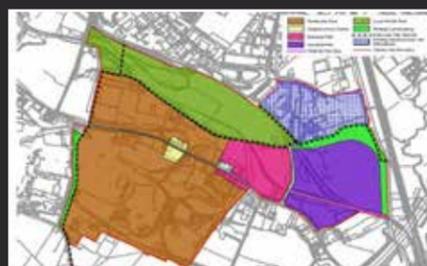


A SUSTAINABLE STIMULUS PROGRAMME

Smart Growth Insights
for Public Investment



Smart Growth UK is an informal coalition of organisations and individuals who support the Smart Growth approach to planning, transport and regeneration.

The organisations supporting the coalition adopted a set of principles in 2013 to guide future work-

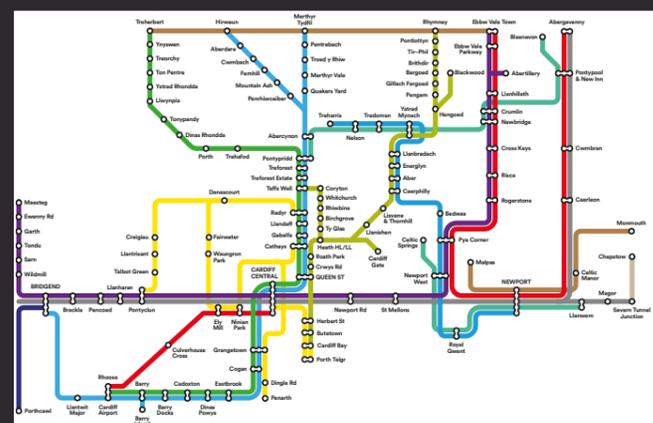
- Urban areas work best when they are compact, with densities appropriate to local circumstances but generally significantly higher than low-density suburbia and avoiding high-rise. In addition to higher density, layouts are needed that prioritise walking, cycling and public transport so that they become the norm.
- We need to reduce our dependence on private motor vehicles by improving public transport, rail-based where possible, and concentrating development in urban areas.
- We should protect the countryside, farmland, natural beauty, open space, soil and biodiversity, avoiding urban sprawl and out-of-town development.
- We should protect and promote local distinctiveness and character and our heritage, respecting and making best use of historic buildings, street forms and settlement patterns.
- We should prioritize regeneration in urban areas and regions where it is needed, emphasising brownfield-first and promoting town centres with a healthy mix of facilities.
- Civic involvement and local economic activity improve the health of communities.

This report is specifically endorsed by the following organisations-

- All Party Parliamentary Light Rail Group
- British Land Reclamation Society
- Chartered Institute of Environmental Health
- Environmental Protection UK
- Tramforward
- Transform Scotland
- Transport for Quality of Life

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Executive Summary and Recommendations

Politicians across the spectrum and business now agree more public investment is needed in infrastructure, both for its own value and for the stimulus it will provide the post-Brexit economy. Three areas which demand particular attention are house building, man-made climate change and the pressure our high population density imposes on our land. But there is also recognition that capital investment ought to recognise the need to protect the environment. The Smart Growth approach offers insights as to how this could be achieved, which types of investment should be favoured and which avoided.

We recommend any major programme of public investment which has implications for planning, transport planning or community development should enshrine the Smart Growth principles.

Pursuing the Smart Growth approach, this report recommends investment in land reclamation, sustainable transport and regeneration through heritage - not an exhaustive list of investment insights Smart Growth provides, but demonstrating the benefits it offers.

The UK's huge legacy of unreclaimed brownfield land threatens local economies, environments and health but offers great opportunities for new housing, employment space, recreation and biodiversity. Political support for funding land reclamation is growing.

We recommend:

- major investment in land reclamation, both urban brownfield and damaged land in rural areas including instability, derelict buildings etc.;
- public investment in assembly and preparation of brownfield land for development;
- public investment in restoration of brownfield land to green end uses including agriculture, recreation and nature conservation.

The country's ambitious house building targets necessitate best use of brownfield land, even in regions where the housing market is weak and

reclamation may not be commercially viable. Various schemes exist, but clearly more support is needed if brownfield opportunities are to be realised.

We recommend establishment of brownfield funds in England, Northern Ireland, Wales and Scotland offering a mix of loans and capital grants for brownfield housing work.

Land contamination is a threat to human health and the environment and unremediated sites blight communities and hold back economic regeneration. Most remediation takes place where development is proposed, but this leaves thousands of sites where redevelopment would not cover the cost. Yet central funding of the system designed to help where such sites are causing problems has virtually ceased.

We recommend adequately resourced national systems of capital funding for local authority contaminated land projects should be established in England, Northern Ireland, Wales and Scotland for sites where there is no immediate prospect of remediation through the planning system.

Planning consents for mineral extraction sites include conditions requiring restoration and the building

up of funds during their operational phase for this purpose. Yet this can be undone by operator insolvency or through inadequate provision being made. There are also many quarries and mines created before modern planning controls which are still scarring the landscape and causing problems. National funding is needed to overcome these problems.

We recommend national capital funds should be established in England, Northern Ireland, Scotland and Wales for the restoration of current and historic mineral sites.

The UK is trying to reduce its greenhouse gas emissions in most areas but transport is currently an exception where emission growth is set to continue. Public capital invested in major road construction and airport expansion will crank this growth up further. Reversing the trend should start with the cities; investment in rail-based public transport is essential both in major conurbations and on inter-urban services. The economies of smaller cities and towns can also benefit from public transport and other sustainable transport investment.

Investment in public transport and the appropriate development densities urged by Smart Growth can get help people out of cars and reduce urban sprawl and greenhouse gas emissions. Yet, contrary to international trends, few UK major conurbations have dense networks of rail-based public transport. All the UK 250,000+ conurbations should be provided with such systems.

We recommend national capital funds should be established in England, Northern Ireland, Scotland and Wales specifically for light rail, metro and similar transport schemes designed to ensure all 250,000+ conurbations have a network of rail-based public transport by 2040.

Future transport investment ought to be made available for rail-based urban vehicles to maximize greenhouse gas reductions.

We recommend the National Productivity Investment Fund invest in urban rail capacity and research and development for urban rail-based electric vehicles.

20th century rail closures left huge areas bereft of rail passenger services, including some major towns. Demand for rail services is growing rapidly, but investment is concentrated on existing routes. Rail reopenings have proved extremely successful and public investment is needed to spread these benefits.

We recommend ongoing national programmes should be set up to reopen inter-urban and rural rail services.

Major transport infrastructure has very long lead times, may not always yield economic returns and some kinds, major road building for example, cause considerable environmental damage. Investment in smaller, locally based schemes like road maintenance, cycling, pedestrian, road safety, public realm, minor rail improvements and bus facilities can yield big returns fast.

We recommend support for the call for establishment of a Road Repair and Renewals Fund, dedicated funding to support a cycling and walking investment strategy and a Public Realm Investment Fund to support regeneration in town and city centres.

A big source of urban sprawl and greenhouse gas emissions is the growth of road-based distribution centres near motorways while HGVs are a major environmental, social and health hazard, especially in urban areas. Major flows of goods could be switched to rail or water if investment were provided.

We recommend planned national programmes should be created in England, Northern Ireland, Scotland and Wales to expand and fund rail and water freight facilities, backed by new legislation where necessary to facilitate this.

Built heritage is a source of regeneration, community cohesion and economic revival. The Heritage Lottery Fund provides some support for regeneration through heritage, but availability of wider funding could spread the benefits well beyond conservation areas.

We recommend establishment of national funds in England, Northern Ireland, Scotland and Wales to fund enhancement of historic townscape and buildings.

Politicians across the political spectrum now recognise carefully targeted public investment in infrastructure can yield substantial long-term economic gains. But much current investment goes to environmentally destructive and economically dubious work like road building or airport expansion. This could be redirected to beneficial areas guided by the Smart Growth approach.

Public investment should aim to meet our needs for housing, mobility and economically and socially healthy communities in genuinely sustainable ways without increasing greenhouse gas emissions, pointless commuting and urban sprawl





Wise investment can strengthen the economy
Light Rail (UK)

Introduction

The UK faces a range of economic, environmental and social challenges as it prepares to exit the European Union and these are inseparably linked. Three of the most pressing are climate change, housing and the pressure on our land a high population density imposes.

The country is also considering how best to invest public capital to achieve a degree of economic stimulus. Smart Growth offers clear insights on meeting the three challenges for those planning this investment. It is an approach to spatial, transport and community planning which aims to promote compact, walkable towns and cities with good public transport, healthy and vibrant town centres, countryside protection and alternatives to cars and lorries. It's an holistic philosophy combining historical approaches with the latest thinking.

In his 2016 Autumn Statement, chancellor Philip Hammond said infrastructure investment which contributed to raising productivity would be a priority¹. "Economically productive infrastructure directly benefits businesses," he told the Commons. "But families, too, rely on roads, rail, telecoms – and, especially, housing".

Mr Hammond announced a new National Productivity Investment Fund (NPIF) with £23 billion to invest over the next five years. He promised the Government would invest between 1% and 2% of GDP every year from 2020 in economic infrastructure covered by the National Infrastructure Commission.

Political opinions vary on economic strategy, but there is clear support across the spectrum for productive public investment. Shadow chancellor John McDonnell responded to the Statement by complaining the proposed investment was still far too low². For the SNP, Stewart Hosie very much welcomed the increase in capital investment³, for the Liberal Democrats Alistair Carmichael welcomed the increase as positive⁴ while, for the DUP, Sammy Wilson welcomed £250m of additional capital spending in Northern Ireland⁵. Green MP Caroline Lucas did, however, bemoan the chancellor's failure to mention climate change in his statement⁶.

