



# OPERATIONALISING THE LEVELLING-UP AGENDA IN HOUSING APPRAISAL

A Cebr report for Homes for the North

With the support of **The Northern Housing Consortium**  
Final Report July 2021

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London, July 2021

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# KEY MESSAGES

## We welcome recent changes to the Green Book

- The revisions made to the Government's 'Green Book' in 2020 indicate a welcome and significant change in thinking on the appraisal of housing schemes, with a greater emphasis on the Strategic Case, as well as the benefit-cost ratio (BCR) in the Economic Case;
- This could support a more balanced allocation of housing investment resources across the country – schemes in economically 'left-behind' parts of the country often struggle to demonstrate land value uplift benefits, but these investments could contribute to national social, economic, and environmental policy objectives such as Levelling-Up and Net Zero, which can be reflected in both the Strategic and Economic Cases;
- Until recently at least, the appraisal system also appears to have favoured new greenfield development rather than regeneration of the existing housing stock, the quality of which is a serious issue in many of these areas. Regeneration and place-based renewal projects may benefit from the increased focus on strategic objectives.

## More work is needed to operationalise the new Green Book

- The new Green Book is, however, yet to be 'operationalised' – scheme promoters and government decision makers need clarity on how to develop and appraise schemes in order to ensure good, consistent decision-making.
- This work considered one aspect of the practical application of the new Green Book by examining limitations in the evidence base on housing externalities (effects not captured in land value uplift) which make it difficult to appraise certain types of benefits and reflect them in Strategic and Economic Cases. This deficiency could be addressed through further research and more effective ex post evaluation of projects;
- Key categories of externalities – health, productivity and employment, environmental, and placemaking – were identified through discussions with Homes England. For each of these, key 'theories of change' through which housing investment could generate positive outcomes were identified;
- The evidence to support the outcomes and impacts that were identified through the theories of change was reviewed to identify the overall quality of the evidence base, how much of this was specific to the UK, and the feasibility of demonstrating and/or monetising impacts for inclusion in the Strategic and Economic Cases. The results of this process are summarised with red-amber-green ratings in Table 1;
- This exercise found that in many important areas – for instance on the role of housing quality in health and energy efficiency – there is good evidence that could play an important role in Strategic and Economic Case-making.

## Gaps in the evidence base need filling

- There are, however, some interesting and surprising gaps and limitations. Key shortcomings identified in the evidence base were:
  - A lack of evidence to support impacts of housing supply on affordability and overcrowding;
  - Difficulties in demonstrating the direct impacts of construction from government -supported housing investment: the additionality of employment created, the indirect and induced spending supported, and the extent to which these impacts can effectively be locally targeted;
  - Very little evidence to support a link between the provision of high-quality housing and the ability of places to attract the workers they need if they are to address long standing existing productivity gaps with other parts of the UK;
  - Relatively little UK-focused evidence on the impact of housing investment on neighbouring land values.

**Table 1: Summary of evidence base review**

Category	Theory of change	Overall quality	UK-specific	Strat. Case	Econ. Case
Health	Health impacts of improved housing conditions	Green	Green	Green	Green
	Housing supply, affordability, and homelessness	Yellow	Red	Yellow	Yellow
Productivity and employment	Direct construction impacts	Yellow	Yellow	Green	Green
	Housing and the attraction of workers	Yellow	Red	Red	Yellow
	Digital infrastructure and employment	Green	Yellow	Yellow	Green
	Economic effects of improved housing conditions	Green	Yellow	Green	Yellow
Environmental	Improved domestic energy efficiency	Green	Green	Green	Green
	Public and active transport improvements	Yellow	Yellow	Green	Green
Placemaking	Housing market impacts of housing improvements	Green	Yellow	Yellow	Green
	The impacts of green spaces	Green	Green	Green	Green
	Combating crime and anti-social behaviour	Yellow	Green	Yellow	Green
	Supporting sustainable urban planning	Red	Red	Red	Red

## Our recommendations

- Recommendations are made, both to scheme promoters and Government as it seeks to facilitate more effective appraisal of housing projects;
- Changing the appraisal system is, however, a necessary but not sufficient step. Extensive conversations with stakeholders show that wider changes in funding programmes are needed to address some of the key difficulties they have faced in attracting funding for housing schemes, particularly those which support wider place-based regeneration.

