarm and BAE) growth underway at the port. Enabling works are underway.
Scroggs Wood, Kendal	This site benefits from good access to the strategic road network and is well positioned to support the advanced manufacturing sector together with professional services. Infrastructure improvements would focus on ensuring the site is deliverable.

Strategic Housing Sites

Site	Description
South Carlisle	This site would be a strategic urban extension to the south of the built extent of Carlisle and would provide a longer term continuity of housing supply, accommodating up to 10,000 new homes. The Carlisle Southern Link Road (listed above) would be a key element of this scheme but there would be potential further enabling support required.
South Ulverson/ Swarthmoor	This location would accommodate c. 700 new homes to the immediate west of the A590. The delivery of this extension to Ulverston may require enabling support, in particular the delivery of appropriate junction improvements to the A590 and potential site drainage/flood risk enhancements.
Marina Village, Barrow	This site would accommodate in excess of 500 homes and would deliver a significant development adjacent to Barrow's historic docks. This development would support the significant employment proposals for the town by ensuring the broadest mix of housing is available.
Corus Site, Workington	This site would accommodate 650 dwellings on the former Corus Steelworks in Workington. This proposal would be significant in scale and would deliver a transformative change for the town. The delivery of this scheme may require enabling support, in particular for coastal protection, access and remediation.
North Penrith	This location would accommodate 500 new homes and will be a strategic focus for growth within Penrith. The delivery of this growth may require enabling support in particular around access improvement on remediation.
Mirehouse, Whitehaven	This site is located on the edge of Whitehaven and although not currently in the Local Plan, it is identified as an Associated Development site in NuGen's proposals. It is anticipated that this development could accommodate between 2,500 and 4,000 workers with this accommodation potentially being permanent housing as part of the legacy benefit of this site (post Moorside construction phase). While it is anticipated that this scheme can be delivered by the developer of Moorside, some enabling support may be required to achieve its acceleration.



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Cumbria Infrastructure Plan
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