But while infrastructure investment is at the top of the political agenda, Mr Hammond knows⁷ Britain's stock of public infrastructure languishes near the bottom of developed countries' league table after decades of under-investment. He promised long-term economics rather than short-term politics would drive investment but said any fiscal stimulus needs to be well designed, limited in duration and quick in delivering effect.

Scotland's first minister Nicola Sturgeon said Scottish Government infrastructure investment would support the transition to a low-carbon economy⁸. Wales' first minister Carwyn Jones promised to provide the infrastructure Wales needs to boost the economy and communities⁹ despite uncertainties caused by the Brexit vote and Northern Ireland first minister Arlene Foster has looked forward to a tripling of investment in infrastructure¹⁰.

Industry and commerce also supports such increases. In July, for instance, Confederation of British Industry president Paul Drechsler said economic stimulus is vital at times of uncertainty and infrastructure investment is a powerful way to achieve this¹¹. The International Monetary Fund has also stressed the importance of infrastructure funding to tackle global economic problems aggravated by the EU referendum vote¹².

Economic uncertainties were created by the referendum decision, but we believe there are three particular issues which demand attention where a Smart Growth approach can indicate the way ahead: housing, climate change and pressures on our land.

People speak of a "housing crisis" despite lack of agreement on what constitutes it, but there is no doubt we urgently need to build more of the right types of home in the right places.

Recent extreme weather events have silenced most of the doubts about man-made climate change and there is plainly a need for dramatic reductions in our greenhouse gas emissions and adaptation to inevitable changes. Considerable attention is being given to non-fossil electricity generation and some to energy efficiency in buildings,

but little to rising emissions from transport.

Another challenge is our very high population density – England is Europe's most densely populated country. We expect our countryside to provide all of our water, much of our food, flood control, timber, outdoor recreation and biodiversity and all the intangible benefits the countryside provides. But already the UK must import around a third of the food it needs and some areas are threatened with serious water shortages.

Yet although we value the countryside, our planning policies allow continuing erosion of it to accommodate low-density housing and highway-based distribution centres. Unsympathetic development and neglect, meanwhile, damage our urban fabric. Our landscapes and historic towns are powerful parts of our national identities, but we continue to damage and destroy them.

Policy makers now widely accept the need to reflect environmental issues in infrastructure investment. The Scottish Government, for instance, has a Low Carbon Infrastructure Transition Programme aimed at transformational infrastructure investment and is supporting bids to the ERDF Low Carbon Travel and Transport challenge fund. We believe long-term economic success must involve making environmental issues central to decision making at all levels.

Our Smart Growth investment programme is motivated by the needs of our economy and the imperative of reducing greenhouse gas emissions, increasing the supply of the right type of housing in the right places, regenerating our towns and protecting our countryside and soil environment. We need to ensure public investment strengthens both national and local economies and ensures we have the mobility we need without destroying our environment.

We recommend any major programme of public investment which has implications for planning, transport planning or community development should enshrine the Smart Growth principles.



Picture the possibilities
Light Rail (UK)

Three areas for action

From the basis of the Smart Growth principles, this report identifies three important areas for investment throughout the UK. These three are by no means the only areas indicated by the Smart Growth approach, but we believe they illustrate its potential to generate major benefits for the economy, society and the environment while avoiding the damage to the environment that some forms of infrastructure investment can bring about.

The three areas are-

- land reclamation;
- sustainable transport;
- regeneration through heritage.

Urbanism lies at the heart of the Smart Growth approach, but it promotes action to secure benefits in both town and country and elements of all three would benefit both. Each has been shown to generate substantial economic and social benefits and improvements to the environment.

The UK has a huge legacy of previously developed, derelict, damaged, unstable and contaminated land. A quarter of a millennium of industrial development, 40 years of industrial contraction and centuries of major workings left unrestored by extractive industries have left a very densely populated country even shorter of land than it needs to be.

In urban areas, brownfield sites are both a liability and an opportunity. Unrestored, they can depress a local economy and cause harm to local peoples' health, while the expense of restoring them increases pressure for damaging and unnecessary greenfield development.

In rural areas meanwhile, derelict land causes major damage to landscape and is another wasted opportunity. Left derelict, such sites can also drag local economies down and cause especial harm to the recreation and tourism industries. But they can be restored for agriculture, biodiversity, open space etc. and restoration of brownfield sites to green end uses can reduce soil sealing – when soil is prevented from carrying out its important ecological functions once it is covered with buildings, roads or hard landscaping.

The Campaign to Protect Rural England's 2014 report From Wasted Space to Living Spaces¹⁵, based on University of the West of England research, showed that brownfield land offers space to accommodate most of our housing needs and its recommendations remain highly pertinent. Although we are concentrating here on public capital investment, the CPRE report's recommendations for new powers and resources to develop large and difficult sites, assistance and incentives for smaller builders and more direct funding for difficult "hardcore" sites remain relevant. Further analysis by CPRE of the brownfield registers pilot scheme¹⁴ shows there is space for 1.1 to 1.4 million homes on brownfield sites in England alone.

We believe investment in land reclamation will be vital to facilitate such building. Communities secretary Sajid Javid told the Conservative conference¹⁵ the Government intends

to bring forward a package of measures to encourage urban regeneration and to build on brownfield land. "We want to radically increase brownfield development and bring life back to abandoned sites," he said and he has indicated a doubling of capital spending on housing. But building the right homes in the right places without creating unwanted sprawl and greenhouse gas emissions will require careful planning.

We recommend-

- **major investment in land reclamation, both urban brownfield and damaged land in rural areas including instability, derelict buildings etc.;**
- **public investment in assembly and preparation of brownfield land for development;**
- **public investment in restoration of brownfield land to green end uses including agriculture, recreation and nature conservation.**

Brownfield Housing

There is increasing recognition that, to meet tough house building targets, the very best use must be made of brownfield land. Mr Javid's conference speech said the Government's new brownfield package would deliver high-quality housing for families, bring new energy to abandoned shopping centres and increase densities around stations to build homes. Details in the housing white paper were still awaited when this report was written.

In England, the Government has mooted a number of initiatives including brownfield registers, permission-in-principle etc. and Mr Javid has announced a £3bn Home Builders' Fund¹⁶. This is intended to provide £1bn in short-term loan funding for small builders, custom builders and innovators plus £2bn of long-term funding for infrastructure to "unlock a pipeline of up to 200,000 homes over the longer term, with the emphasis on developments on brownfield land".

This is obviously extremely welcome

but, even if this fund were fully available for brownfield work, it is set to be mostly or entirely a loan fund rather than grants and that could still limit its utility in areas of England where the housing market is weak. Even if loans are available, experience has shown developers will not take them up where the return on the development does not offer a return on their own investment. There has been developer pressure for reductions in the proportion of the homes in their developments that are affordable and it is also unclear whether land reclamation loans would be available to local authorities and registered social landlords for affordable housing.

The Scottish Government has a Regeneration Capital Grant Fund to support regeneration by local authorities and urban regeneration companies. But this only amounts to £25m in 2016-17, spread across 32 local authority areas. Its proposed Planning Bill includes proposals to ensure non-domestic owners cannot leave sites in a state of neglect or abandonment and it also plans to modernize compulsory purchase orders to ensure vacant and derelict land can be bought for communities.

Throughout the UK, lack of financial help to reclaim and redevelop brownfield sites creates a clear commercial advantage for greenfield developments in the same areas. Previously developed land may require land assembly, remediation of contamination, stabilization, flood control, demolition, site clearance, site works, drainage, infrastructure etc., not all of which will necessarily be needed for equivalent greenfield developments.

In some parts of the country the value of a brownfield development will provide a sufficient return to make such projects commercially viable. But in significant parts of England, Northern Ireland, Scotland and Wales this will not be the case and there must be considerable doubt as to how far a purely loan fund would help in such areas.

We propose, therefore, that brownfield funds should be available across the UK, offering a mix of loans

Maximizing house building means making best use of brownfield sites
Smart Growth UK

Land Reclamation

Case Study – York Central

The 72 hectare site between York's railway station and Water End is surrounded by railway lines and formerly accommodated railway-related industries. But much of the site fell out of use and other activities have been relocated, offering a massive opportunity for brownfield housing and employment uses close to the city centre and a major public transport interchange.

York City Council has developed a collaborative scheme with the National Railway Museum and the Homes and Communities Agency for the site. It was designated a Housing Zone in 2015, and an Enterprise Zone following a bid by the Council and York, North Yorkshire and East Riding LEP.

Current plans for the site envisage somewhere between 1,000 and 2,500 new homes on 35 hectares of the site and 120,000 square metres of office space. It is estimated this could create 7,000 jobs in the city and provide over £1.1 billion for the region's economy. The Museum will also receive investment.

Preparation of this huge brownfield site relies on a great deal of public funding, particularly in terms of infrastructure for access to the site which is presently poor. The Council in 2014 allocated £10 million of the Economic Infrastructure Fund to help start development, there was an allocation of £27 million for transport infrastructure in and around the site and Station Gateway from the West Yorkshire Plus Transport Fund and £1.65million for land remediation from Leeds City Region Local Growth Fund.

The Council earmarked £355,000 in December 2015 to progress the plans, the Government awarded £365,000 for the same purpose in January 2016 and the HCA has earmarked £9.4m of equity investment for the site once final partnership arrangements are sorted out.

Enterprise Zone status will help unlock up to £100 million in investment and will support the infrastructure on the site.

"This will enable us to attract high value jobs, deliver new and much needed sustainable homes and create world-class public spaces which will help define the future for our city," said Council leader Chris Steward. "We will also reduce the pressure to build on York's green belt."