## Recommendations to scheme promoters

- Start by looking at the **policy context** and identifying which local, regional, and national policies the project may help to achieve, focusing on the full range of **social, economic, and environmental** policy objectives.
- Develop an outline **logic map** (starting with the examples set out in this report) that identifies a wide range of potential benefits and theories of change, focusing on those for which the evidence base is likely to be strongest.
- Consider the **counterfactuals** – for instance what local housing conditions are or would be like in the absence of the scheme (this is particularly important for the improvement or replacement of poor quality housing).
- Identify the **market failures** that the scheme has the potential to tackle.
- Undertake **targeted evidence gathering**, focusing on the most promising benefits and transmission mechanisms that can be estimated and monetised, and looking for highly relevant local and/or recent evidence.
- Reflect thoroughly in the **Strategic Case** those impacts that cannot easily be monetised but for which there is good qualitative evidence – whether standard academic evidence or approaches such as stakeholder engagement or surveys.
- **Consider revising the scheme** itself (or ideally designing it from the outset) in order to achieve maximum fit with strategic policy objectives and monetisable benefits.

## Recommendations to government

The new Green Book – important as it is – will not on its own deliver Levelling-Up. Based on this research, there is clearly scope for government to both improve the evidence base and support consistent, high-quality guidance for scheme promoters. Resulting recommendations to government are therefore:

- **Support further strengthening of the evidence base on housing externalities, including through project evaluations.**  
This will allow housing schemes to fully demonstrate their contributions to policy outcomes, ensuring that funds are directed to the best schemes. Some key shortcomings of the current evidence base are identified in this report;
- **Develop a Strategic Case-making toolkit to help promoters of housing schemes clearly explain admissible impacts and standards of evidence to help scheme promoters produce consistent, high quality cases.**  
This could both streamline case-making and provide a consistent way for qualitative externalities to be reported and appraised.

Further recommendations relate to the wider funding system and policy context:

- **Develop a Levelling-Up strategy around which convincing Strategic Cases can be developed.**  
Such a strategy could ensure maximum clarity for scheme promoters on what the specific objectives of Levelling-Up are;
- **Review Government funding programmes to ensure they support all aspects of housing investment that can support Levelling Up and remove barriers to clear, consistent decision-making.**  
Stakeholder discussions identified that wider issues with funding programmes and awards have created serious issues for case-making.



# ACKNOWLEDGEMENTS

This report is the result of extensive research by Cebr in co-operation with Homes for the North, the Northern Housing Consortium, and their wider network – the authors are grateful to them for providing their time and expertise, and especially to Lee Payne of Wigan MBC for his generous help.

We held a series of three workshops, chaired by Hugh Owen of Riverside, and several smaller meetings in late 2020 and early 2021 to discuss scheme appraisal in various housing investment contexts. Attendees included:

- Representatives of Homes for the North’s constituent housing associations:
  - Ian Ankers (**Bolton at Home**)
  - Dave Bullock (**Compendium Living**)
  - Peter Bojar (**Great Places**)
  - Alistair Smyth (**Guinness**)
  - Gillian Roll (**Home Group**)
  - Milo Barnett, Paul Fiddaman, and Andrew Sugden (**Karbon Homes**)
  - Conor McGuigan (**Onward**)
  - Hugh Owen and Samantha Smith (**Riverside**)
  - Claire Tostevin (**Rochdale Boroughwide Housing**)
  - Sharon Thomas (**Thirteen Group**)
  - Alice Keirle (**Together Housing**)
- Representatives of local and combined authorities:
  - Michelle Horrocks (**Bolton Council**)
  - Jeremy Hewitson (**Carlisle City Council**)
  - Steve Fyfe (**Greater Manchester Combined Authority**)
  - Tom Evans (**Hull City Council**)
  - Kathy Verlander (**Newcastle City Council**)
  - Julie McCartney (**Tees Valley Combined Authority**)
  - Judith Furlonger and Ben Marchant (**West Yorkshire Combined Authority**)
  - Nick Metcalfe and Lee Payne (**Wigan Metropolitan Borough Council**)
- Karen Brown and Brian Robson (**Northern Housing Consortium**)
- Andy Wallis (**Homes England**)
- Tim Foster, Chris Leahy, and Jack Snape (**Transport for the North**)
- Mark Vaughn (**Hive Land and Planning**)
- James Stevens (**Home Builders Federation**)
- Kate Warburton (**National Housing Federation**)
- Danny Collins (**Savills**)
- Brendan Nevin, Peter Wells, and Ian Wilson (**Sheffield Hallam University**)

These meetings provided an opportunity for the project team to discuss the theoretical benefits of housing investment (illustrated with logic maps) and hear from stakeholders with practical experience of navigating the appraisal system, which was invaluable in shaping the research and recommendations.