York Central

https://www.york.gov.uk/downloads/download/1343/york_central



York City Council

and capital grants for brownfield work. The exact balance between loans and grants should be determined centrally according to the state of the local property market. In areas where the market is very healthy, only loans would be available and where it is very poor, only grants. Elsewhere there should be a mix of the two, the proportion varying (and changing over time) depending on the health of the local market.

We recommend establishment of brownfield funds in England, Northern Ireland, Wales and Scotland offering a mix of loans and capital grants for brownfield housing work.

Land contamination

Land contamination can threaten human health, the natural environment (including animals and crops), the water environment and buildings and their services. Developers perceive obstacles to redeveloping sites which are, or may be, contaminated, thanks to the time and cost involved in their investigation, risk assessment and, if need be, remediation.

Although these obstacles may not be as great as feared, left unaddressed, contaminants may continue to pollute ground and surface water and adjoining land, threaten the health of those who use the sites or live or work beside them and their dereliction may blight the local economy, environment and society. Work by Durham University in 2014⁴⁷ indicated that derelict land, of itself, can have a deleterious effect on local people's health. Where contamination is known or suspected, this effect is likely to be worse; work done jointly by Glasgow University and the British Geological Survey⁴⁸, published in 2013, showed a statistically significant association between soil metal content and respiratory illness which the authors describe as "interesting" given the contribution soil may make to airborne particulates, although the study did not actually measure airborne metals.

DEFRA says that though "it is inherently difficult to prove causality... there are good science-based reasons to be concerned that some sites

pose significant risks [i.e. to human health] from long-term exposures". Fortunately, in the last 20 years, the technologies and approaches to rectifying contaminated land have advanced very rapidly and there are few areas of land that cannot be successfully treated if funds and stakeholder consensus are available.

Smart Growth UK successfully urged the Environmental Audit Committee to recommend a programme of funding for central and local government to investigate, address and improve the condition of contaminated sites. The Committee accepted our suggestion and responded with a series of recommendations on land contamination¹⁹, including increased efforts to collect adequate data

and expressed concern about the decline of work under Part 2A of the Environmental Protection Act 1990 which regulates land contamination.

The Committee expressed particular concern about the decline in DEFRA's funding for Part 2A work in England – the £17.5m made available to local authorities in 2009-10 dropping to zero by 2017. The MPs recommended the funding should be restored and continue as an ongoing funding stream though DEFRA rejected the call²⁰. It said its research on health effects was inconclusive and that year-on-year funding had never been promised.

But even £17.5m was never sufficient to meet the scale of the need in England and there is plainly scope here for significant and highly beneficial public investment in the

investigation and remediation of land contamination. It should also be noted that the devolved administrations have never had the dedicated programmes of support for Part 2A work formerly applied in England (and Part 2A has yet to be applied in Northern Ireland). The case for public capital investment in Northern Ireland, Scotland and Wales for dealing with contaminated land is, therefore, at least as persuasive, if not more so, than in England.

We recommend adequately resourced national systems of capital funding for local authority contaminated land projects should be established in England, Northern Ireland, Wales and Scotland for sites where there is no immediate prospect of remediation through the planning system.

Case Study – Stanton Regeneration Site

The Stanton Ironworks site in Derbyshire had a 250-year industrial history which ended with the site's closure in 2007. Erewash Borough Council is, however, determined to make best use of the huge site and its 2014 core strategy foresaw comprehensive redevelopment for housing, employment, recreation, biodiversity and sustainable transport.

Last autumn the Council published a draft supplementary planning document setting out its masterplan for securing its core strategy objectives which foresee comprehensive remediation and redevelopment and construction of around 2,000 homes and a neighbourhood centre. There would also be a 10 hectare business park, another 10 hectares of general industry and additional employment land. The landscape character of the dale would be restored and several areas of open space created, including at least 20 hectares of the site for wild space and informal recreation and a wildlife corridor between the Nut Brook and Erewash valleys.

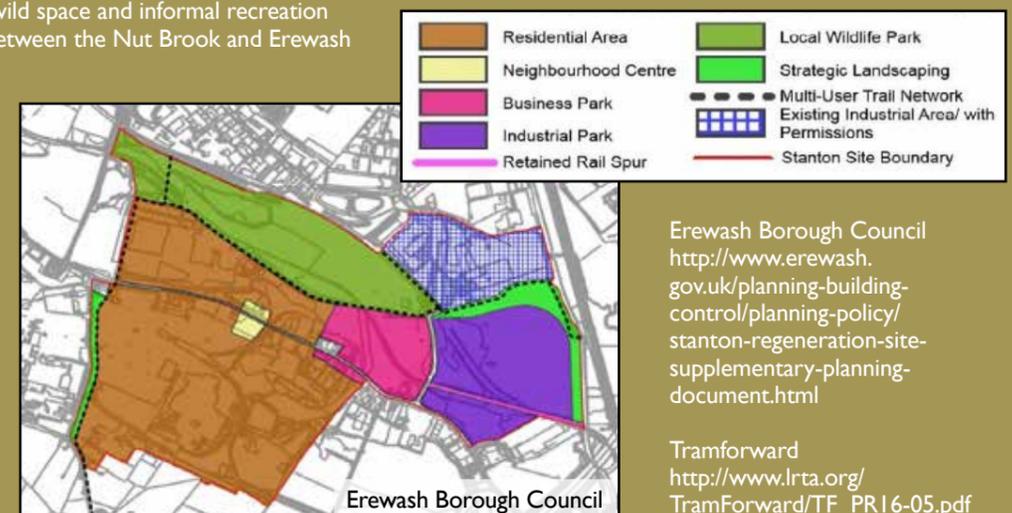
Sustainable transport also features in the plan.

The site's rail spur would be retained for future utilization, pedestrian and cycle routes created and public transport links improved. Tramforward, meanwhile, has suggested the possibility of connecting the site to both Nottingham and Derby by tram. The HS2 proposals include extension of

Nottingham's light rail system to Toton and Derby and ways of linking the site into this work have been proposed.

The site is, however, seriously contaminated, including groundwater which would need remediating given its potential to recontaminate remediated areas. The Council believes a way to overcome the viability issues would be to build a small element of the housing early on, releasing profit for remediating the less lucrative employment sites. "A small initial housing development would also derisk development of the wider site by establishing actual remediation costs and development end values," says the draft SPD.

Another way to derisk the development, of course, in line with the Smart Growth approach, would be the availability of public capital to support remediation through grants or loans, as appropriate.



Case Study – Ebbw Vale

The Ebbw Vale steelworks was once the largest in Europe but the 3km long site gradually shut down, with final closure taking place in 2002. The need to reclaim the site was recognised early on, with a garden festival held on part of the site in 1992, but it was the final closure which spurred action.

The 80 hectare site was bought by Blaenau Gwent Council in 2005 and reclamation got underway. Work involved substantial site clearance, extensive land remediation and re-engineering and stabilization of the site, prior to final landscaping. The site was completely bare of natural topsoil, so a strategy was evolved to use the available industrial spoils as the basis for forming soil with compost and sewage sludge.

Remediation was complex as the site was underlain by vulnerable aquifer systems and had seen multiple industrial uses. Extensive site investigation involving soil sampling, boreholes, gas monitoring and laboratory analysis led to



Blaenau Gwent Council

complex solutions.

The first phase of redevelopment involved 500 new homes, a school, office space and a hospital. Space was also created for a new railway station.

In 2007 a £350 million regeneration project was announced by the Council and the Welsh Government. The Works Ebbw Vale is intended to create a new place in which to live, learn and play, linked into the town's existing fabric.

Up to 300 more homes are planned for the site and work began with a showcase of four experimental low-energy houses, including the UK's first zero-carbon "Passivhaus".

Education is a key feature of The Works, with a new post-16 facility called The Learning Zone opening in 2012, under the governance of Coleg Gwent, the Ebbw Fawr Learning Community - Wales' first 3-16 maintained school – opened in 2013 and an integrated children's centre. The new Ebbw Vale Sports Centre also opened in 2013.

The Central Valley Wetland Park now provides a green spine through the site, a connecting corridor between the town and the education sites, while Gwent Wildlife Trust runs an Environmental Resource Centre. Ysbyty Aneurin Bevan opened in 2010, a new 114-bed hospital and mental health unit named after the founder of the NHS. There is to be a business park and some kind of new link connecting The Works to the town centre.

Public funding has come through a range of budgets including regeneration, education, health etc.. Given the project's ambitious scale there is still a way to go, but without public funding the site would mostly still be derelict.

TheWorks
<http://www.theworksebbwvale.co.uk/home.aspx>

Mineral Sites

Although planning consents for mines, quarries and opencast workings have included conditions requiring restoration for many years, the history of Britain's extractive industries stretches back hundreds of years before such things were imposed. And even when such conditions have been imposed other factors, including operator insolvency, can leave urgently needed restoration unfunded.

Leaving surface workings unrestored can, sometimes, be valuable from the point of view of protecting geological heritage or wildlife. But, in most cases, it leaves landscapes seriously damaged and the land useless for agriculture, development, recreation, open space or wildlife. The land may be contaminated and may have lost its topsoil or, indeed, soil of any kind. There can also be major land instability in the form of mineshafts, underground voids or potential for landslides or major flooding.

Considerable areas of such damaged land need reclamation. In Scotland,

for instance, the most recent statistics for vacant and derelict land²¹ show the addition of 2,217ha of surface coal mining land that became derelict in East Ayrshire and elsewhere in 2014, following the insolvency of two operators the previous year (see case study).

National programmes of mineral site restoration offer huge benefits:-

- restored landscapes;
- land for agriculture;
- land for development;
- land for recreation
- land for biodiversity;
- reduced soil sealing;
- improved flood control and drainage;
- public safety;
- improved local environments.

Currently mineral operators are supposed to secure restoration of the site by amassing funds from revenues generated during their operational period. But this strategy is undone by company insolvency and may, in any case, fall short of what is needed.

We propose that, instead of arranging their own capital funds for restoration, mineral operators pay into national funds in England, Northern Ireland, Scotland and Wales which would then be responsible for funding restoration of their sites. The fund would also be available to restore historic or "orphan" sites and would, therefore, require an injection of public capital. But the benefits to local environments and economies, and on a wider scale, would be huge.

We recommend national capital funds should be established in England, Northern Ireland, Scotland and Wales for the restoration of current and historic mineral sites.

Case Study – Chatterley Whitfield Colliery

Chatterley Whitfield Colliery near Biddulph in Staffordshire was once the largest mine in the North Staffordshire coalfield, but it closed in 1976. The mine's spoil heap was subsequently reduced in height on safety grounds. The site reopened as a mining museum in 1979 and attracted up to 70,000 visitors annually. Underground tours were offered until the cessation of pumping at neighbouring pits led to the workings becoming flooded.

The museum closed in 1993 but the site was scheduled by English Heritage as an ancient monument that year, bringing it to national prominence and leading to the Chatterley Whitfield Partnership being set up to drive regeneration. It was included in the National Coalfields Programme in 2002. Agreement was reached between English Partnerships (later the Homes and Communities Agency) and Stoke-on-Trent City Council for a 60 hectare land remediation and flood alleviation scheme which was completed in 2010. Much of the site was restored as a country park which opened to the public that year.

The Grade II listed former colliery office has been opened by the Council as an enterprise centre. It accommodates a 100-seat conference room, a meeting room and 1,971m² of SME office workspace.

The site is acknowledged as the most comprehensive range of surviving structures and buildings of any deep mine in England and the Friends of Chatterley Whitfield continues to arrange open days and is campaigning to preserve the site's heritage.



Friends of Chatterley Whitfield

But the site's 34 buildings, all listed, are in a dangerous condition, some contain asbestos and there is a 64 metre chimney. Many are small and few would easily lend themselves to alternative uses. Housing development on an adjoining 8 hectare site is deterred by the thought of children coming to harm while trespassing on the site. The site is contributing to the area's open space needs and could possibly become a major visitor attraction again. It is also both contributing to, and hindering, the local economy, when it should be making a major contribution. But, in an economically challenged area, progress could only be achieved by public investment.

Stoke-on-Trent City Council
<http://www.stoke.gov.uk/ccm/content/business/general/business-centres/chatterley-whitfield-enterprise-centre.en>

Friends of Chatterley Whitfield
<http://chatterleywhitfieldfriends.org.uk/>

Case Study – Scottish Opencast Sites

In 2013, two major Scottish opencast coal operators became insolvent, creating a financial crisis for the local authorities in whose areas their sites were located.

Planning consents for the sites required their operators to make financial provision for their restoration once operations ended, but the liquidation of their operators left councils facing bills of tens of millions of pounds for which they had no budget. East Ayrshire, the worst hit, had no less than 22 opencast sites needing restoration and the Council estimated the likely cost to be £161 million, for which restoration bonds for only £28.6 million existed. South Lanarkshire and Dumfries & Galloway estimated shortfalls of £34 million and £15 million.

A report to the Scottish Government concluded the original plans for the sites had been unduly optimistic and possibly unworkable, monitoring was ineffective, the values of bonds supposed to fund restoration was based on information supplied by operators themselves and these values were not reviewed routinely.

The Scottish Government set up an Opencast Coal Taskforce and a Coal Restoration Working Group, some of the sites were taken over by another operator and the Scottish Mines Restoration Trust is reviewing each site to gain a clearer understanding of restoration needs. More recent estimates of

unfunded restoration are a little lower than originally feared, but the experience has prompted wider fears of restoration funding shortfalls. The Welsh Government, for instance, has now received a best practice guide on restoration liability assessments for surface coal mines from the Coal Authority, following concerns about restoration liability assessments. "It is intended to help mitigate the financial problems caused by the failure to restore opencast sites in Wales," said minister for natural resources Carl Sargeant.

But, in the absence of central funds, insolvencies can undermine any restoration provisions, leaving sites derelict and dragging down local economies. And for long-closed historic sites there never has been any funding anyway.

Scottish Government
<http://www.gov.scot/Topics/Built-Environment/planning/Policy/Subject-Policies/natural-resilient-place/Extraction-Resources/Opencast-Coal-TaskForce/CoalRestorationWVG>

Welsh Government
<http://gov.wales/topics/planning/policy/guidanceandleaflets/best-practice-guide-on-restoration-liability-assessments-for-surface-coal-mines/?lang=en>



We've started tackling carbon from buildings, but transport emissions just go on rising
Smart Growth UK

Sustainable transport

A key challenge facing the United Kingdom is to reduce its greenhouse gas emissions very substantially. Some sectors, like electricity production or building technology, are making efforts to do this (with varying degrees of success). One sector, however, stands out where total UK emissions are rising and, on current form, are likely to continue to do so.

That sector is, of course, transport. The Department for Transport's Single Departmental Programme commits it to ensuring transport plays its part in delivering climate change obligations. The Committee on Climate Change calculated a cost-effective pathway to the 2050 target would involve reducing transport emissions by 81MtCO₂ by 2025 – a 31% reduction on 2014 emissions²². The then Department for Energy and Climate Change, however, projected a 47% shortfall in this target²³.

The House of Commons Environmental Audit Committee recently noted²⁴: "Transport is now the largest emitting sector; emissions have increased for the past two years running. We recommend the Department set out in the Government's forthcoming carbon reduction plan how it intends to deal with this shortfall in decarbonisation."

While some policies are in place to tackle this shortfall, there are nevertheless substantial obstacles to its elimination:-

- No national programme to ensure all major conurbations have networks of rail-based public transport;
- Major highway construction programmes
- Planned airport expansion.

Public capital investment is set to pay for trunk road construction schemes worth £15.2bn in England between 2015 and 2020 alone (plus £1.1bn for local routes and £220m to "reduce congestion" from the NPIF)²⁵. There are also plans to spend £9bn on road construction in Scotland and £1.6bn²⁶ in Wales. Further airport expansion is also under discussion and, while

primarily privately funded, is likely to incur substantial public spending and increased greenhouse gas emissions. A significant proportion of local transport spending is likely to be used on increased road capacity.

Supporters of highway construction often claim it will ease congestion, though any relief is likely to be very short-term thanks to the suppressed demand released by the additional capacity. As long ago as 1994, the Government's own Standing Advisory Committee on Trunk Road Assessment concluded that, for average road improvements for which traffic growth due to all other factors is forecast correctly, there will be an additional (i.e. induced) 10% increase in base traffic in the short-term and 20% in the longer term²⁷.

Transport improvements are vital to improving our economic performance, but transport policy must also play its part in reducing the nation's greenhouse gas emissions; it will undermine efforts in other areas if we fail to rise to this challenge.

Our first priority for reducing carbon emissions from transport should be to fix our cities. 20th century policies saw most conurbations abandoning rail-based public transport. Most UK cities and some large towns had electric tramways in 1918; all except one were closed by 1962. Extensive closures of heavy rail passenger services took place throughout the 20th century, including those best known following the Beeching Report in the 1960s. Today these closures are remembered as predominantly rural, but they also left many cities with little in the way of rail passenger services apart from long-distance connections; indeed, some large towns were left completely devoid of rail passenger services.

We will therefore need substantial public investment in rail-based passenger transport in cities. There will also be a need for significant investment in facilities for pedestrians, cyclists and buses and these can be met by increases in local transport funding. But the big initial cost of urban light and heavy rail and metro needs single central funds in England, Northern Ireland, Scotland and Wales.

Rural areas are also often devoid of rail passenger facilities and a separate fund is needed to address this. Public capital support would also benefit the provision of new trains to tackle overcrowding which is the curse of some existing services. There also needs to be a big increase in central funding for rail and water freight facilities.

Recent rail investment has concentrated on high-speed, inter-urban rail and major projects in London, but there are bigger, faster gains to be made looking at smaller-scale projects outside the capital. Local investment can play a disproportionate role in helping the economy; chancellor Philip Hammond was asked²⁸ by the Lords Economic Affairs Committee whether smaller, quicker projects could benefit any stimulus quicker than, say, HS2.

"I think there is a role for big strategic projects, but they are unlikely ever to be able to contribute to fiscal stimulus because of the timelines involved," responded the chancellor. "I am also a great believer in what I will call for shorthand purposes the Eddington principle: that often it is modest, rapidly deliverable investments that can have the most immediate impact, particularly on the road network but also, in some places, on the rail network."

We would urge any such approach also take account of the environmental and social value things like local rail or road safety projects can generate and accept the fact that schemes to increase highway capacity are likely to have bigger negative effects than positive. Mr Hammond told the peers the Northern Powerhouse project seeks to harvest the benefits of agglomeration – to create a single labour market, a single goods market and single economic geography for the four major northern cities concerned. "Economic theory tells us that we should expect to see a transformation in the productivity performance of that agglomerated economy".

We wholeheartedly agree such agglomeration via rail investment can have substantial economic benefits but would urge that this not be confined simply to linking major cities. Smaller

Case Study—Light Rail for Leeds

Leeds once had one of the best tramway systems in Britain, but it closed along with the rest of them and the city now has the gloomy distinction of being the largest in Europe with no light rail or metro system.

It's not for want of trying. A modern Supertram system had left the drawing board and was just starting construction in 2005 when Whitehall axed the funding.