Regular meetings of a steering group including the project team, Homes for the North, Northern Housing Consortium, and other stakeholders have further developed the thinking on housing investment activities and their potential impacts.



# 1 INTRODUCTION

## Background

Tackling historic under-investment in housing in many parts of the UK will be integral to turning the 'Levelling Up' agenda from aspiration to reality. Homes for the North commissioned this study to help ensure the appraisal system can play its full part in delivering improved outcomes and impacts from housing investment for people and places that may have previously been 'left behind'. In particular, it aims to provide a practical set of tools and recommendations for further research that will help 'operationalise' the Levelling Up agenda in relation to both the way scheme promoters make the case for investment and the way funders appraise it.

The study builds on an exploratory initial phase of work commissioned by Homes for the North that examined the extent to which the appraisal system caused an unfair allocation of housing investment resources across the regions, and which helped inform H4N's submission to the Government's recent review of the Green Book. This first phase was completed in early 2020 and made a series of recommendations, including:

- abolish the so-called "80:20 rule" whereby 80% of the grant funding of programmes such as the Housing Infrastructure Fund and Home Building Fund is 'ringfenced' for areas of 'highest affordability pressure';
- develop a Strategic Case-making toolkit to help promoters of housing schemes produce consistent, high quality Strategic Cases;
- reform guidance on future land value assumptions to be used in appraisal of schemes that form part of transformational investment programmes, rather than simply requiring fixed growth assumptions;
- support further research to develop a better evidence base about the values of positive and negative externalities associated with housing investment.

Over the past six months or so, the Government's approach to allocating funding to support housing investment has developed, with the announcement of the abolition of the '80:20' rule and publication of a revised Green Book, which provides a high-level appraisal framework that is better geared towards delivering on the Levelling Up agenda. The Treasury sums up the changes made to the Green Book in 2020 as follows :

- A stronger requirement to establish clear objectives from the outset;
- Stronger and clearer advice on what constitutes value for money;
- New guidance on the appraisal of transformational changes;
- Appropriate emphasis on the analysis of place-based impacts;
- Measures to improve analysis on differential impacts;
- An expert review into the application of the discount rate for environmental impacts.

Traditionally, appraisal guidance has focused heavily on the benefit-cost ratio (BCR). This expresses the difference between costs and monetised benefits in order to provide a view of a project's expected value for money. Ensuring value for money in public expenditure is of course important, but an over-reliance on this approach can favour projects with easily monetisable benefits (like land value uplift), at the expense of those that produce smaller monetised benefits but large intangible, difficult-to-monetise benefits.

Whilst monetising benefits for inclusion in the BCR will remain important, an increased role for the Strategic Case means that the focus will shift towards building a strong case for how a scheme contributes to national-level objectives (including Net Zero and the recent Levelling-Up agenda). The end of the 80:20 rule could unlock more funding for housing across the country, rather than reserving most of the funding for areas with the highest affordability ratios, which negates the priority ranking of schemes that it is, in principle, the role of the appraisal system to provide.

These are undoubtedly positive steps and could enable a new allocation of housing investment that better supports broader efforts to rebalance the economy and spread economic and social opportunity more widely. Translating these high-level developments into sustained, practical change will require further steps to ensure that the appraisal system responds to the 'Levelling-Up' agenda:

- the new appraisal guidance needs to be 'operationalised' so that promoters have a clear understanding of how to develop and present schemes that would previously have struggled to attract funding;
- the evidence base needed to demonstrate the wider impacts of housing in a fuller range of economic and social contexts needs to be strengthened, including both monetisable and non-monetisable impacts;
- changes in the scope of government funding programmes will be needed to redress the difficulties that exist in attracting support for certain types of housing investment activity.

## Aims and structure

Drawing on the above background, the aims of the study were to:

- improve the evidence base in relation to housing externalities in order to strengthen Economic Case-making;
- strengthen the evidence on how addressing local and regional market failures meets government policy priorities as part of Strategic Case-making;
- provide guidance for scheme promoters looking to articulate the wider benefits of their proposals in a more structured way;
- identify areas of the evidence base which merit further research.