Leeds City Council then proposed a trolleybus scheme to replace it but that too failed following a lengthy public inquiry.

Now there is strong pressure to revive light rail for the city and ministers have confirmed the £173 million allocated to the trolleybus scheme can be used for alternative ways of tackling Leeds' transport issues.

The All Party Parliamentary Light Rail Group has backed a plan for a tram-train link which would start by converting the Leeds-Harrogate-York line. There would also be a branch running on the streets from Kirkstall Viaduct to City Square and thence to Leeds Bradford International Airport.

Later phases could see services going Pontefract, Castleford, Wakefield, Shipley and Bradford.

An inquiry is now underway into the scrapping of the Supertram and the trolleybuses.

"Leeds has been greatly let down twice now and it must not happen again," says APPLRG chair Greg Mulholland. "What we also need alongside this inquiry is the right plan for a mass transit scheme for Leeds, so the £173 million can now be spent properly and Leeds can get the first-class, modern, light-rail system it deserves.

All Party Parliamentary Light Rail Group
<http://www.applrguk.co.uk>

cities and towns can also benefit from better links and larger conurbations can reap huge economic rewards from high-quality, rail-based, public transit networks.

Urban Rail

We need not only to drive less, but to reduce the need to drive. The Smart Growth approach promotes the concentration of development into existing urban areas rather than spreading it all over our precious countryside as we're doing at the moment. We need to avoid wasting precious building land too by avoiding the very low development densities which make residential areas car-dependent and we can do this without town cramming. Smart Growth emphasises building on suitable brownfield sites with good access to public transport, shopping, education and employment facilities without the need to drive.

Around the world hundreds of cities are investing in their rail-based public transport systems, the best way to move large numbers of people around cities in the most energy efficient way. Steel wheels running on steel rails use far less energy than pneumatic tyres and trains and trams can carry hundreds of people whereas cars can carry just a few. Trams can provide the ambience and ride-comfort of a train in places where trains cannot go, coupled with the frequent stops and accessibility of buses.

There is too increasing public and political concern about urban air quality. Air pollution – much of it from road transport – is causing tens of thousands of premature UK deaths annually. Diesel vehicles are the largest source of such pollution, with up to 95% of them currently breaking air pollution limits.

Here again a shift from diesel powered, pneumatic-tyred vehicles to electrically driven rail-based vehicles would bring dividends. Exhaust fumes are not the only source of harmful particulates from diesel vehicles; a paper from Norway²⁹ gave figures for the breakdown of pneumatic tyres in contact with road surfaces, brake wear and fine grinding of larger particles

torn loose from road surfaces which could also be a significant source of harmful particulates. The paper estimated that buses and taxis alone in urban Oslo in 2006 caused aggregate emissions of PM2.5s and PM10s of 332.5 tonnes from their exhausts, 125.3 tonnes from asphalt wear, 81.2 tonnes from tyre wear, 55 tonnes from brake wear and 46.8 tonnes from ground road surfaces.

The need for an urgent response to climate change demands we invest heavily in public transport. Some of this must go into much-needed improvements to our traditional suburban railways where substantial investment is needed to improve their ability to move high volumes in and out of our cities. Buses too must receive their share of funding; they will continue to meet much of our energy-efficient public transport need, especially if fitted with hybrid engine technology, but in larger towns and cities where a rail-based alternative is possible, we should be pursuing it. Most of the rest of the world already is, as are a handful of UK conurbations.

But the mid-20th century left Britain virtually bereft of the intermediate and

light rail systems which other countries often retained and modernized. A handful of major UK cities have followed suit over the past 25 years and a small number like Tyne & Wear and Greater Manchester now have significant networks. Others like Sheffield, Nottingham, Edinburgh, the West Midlands and Croydon are reaping the benefits of light rail routes and most would like to expand. Other cities would like to join them, but a brief flowering of new schemes in recent years has slowed.

The UK has more than 20 conurbations with populations in excess of 250,000 which could easily support a comprehensive light rail system. Many of them, however, have no such system and active schemes to rectify this, though very welcome, are few in number. Yet today there are technologies offering a wide range of rail-based solutions from ultra-light-rail all the way to heavy rail and the divisions between light-rail, metro and heavy rail are now overcome by technologies like tram-train. The technology is being developed to meet every situation and we need to use it to meet cities' modern transport needs

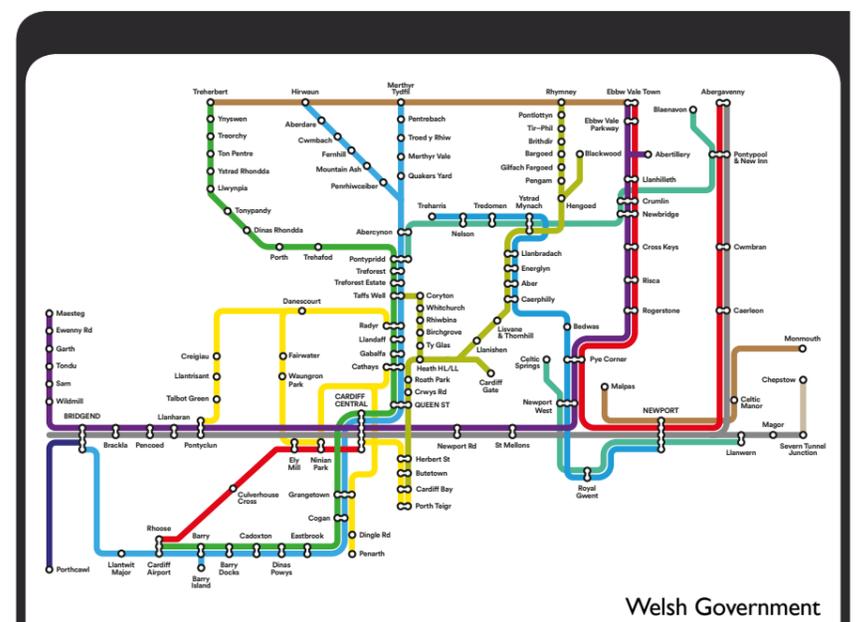
and reduce greenhouse gas emissions and air pollution.

The National Productivity Investment Fund announced in the 2016 Autumn Statement includes £3.02 billion for transport by 2021 as one of its four elements, intended to "tackle congestion on the roads and ensure the UK's transport networks are fit for the future". We support both these aims but fear that plans to invest a substantial element of this in road construction will actually increase congestion, thanks to well-established traffic generation mechanisms and will have the knock-on effect of increasing greenhouse gas emissions.

The NPIF specifies a number of road and rail improvements it believes should receive investment over the next five years. It would provide an additional £1.1 billion for roads and local transport and £390 million would be invested on ultra-low emission vehicles, renewable fuels, and connected and autonomous vehicles. To maximize the benefits of this investment for both the economy and the environment, we recommend that a substantial element of the roads spending be made available for urban rail transport schemes including light-rail, tram-train and metro. We also recommend the element for electric vehicles should also be made available for spending on research and development on urban rail-based electric vehicles. The £20 million earmarked in the NPIF for aviation and heavy goods vehicle fuels is unlikely to produce any significant reduction in greenhouse gas emissions while R&D in light-rail and metro vehicles will offer very significant returns.

We recommend national capital funds should be established in England, Northern Ireland, Scotland and Wales specifically for light rail, metro and similar transport schemes designed to ensure all 250,000+ conurbations have a network of rail-based public transport by 2040.

We recommend the National Productivity Investment Fund invest in urban rail capacity and research and development for urban rail-based electric vehicles.



Case Study – Cardiff Metro

The Cardiff Metro is a long-term vision for sustainable transport in the Cardiff Capital Region that will see substantial investment in heavy rail, light-rail and buses.

The region has a population over one-and-a-half million but its GVA per capita is presently around 80% of the UK average. Growth is strongest in Cardiff but inward commuting is relatively low, around 80,000 a day, and improvement of rail services offers the prospect of more, higher value jobs in Cardiff and across the region.

The vision for the Metro includes a blend of heavy and light rail and improved bus services as appropriate. In the second phase, between now and 2023, faster and more reliable services will be introduced on railway lines in the Valleys and the wider south Wales network, stations would be opened and light rail possibly introduced.

Beyond 2023, there would be more rail extensions and bus improvements. But the Welsh Government says that, if Phase 2 includes some form of light-rail, then a range of rail-based extensions would be easier to accommodate and could form the basis of incremental expansion.

It is proposed to transfer powers from the DfT to the Welsh Government to facilitate the project and a City Deal bid could broaden the scope of the scheme. And the planning opportunities like increasing development densities around stations and place-making to ensure their integration are not being ignored.

"The Metro is far more than just a transport project," said Wales' first minister Carwyn Jones. "It will be a catalyst for transforming the economic and social prospects of south-east Wales and the country as a whole."

Cardiff Metro
<http://gov.wales/topics/transport/public/metro/?lang=en>

Rural and Inter-Urban Rail

Our Victorian ancestors bequeathed Great Britain a rail passenger network of almost 20,000 miles, with about a further 900 miles in Northern Ireland. But closures during the 20th century left Britain with less than 9,000 miles of passenger railway and Northern Ireland with less than 200.

Despite the closures, demand for rail passenger services has been growing strongly since the 1980s and recent decades have seen a number of railways and stations reopen to passengers. Some have involved reinstatement of a passenger service on a line which had continued to carry freight and more recently a number of completely demolished lines have reopened, most notably perhaps the 57km Borders Railway from Edinburgh to Tweedbank, opened by the Queen in September 2015 and whose patronage has exceeded expectations. Around a million passengers have been carried in its first year.