The intended audience is broad and includes:

- **Homes England** – to inform their ongoing research agenda in relation to the evidence base for the wider impacts of housing investment;
- **MHCLG and H.M. Treasury** – to inform the development of future housing funding programmes;
- **Scheme promoters** – to provide a resource to help develop improved business case submissions, particularly the Strategic and Economic Case elements. Scheme promoters are a diverse group, spanning the public sector (local and combined authorities), for-profit private sector (commercial housing developers), and non-profit sector (housing associations).

The report is structured as follows:

- Four chapters covering **the wider benefits of housing investment** in terms of the following key themes:
  - Health
  - Productivity and Employment
  - Environmental
  - Placemaking

Each of these is examined in two stages. Firstly we explore the expected causal linkages between investment inputs, outputs, outcomes, and impacts using logic maps; secondly we review the existing evidence base in relation to each in order to provide a view of the key gaps that future research should address;

- We then apply the logic map process to a **real-world case study** in order to test the applicability of the approach in helping scheme promoters address the case making challenges they face in practice.
- Finally, we set out **conclusions and recommendations**, covering advice to scheme promoters based on the outcomes of the work and identifying areas which would most benefit from further research, together with our view of the wider implications for policymaking.

## 2 OVERVIEW OF METHODOLOGY

The wider benefits chapters focus on developing and finding evidence for **theories of change** which provide a view of anticipated impacts and the transmission mechanisms that generate them. Logic mapping is a technique well suited to developing understanding of processes such as housing investment, operating in complex social and economic environments in which there is some uncertainty. This provides a useful framework for thinking about the nature and quality of evidence that will be needed to demonstrate the benefits. The four themes explore categories of externality identified through discussions with Homes England. The logic maps draw on both our own thinking and discussions with Homes for the North and their stakeholders. Each logic map includes:

- **Inputs:** The resources required to undertake housing investment activities, including land or existing housing stock, capital/revenue grants from government, investments by developers, and the planning/regulatory system for housing investment;
- **Activities:** The building of new homes, improvement of existing homes, and provision of infrastructure, services, and placemaking as part of housing investment schemes;
- **Outcomes:** These are the steps that lead from activities to impacts. The transmission mechanisms shown are not necessarily straightforward – for instance there may be feedback effects or interactions between them;
- **Impacts:** The ultimate economic, social, and environmental benefits arising from housing investment. Where the outcomes shown on one logic map may lead to impacts outside the scope of that logic map, this is indicated.

The relevance of current MHCLG appraisal guidance to these impacts is also considered briefly.<sup>1</sup>

Key theories of change from each of the four logic maps are then identified, and the state of the relevant evidence base is then reviewed. These subsections are structured as follows:

- Relevant activities, outcomes, and impacts (in a table, and highlighted in an extract from the logic map at the end of the subsection);
- An overview of the evidence regarding these relationships;
  - A comprehensive review of all areas is beyond the scope of this work, but this provides guidance on the evidence base for key areas of the logic maps.
  - By its nature, a lot of the academic evidence does not link neatly with the theoretical mechanisms outlined on the logic maps. For instance, a study may consider the relationship between certain housing investment activities and intermediate outcomes, or between outcomes and final impacts, rather than activities-outcomes-impacts;
- A table summarising strength and applicability of evidence with RAG (red-amber-green) ratings. This shows:
  - **Overall quality of evidence base**, i.e. the quantity and robustness, e.g. randomised control trials versus simple case studies;
  - **UK-specific evidence** – how much of the evidence (or best quality evidence) is based on the UK;
  - **Applicability to the Strategic Case.** This considers the quality of evidence available and the extent to which impacts can be reflected in the Strategic Case, i.e. because they support national policy objectives;
  - **Applicability to the Economic Case.** This considers the quality of evidence available, how easily-monetised impacts are, and the extent to which impacts can be reflected in the Economic Case;
- The significance of different RAG ratings is described in Table 2.
  - It should be stressed that in none of these categories does a ‘green’ rating mean that there is no scope for improvement. For instance, even where there is high-quality statistical evidence, ‘gold-standard’ evidence such as randomised control trials or evaluations of similar housing projects would improve the evidence base further.

<sup>1</sup> Drawing on The DCLG Appraisal Guide ([Link](#)) and relevant supplementary guidance ([Link](#)).