While some of the lines closed in the 20th century may have come to serve little purpose, many should never have closed. The cuts of the 1960s were particularly ill-thought through, leaving major towns like Mansfield, Tavistock, Newcastle-under-Lyme, Gosport, Washington, Bathgate, Hawick, Ebbw Vale, Aberdare, Omagh and Newtownabbey bereft of a rail connection. Some of these have since had services restored, others have not. Today there are many calls to reopen lines, but appetite amongst policy makers to do so is patchy at best and, in some cases, governments which support reopenings are also still in favour of major road construction.

Another legacy of closures is long sections of passenger railway without intermediate stations. Many were closed to concentrate on a system that offered rapid travel between major urban centres whilst bypassing other communities en route. The Great Western main lines currently

undergoing electrification are a case in point: Wiltshire is a very large county crossed by several major rail routes, yet there are just 14 stations within the county. Major investment is being made to speed travellers through the county between London and Bristol while significant urban centres, whose populations have expanded considerably since the wholesale closure of local stations in the 1960s, can only watch as high speed services pass by their towns. This forces would-be rail travellers to drive miles to the nearest rail station – the temptation is then to complete the journey by car and abandon rail altogether.

Research has revealed the strong case for reopening railways. In 2009, the Association of Train Operating Companies identified⁵⁰ 14 cases of settlements of more than 15,000 population where a positive case for reopening existed and six more where a case might be made. It also looked at reopening of stations on existing lines and missing links. In 2012, the Campaign for Better Transport report Reopening Railways⁵¹ pointed out demand for rail passenger services is now at its highest level since before World War II and continuing to grow. It noted that reopenings have usually achieved higher patronage than forecast and it recommended action in four areas:-

- a Community Connections Fund to support rail reopenings;
- support for private-sector led reopenings;
- reopenings support unit in the rail industry, led by Network Rail;
- safeguarding of alignments.

The CBT report examined the barriers to reopenings and noted that the funding framework is unclear and that most such initiatives have come from local authorities. The situation since 2012 is complicated by local enterprise partnerships, city deals and combined authorities. All these, however, offer potential for reopening initiatives, but only if they have

Case Study – Traws Link Cymru

Traws Link Cymru is a grassroots organisation set up in 2013 which seeks to reinstate west Wales' rail links. Its initial focus was the 90km line between Aberystwyth and Carmarthen which lost its passenger service in 1965 and its goods service in 1973. It was subsequently demolished.

The campaign was set up and persuaded the Welsh Government to commission a scoping study. This found more than 97% of the original route remains undeveloped and the core formation, including its major civil engineering features, remains intact. The study suggested a cost of £505-750m, a considerable sum, but which compares favourably with road links like the three mile Port Talbot Harbour Way at £107m or more than £1bn for the M4 in Gwent.

The Welsh Government has now allocated funding for a full feasibility study for the Aberystwyth-Carmarthen line and will refer the case for reinstating it to the National Infrastructure Commission for Wales.

TLC says the link would provide a fast passenger service linking mid-Wales with the south-west and south-east, providing opportunities for business to develop in the region and take advantage of longer-distance connections. It would improve local mobility, boost tourism and provide better access to university campuses at Aberystwyth, Lampeter and Carmarthen. There is also freight potential.

The campaign has also extended its focus to include reopening of the Porthmadog-Caernarfon-Bangor link which closed in 1964.

Traws Link Cymru
<http://trawslinkcymru.org.uk/>

Case Study - The Levenmouth Rail Campaign

The five-mile railway from Leven on the Fife coast to the mainline at Thornton Junction lost its passenger service in 1969, although coal trains continued to use the line until 2001.

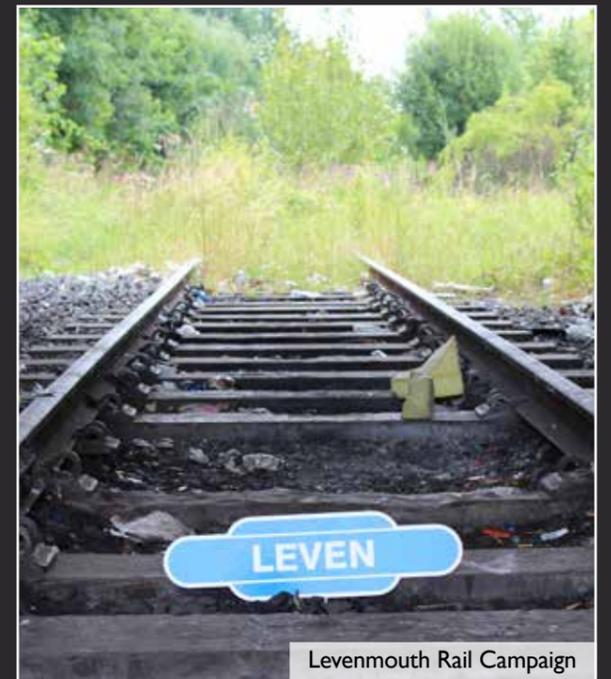
Since then the rails have disappeared amongst the weeds but there is intense local pressure to reopen it. The Levenmouth Rail Campaign points out that, as the line is still basically intact, the cost of reinstatement would be relatively low.

Levenmouth (population 37,600) is now the largest urban area in Scotland not directly served by rail. The line would serve a population of around 50,000 in an area where deprivation levels are high and whose current public transport services are poor.

There is freight potential too – a Diageo factory, Methil Docks and Energy Park etc..

“Many other smaller communities in Scotland which have a much weaker case have already organised - it's time Levenmouth stopped being less than the sum of its individual parts,” says the Campaign. “Let's get busy to get this line reconnected.”

Levenmouth Rail Campaign
<http://www.lmrc-action.org.uk/Index.asp?MainID=17632>



Levenmouth Rail Campaign

access to the significant capital funds required. This can only be guaranteed by central government.

In 2014, CBT proposed a list of its 12 top proposed rail reopenings in England, a mixture of urban and rural:-

- Ashington-Blyth-Newcastle (this was recently proposed as part of the expansion of rail services put forward by the North East Combined Authority);
- Portishead-Bristol (included in the Bristol Metro proposals);
- Stourbridge-Walsall-Litchfield;
- Leamside Line (this was recently proposed as part of the expansion of rail services put forward by the North East Combined Authority);
- Lewes-Uckfield;
- Skipton-Colne;

- Leicester-Burton-on-Trent;

- Fleetwood-Preston;

- Wisbech-March;

- Totton-Hythe;

- Oxford-Cambridge (now partially reopened);

- Bere Alston-Tavistock-Okehampton (plans are being advanced to reopen Bere Alston to Tavistock).

But the potential goes far beyond this. Members of the Campaign have also proposed a list of lines and stations with reopening potential. The Campaign has encouraged the Government to instigate further rounds of its New Stations Fund and to extend it to reopening of railway lines.

North of the border, Transform Scotland's main priority is the re-establishment of a direct link from

Edinburgh to Perth, the former mainline railway between Scotland's capital with the Highlands. It has supported the reopening of the five-mile line between Leven and Thornton, and has also proposed extending the Borders Railway to Hawick (and later Carlisle) and reopening the Buchan Line northwards from Aberdeen towards Peterhead.

In Wales the Cardiff Metro proposals include reinstatement of passenger services on several heavy rail routes. Traws Link Cymru has an active campaign to reopen the railway from Carmarthen to Aberystwyth and to reopen the branch from Bangor to Caernarfon and thence to Afon Wen near Porthmadog.

We recommend ongoing national programmes should be set up to reopen inter-urban and rural rail services.

Case Study – Bath’s Public Realm and Movement Strategy

The historic city of Bath’s public realm faced big challenges as it responded to growth in the 21st century. Bath & North East Somerset Council realised the need to attract higher value employers and jobs and to create a visitor economy where people stayed longer and appreciated it more. It decided a high-quality, contemporary public realm must feature in its strategy.

At the same time it was realised this must reflect the city’s historic character and make movement on foot, by bike or by public transport easier. In 2010 it adopted Creating the Canvas for Public Life in Bath – A Public Realm Strategy for Bath City Centre which put forward an incremental scheme to transform its streets and improve public life.

The keys were seen as rebalancing movement with priority for pedestrians, cyclists and public transport, a refashioned public realm with high-quality materials and street furniture in a lattice of streets, new information systems and public art and activities.

Since the strategy was approved, several major improvements have been implemented. The High Street and Northumberland Place were made more pedestrian friendly, new paving was provided, together with new street furniture, and signage and cycle parking improved. Stall Street and the Lower Borough Walls area had vehicle traffic cut sharply and new paving and street furniture installed. A cyclist and pedestrian improvement scheme, funded by the Department for Transport’s Cycle City Ambition Scheme, improved the point where seven routes meet west of the main thoroughfare. This allowed improved cycle and pedestrian movement by use of shared space.

“As in the 18th century, the 21st century plan for Bath’s streetscape ultimately seeks to deliver one of the most beautiful, cohesive and successful urban realms in the world,” says the Council.



Bath City Council

Bath Public Realm and Movement Strategy
<http://www.bathnes.gov.uk/services/planning-and-building-control/major-projects/public-realm-and-movement/public-realm-movement>

Local Transport

Across the Atlantic, Smart Growth campaigners from Transportation for America are urging the federal government to increase its transport investment while rethinking its priorities. It points out the national economy depends on local economies and recommends competitive grants to local communities that come up with smart solutions⁵². It also noted that, although the emphasis in the nation’s highway budget has shifted from new build to maintenance, many of America’s transport assets are still in real need of repair. Research in 2015 suggested the US still had a \$392bn backlog of improvements to roads and bridges⁵⁵.

In England and Wales, the Campaign for Better Transport’s recent Fix It First briefing⁵⁴ noted that nine major transport schemes worth £75bn had been identified in the 2011 National Infrastructure Plan. Huge sums of money had been spent on their planning (which in some cases stretched back to 2002) but, five years on, none had been completed and several were still to begin construction. Their desirability varied, but CBT pointed out that an approach based on a small number of major schemes is expensive and time-consuming. It’s not only the environment that is damaged by over-concentration on mega-schemes, it’s the economy too.

The Campaign recommended five

areas where smaller investment could produce quicker and more effective economic returns:-

- local road maintenance;
- local transport measures to support local economies;
- cycling, pedestrian and public realm schemes;
- small-scale rail investment;
- green and community buses.

To tackle a £12bn backlog of road repairs, CBT suggested a new Road Repair and Renewals Fund which

has also been called for by highway, business and environmental organisations.

The Campaign also pointed to the economic and health benefits of encouraging walking and cycling and getting people out of cars for short trips.

“Cycling UK reports that the average economic benefit-cost ratio of investing in cycling and walking schemes is 13 to 1,” says CBT. “Increasing cycling from 2% of journeys to 10% by 2025 and 25% by 2050 would yield cumulative benefits of £248bn - the majority of them through a physically fitter population.⁵⁵”

There is also an urgent need to restore the vitality of our town and city centres which have been so damaged by out-of-town and internet shopping. They are the true hearts of our communities and we need to do whatever is necessary to ensure their health, including investment in their public realm where necessary.

Giving evidence to the Commons Transport Committee recently, transport secretary Chris Grayling said⁵⁶ the Government needs to focus more on smaller projects. “While I am transport secretary, you should expect us to do more things that you never see or hear,” he said. “They will be things that never make it to the papers because they are smaller schemes that have a local impact. We can gain more bang for the buck by, for example, junction improvements – whether on road or rail – simple road schemes and simple rail schemes that ease congestion points. We need to spend at least as much on those as we do on major projects.”

We agree and would urge that those responsible for such schemes should have access to the resources needed to implement them and the freedom to do so.

We support the call for the establishment of road repair and renewals funds, dedicated funding to support cycling and walking investment strategies at national, regional and local levels and public realm investment funds to support regeneration in town and city centres.

Rail and Water Freight

At first sight, freight transport is not a Smart Growth issue. But conveyance of goods by road has a big impact on both the environment and amenity in towns and is a major source of urban sprawl.

As mentioned above, transport currently accounts for around a quarter of UK domestic greenhouse gas emissions. HGVs are responsible for 17% of total UK transport emissions, whereas rail passenger and freight operations only account for about 2%. Each tonne of freight transferred to rail reduces carbon emissions by 76% compared to road, while each freight train removes 43-76 HGVs from the roads⁵⁷.

Heavy goods vehicles in towns are a major environmental, social and health hazard. As long ago as 1983, a public inquiry into heavy lorries in London⁵⁸ concluded that lorries are a major source of “excessive noise and vibration, the emission of smoke and fumes, the occurrence of physical damage to roads, sub-structures and buildings, congestion of traffic, visual intrusion and intimidation, traffic accidents and the general apprehension of danger to life and limb and the separation of communities”. A third of a century later, lorries have become heavier and more numerous and little has been done to curb the problems they cause in towns.

Currently, heavy lorries are causing 55% of cycling fatalities in London and are six times more likely to be involved in fatal accidents than other vehicles. And despite the clear need for a major shift in freight transport to more sustainable modes if transport greenhouse gas emissions are to be reduced, the Department for Transport is currently running a 10-year trial of 17.6m and 18.55m long lorries (compared to the current 16.5m maximum). In 2015, speed limits for heavy lorries were also increased despite clear evidence existing limits are widely ignored.

Road freight is also a major cause of urban sprawl and soil sealing as operators struggle to open distribution depots on greenfield sites near motorway interchanges.

While heavy goods vehicles will always be needed for some traffics,

there are major flows which could and should be transferred to rail, coastal shipping or inland waterways. But structural changes in the rail freight market, including a decline in some bulk commodities such as coal, internet shopping and next-day delivery, are reducing the potential to move freight to rail or other sustainable modes. A study commissioned by the DfT from Arup⁵⁹ concluded there is potential for new rail freight markets in construction materials and deep sea containers.

The Arup study, however, suggested other freight markets are static or have low or limited growth (automotive and Channel Tunnel). We believe this is overly pessimistic and, given robust transport policy in the round, there is potential for growth in many other markets. This will not happen, however, so long as freight distributors are allowed easy operation and expansion of distribution depots near motorway and major trunk road interchanges.

This is a planning challenge, however, and this document is about public capital investment. The Department for Transport currently has two funds to support rail and water freight revenues:-

- the Mode Shift Revenue Support Scheme which assists companies with operating costs associated with running rail and inland waterway freight transport instead of road (where rail/ inland waterways are more expensive than road).
- the Waterborne Freight Grant Scheme which assists companies with the operating costs, for up to three years, associated with running coastal and short sea shipping freight transport instead of road (where short sea/ coastal shipping is more expensive than road).

On the capital side there is the ring-fenced Strategic Freight Network Fund. In the current 2015-19 period the DfT expects to invest around £235m on improvements including enhancement of the single-track branch line from the Port of Felixstowe to Ipswich, improvements of the rail network connections to the Port of

Case Study – Northern Freight and Logistics

Transport for the North is urging increased capacity for freight to, from and within the north of England on railways and waterways. Its Northern Freight and Logistics report suggests ways in which investment would allow the freight and logistics sector to make a potential £35 billion contribution to the Northern Powerhouse area by 2060, as well as contributing to the environment by moving freight to rail.

It recommends:-

- developing strategically located multi-modal distribution parks;
- delivering growth for northern ports by improving connectivity to and from them and by enabling shipping lines to offer more cost-effective services;
- fast-tracking changes through decision making;
- addressing skills and training gaps;
- addressing pinch-points.

The report foresees infrastructure delivered by the public sector, accompanied by commitment and investment from the private sector. It says its objective of transforming the economy of the Northern Powerhouse would be delivered through a co-ordinated package of public sector measures

that build on the freight and logistics sector's strengths while delivering an environment that enables the private sector to deliver its own investment.

Although the report also recommends improvements to road freight, it warns that the rail network lacks capacity to accommodate freight growth and additional capacity is needed both north-south and east-west. It recommends a step-change in trans-Pennine capacity, increased network capacity on main lines to the south, additional pathways to southern ports and pan-network capacity improvements.

It recommends too some diversion of short-sea and deep-sea freight to northern ports to reduce user costs and says enhanced connectivity to them and to multi-modal distribution parks is needed. It also proposes upgrading the Aire & Calder to a Class II waterway as far as Leeds to a new quay at Stourton.

TfN is now working on a strategic transport plan which will identify short and medium-long term investments.

<http://www.transportforthenorth.com/pdfs/TfN-Freight-and-Logistics-Report.pdf>

Liverpool, further works to enable freight train lengthening on the routes out of Southampton and enhanced gauge clearance of the Severn Tunnel. The Hendy Review of Network Rail's maintenance and renewal programmes⁴⁰ in 2015 noted the average benefit to cost ratio of projects under this budget has been "very high" – between 4 and 5.

The Scottish Government's 2015 consultation on a rail freight strategy⁴¹ noted many of the same challenges and opportunities, though it identified potential for growth in other traffics, including forestry, food and drink and low-bulk goods. It noted the current Scottish Strategic Rail Freight Fund which has made capital investment of over £44m in 23 facilities. The Scottish Government said it would consider a wider range of rail facilities which could become eligible for such support, pilot funding and innovation fund.

In response, Transform Scotland⁴² noted the continuing investment in road capacity which undermines rail freight, such as the dualling of the A9 and A96 roads which is costing £6 billion while rail routes to Inverness and Aberdeen are still limited by

single-track sections. The new Borders Railway was solely designed for passenger traffic, and includes some single-track over-bridges despite the road over-bridges having been built with large excess capacity. It called for the Scottish Government to take a leading role in encouraging rail freight by defining and providing appropriate infrastructure.

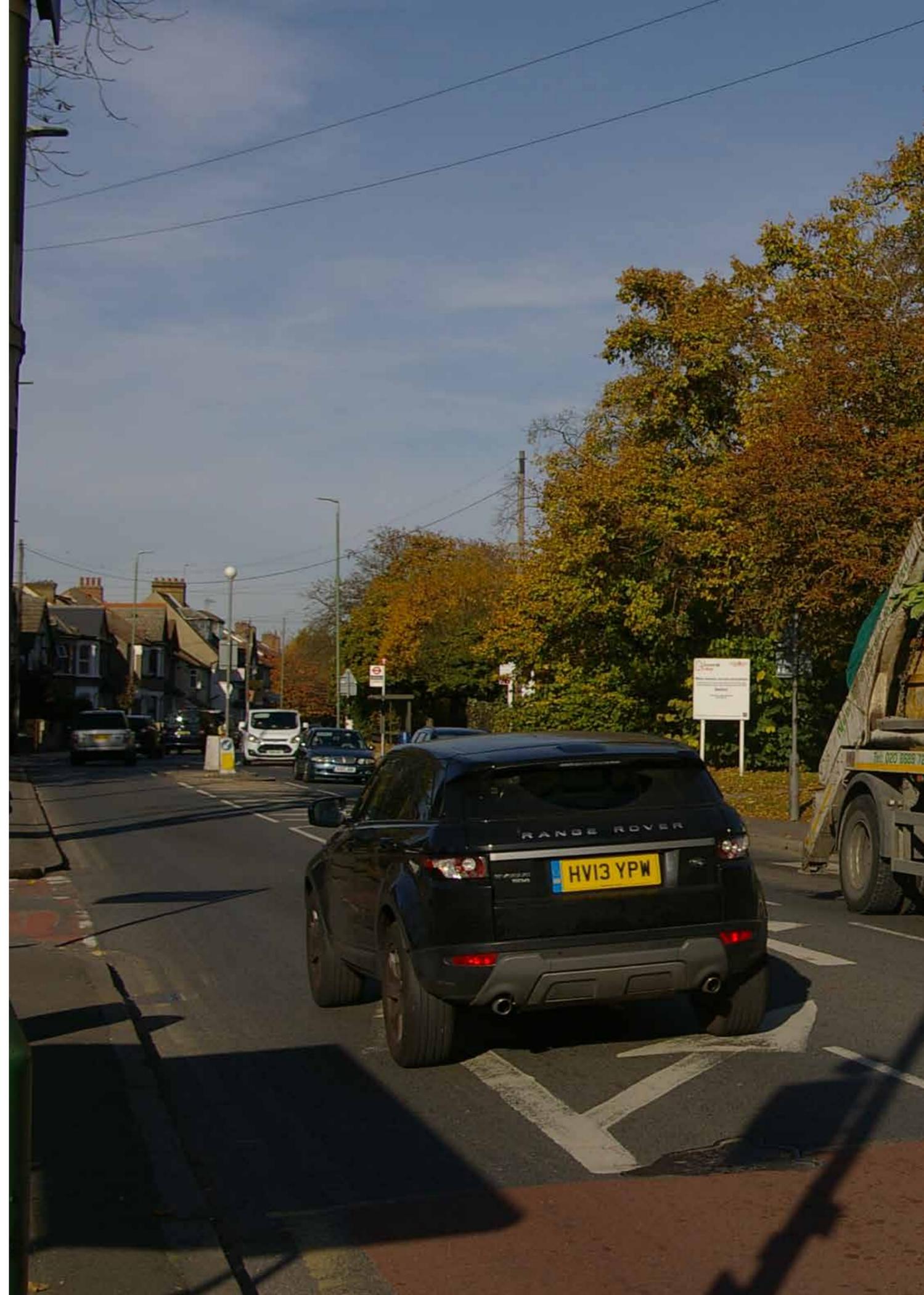
The DfT Rail Freight Strategy says it plans to work closely with Network Rail and the industry on understanding priorities and improving third-party confidence. "We have noted the commendation in the Hendy Review of the high value for money achieved by the Strategic Freight Network Fund," says the Strategy. We hope it does more than note it, because this makes plain there would be many other investments in rail and water freight capacity which could also secure high benefit to cost ratios and hence a much higher inter-modal shift which could secure benefits in urban environments and limiting, and even reversing, distribution centre sprawl.

In June 2016, the Freight on Rail group set out Government support it believes necessary for rail freight to

thrive and secure new markets⁴⁵. It recommended 10 areas where action is needed. On the capital investment side, these included ensuring capital investment is sustained during the current (CP5) control period (2015-19) as there is already suppressed demand in the system, to the ports of Felixstowe and Southampton, for instance. It recommended increased funding for CP6 (2019-24) including Felixstowe-North capacity, Trans-Pennine paths and other improvements.

We are convinced there is great potential for expansion of freight movement by sustainable modes right across the UK, with consequent benefits to health, the environment and the economy. These include improved urban environments, reversing the damaging effects of distribution centre sprawl, reduced greenhouse gas emissions and cleaner air.

We recommend planned national programmes should be created in England, Northern Ireland, Scotland and Wales to expand and fund rail and water freight facilities, backed by new legislation where necessary to facilitate this.





Reviving older buildings offers disproportionate benefits
Smart Growth UK

Regeneration through heritage

Case Study – Alston’s Townscape Heritage Project

The long and proud history of the small town of Alston in the North Pennines is written in the fabric of its historic buildings. But, like many places in the far north of England, its economy has not kept pace with the needs of its preservation.

In 2011, Alston Moor’s conservation area was rated “heritage at risk”. The assessment noted accelerated shop closures and that key buildings had become vacant and warned that, without intervention, the conservation area would continue to deteriorate. An assessment the following year confirmed the pattern of deterioration.

Alston’s best known feature is its steeply inclined main street which includes a large area of cobbles and these are surrounded by many fine old buildings, some of which have ancient origins. Visitors are an important part of the town’s economy, but shop closures and declining maintenance in some buildings were seen as a deterrent to them.

Couple that with problems caused by through traffic, a harsh climate thanks to the town’s high altitude (around 1,000 feet) which can punish buildings once maintenance slips and a general lack of resources and you have a growing challenge. This prompted the Alston Moor Partnership to propose a Townscape Heritage Initiative for the Market Place/Front Street area of the town as part of its community plan.

“The aim of the Townscape Heritage Initiative is to address the threat that the worst sites pose to the investment the other owners might consider for refurbishment, and to restore community pride in the historic town centre that community and visitors value so much,” said the Partnership. “It could contribute to wider



heritage-based regeneration, bringing much-needed skilled job opportunities, widening the economic base and making Alston a more desirable place to live.”

Funding was sought from the Heritage Lottery Fund Townscape Heritage programme for renovating selected town centre properties and public realm improvements, backed with proposals for activities to improve residents’ and visitors’ understanding of Alston’s heritage, to widen its audience and to create new learning opportunities. These included working with the North of England Civic Trust’s Skills Initiative and local colleges.

The application was successful, with a £69,700 initial grant to develop the application followed by a £1.7 million grant in 2015. Work has begun on improvements such as reinstatement of traditional windows and shop fronts and proposals include improving the look and user-friendliness of the town centre streetscape.

Alston Townscape Heritage Project
<http://www.alstonmoorpartnership.co.uk/townscape/THInfo/>

The importance of our built heritage as a source of regeneration, community cohesion and economic revival has long been recognised. In the 2016 Autumn Statement⁴⁴ chancellor Philip Hammond avoided citing individual investment projects but made one exception – investment in a key piece of heritage. This was a £7.6m repair grant for Wentworth Woodhouse.

In 2004, the Commons Housing, Planning, Local Government and the Regions Committee noted that historic buildings provide a foundation for the regeneration of many of our towns and cities⁴⁵. “Regenerating these buildings can reinforce a sense of community, make an important contribution to the local economy and act as a catalyst for improvements to the wider area,” it concluded.

The Prince’s Foundation told the MPs that its Regeneration Through Heritage initiative had (by 2004) assisted projects with a final development value of £60m, secured £32m in capital and revenue, created space for 1,100 jobs, expected to generate a further 1,000 jobs and brought 50,000m² of

floorspace back into use.

The MPs recommended local authorities to include a clear role for historic buildings in regeneration strategies and to establish multi-disciplinary teams to implement them. The importance of protecting and enhancing historic areas has been enshrined in national planning policies.

The Heritage Lottery Fund has supported heritage-led regeneration projects across the UK via its Townscape Heritage Initiative which helps communities regenerate deprived towns and cities with grants from £100,000 to £2m. The Initiative aims to see heritage better managed and in better condition, to help develop local skills and appreciation of heritage, to reduce negative environmental impacts, to engage a wider range of people and to improve areas’ economies and communities⁴⁶.

The Initiative has secured widespread benefits but inevitably there are limitations on what it can fund. It is, for instance, limited to conservation areas or to areas where

there is a clear intention to secure such designation and schemes must compete for money with the HLF’s many other priorities.

We believe there is a wider role for regeneration through heritage so long as it follows the principles of sustainability. Much, if not most, of our pre-1914 townscape is a major source of community cohesion and generates a sense of personal belonging and economic security to those who live, learn and work there. There is a strong case for public investment in the buildings and public realm of deprived cities, towns and villages where there is a valuable stock of old buildings.

Such investment could take the form of a new grant, based on the HLF initiative model, but aimed at securing funding for a much wider range of places and types of old building.

We recommend establishment of national funds in England, Northern Ireland, Scotland and Wales to fund enhancement of historic townscape and buildings.

At this year's Conservative conference, chancellor Philip Hammond promised⁴⁷ to set out a plan for fiscal sustainability which would recognise the need for investment. He noted decades of under-investment and said that building an economy that works for everyone would involve closing the gap with careful, targeted public investment in high-value infrastructure. "Making sure it is long-term economics, not short-term politics, that drives Britain's infrastructure investment," he said.

It was a party-political speech, but few people, wherever they sit on the political spectrum, would disagree with those sentiments. Nor would anyone disagree with Mr Hammond's view that every penny spent on infrastructure should be properly targeted to deliver maximum benefit.

We certainly agree there is a well-founded case for carefully targeted public investment which would benefit our economy. But we need to ensure it benefits our well-being and protects and improves the environment too. Parts of the current infrastructure investment model, like road building or airport expansion, do nothing for our economy apart from causing unnecessary journeys and increase congestion while significantly adding to our greenhouse gas emissions.

Scaling down these would release money for economically beneficial and useful investments which should also be the focus for any new money. The Smart Growth approach offers clear insights into where that should go and in this document we have set out three defined areas for targeted public investment which would improve the economy and secure substantial benefits to illustrate this.

For a whole range of reasons, the time has come to rethink our strategies for transport, house building and regeneration. Our public investment should aim to meet our needs for housing, mobility and economically and socially healthy communities in genuinely sustainable ways; we should try and avoid those that simply result in increased greenhouse gas emissions, pointless commuting and urban sprawl.

Public investment in the right things will secure the former; public investment in the wrong things will cause the latter.



The Smart Growth approach allows smarter choices
Smart Growth UK

Conclusions

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