**Table 2: Guide to red-amber-green ratings in evidence base**

	Red	Amber	Green
Overall quality of evidence base	Case study, survey evidence only	Statistical evidence with significant limitations, e.g. uncertainty over size of effects, evidence is old or not fully relevant to housing investment context	Abundant, recent, and relevant statistical evidence; high-quality evidence such as randomised control trials, evaluations
UK-specific evidence	As above, focusing on UK evidence only		
Applicability to the Strategic Case	Impacts are difficult to demonstrate	Impacts are admissible for inclusion, but demonstrating them precisely is not straightforward	Impacts can be demonstrated with reasonable confidence and are admissible for inclusion
Applicability to the Economic Case	Impacts are difficult to demonstrate and/or monetise	Impacts are not straightforward to demonstrate and/or monetise	Impacts can be demonstrated and monetised with confidence



## 3 THE HEALTH BENEFITS OF HOUSING INVESTMENT

### Logic map and theories of change

Investment that expands access to decent, appropriate housing can improve health and reduce the costs to the government caused by poor health, improve quality of life, and make people financially better off, as illustrated in Figure 1.

Relevant activities are:

- The building of new homes, particularly social homes – providing decent, secure housing for those on low incomes – and those adapted to elderly or disabled residents – who have particular health requirements. These homes may be replacements for existing, obsolete housing;
- Retrofitting existing housing to provide proper insulation, glazing, and heating, and to remove physical hazards (e.g. trip hazards, unsafe electrics) and rot, mould, and condensation;<sup>2</sup>
- Community or social investments and residents' support services provided or commissioned by government or by housing associations. These may include help for residents to access welfare or health services, or specialist support for those with complex health needs or at risk of homelessness.

The key outcome of these activities is improved access to decent housing with supporting services, i.e. housing that:

- is better insulated and therefore more energy-efficient, allowing residents to better warm their homes and to spend less money doing so. This also has positive environmental impacts;
- provides long-term tenancies (i.e., through social housing), including for those with specialist needs;
- reduces hospital admissions – both through reduction in accidents caused by physical hazards and conditions caused or exacerbated by living in a cold, damp home (e.g., COPD).

They also serve to increase local housing supply and improve the mix of homes available, leading to:

- increased affordability of renting or buying homes (due to increased housing supply – particularly of social/affordable homes), helping to reduce issues of overcrowding and homelessness;
  - whilst housing affordability concerns often centre on prosperous areas in which demand is outpacing supply, low-income residents in poorer areas may also struggle to access decent housing, or to do so without paying a large share of their income in rent
- better matching of houses and households – this, for example, may allow older residents whose children have moved out to 'right-size' into properties they can more easily afford to heat.

<sup>2</sup> Retrofitting of existing stock is sometimes overlooked in favour of new build. There are, however, clear issues with the UK's existing housing stock. In their 2018 White Paper, the APPG for healthy homes and buildings made three recommendations: (i) Establishment of a cross-departmental committee for health and buildings. (ii) Growing the research and evidence base to develop a case for improved new build standards. (iii) Make renovation of current housing stock and infrastructure a government priority and develop plans for retrofitting. ([Link](#))

The APPG's report included research into poor standards in existing homes. For example, around a third of people in the UK report suffering from mould in their homes and, according to BRE, the socio-economic problems from housing cost £18.6bn per annum. This, and their recommendation that renovation be made a government priority, strongly suggest that there are enormous potential benefits from addressing this issue.

The ultimate impacts are therefore:

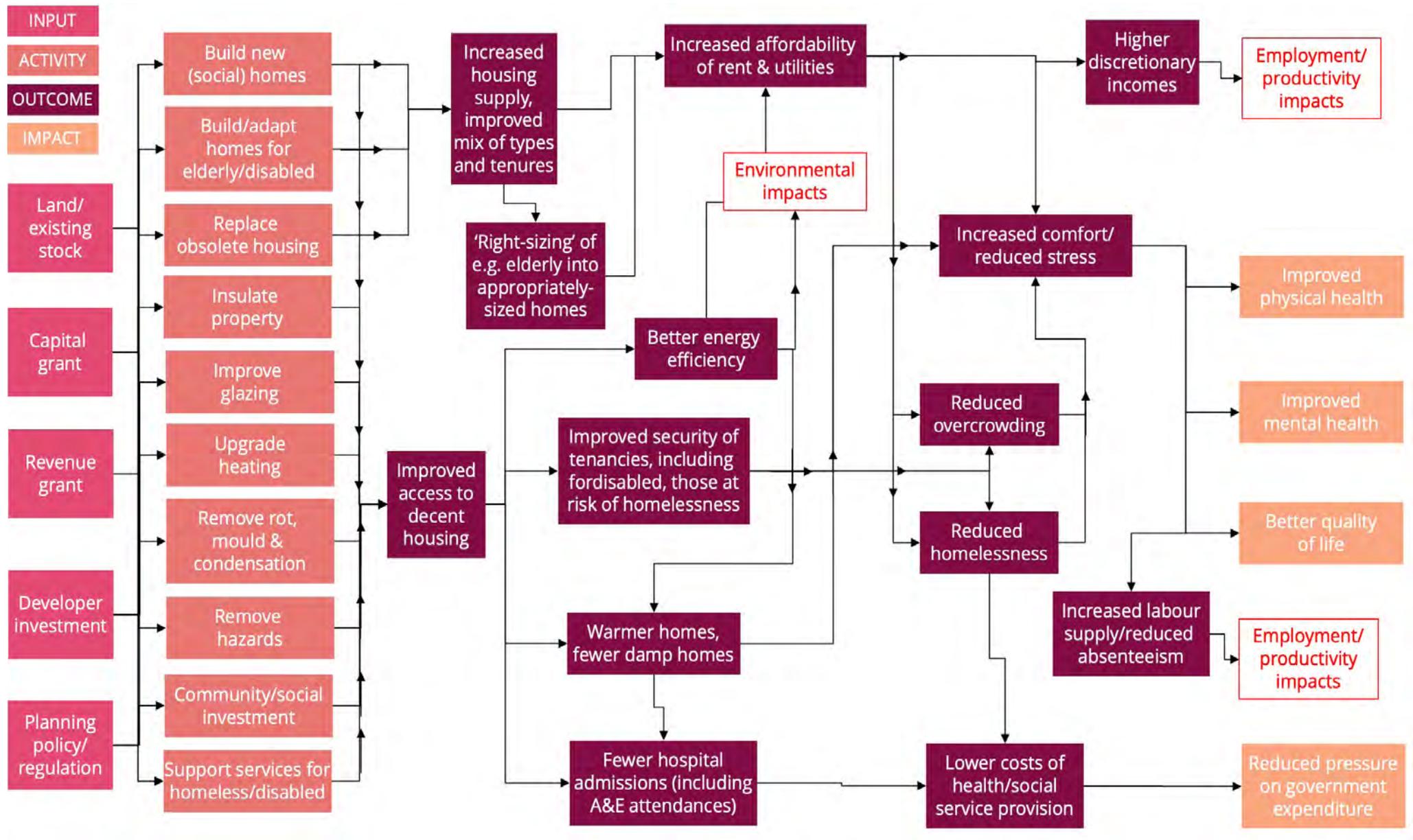
- Better physical and mental health and improved quality of life, resulting from improvements in comfort and reductions in stress from safer/warmer/more secure homes.
  - This may also lead to positive economic impacts through improved participation in labour markets and higher disposable incomes (these effects are discussed in more detail under the 'productivity and employment benefits' section).
  - In the context of the pandemic, addressing overcrowding – a factor in the spread of Covid-19 – is particularly pertinent. This may be achieved through improved space standards as well as increased supply;
- Higher discretionary incomes through more affordable rent/utilities (this is particularly relevant to the health logic map as residents benefitting from these interventions are likely to be on low incomes);
- Reduced pressure on government expenditure, particularly health, care, and social services provision, as health problems and homelessness are reduced and more people are enabled to live independently.

### **MHCLG guidance on appraising health impacts**

The supplementary guidance on Policy Appraisal and Health:

- Makes clear that health outcomes (either changes in quality or quantity of life or changes in health expenditures) can be affected by the activities of various public bodies, not just those directly related to health;
- Suggests that where health impacts have been identified – and particularly if expert advice suggests their magnitude is likely to be significant – they should be monetised and presented to decision makers;
- Identifies a range of health risk factors potentially relevant to housing policy – not just housing conditions themselves, but also exercise, exposure to pollution, and economic factors;
- Acknowledges the uncertainty and difficulty inherent in estimating health impacts.

Figure 1: Health impacts of housing investment logic map



## Evidence base review

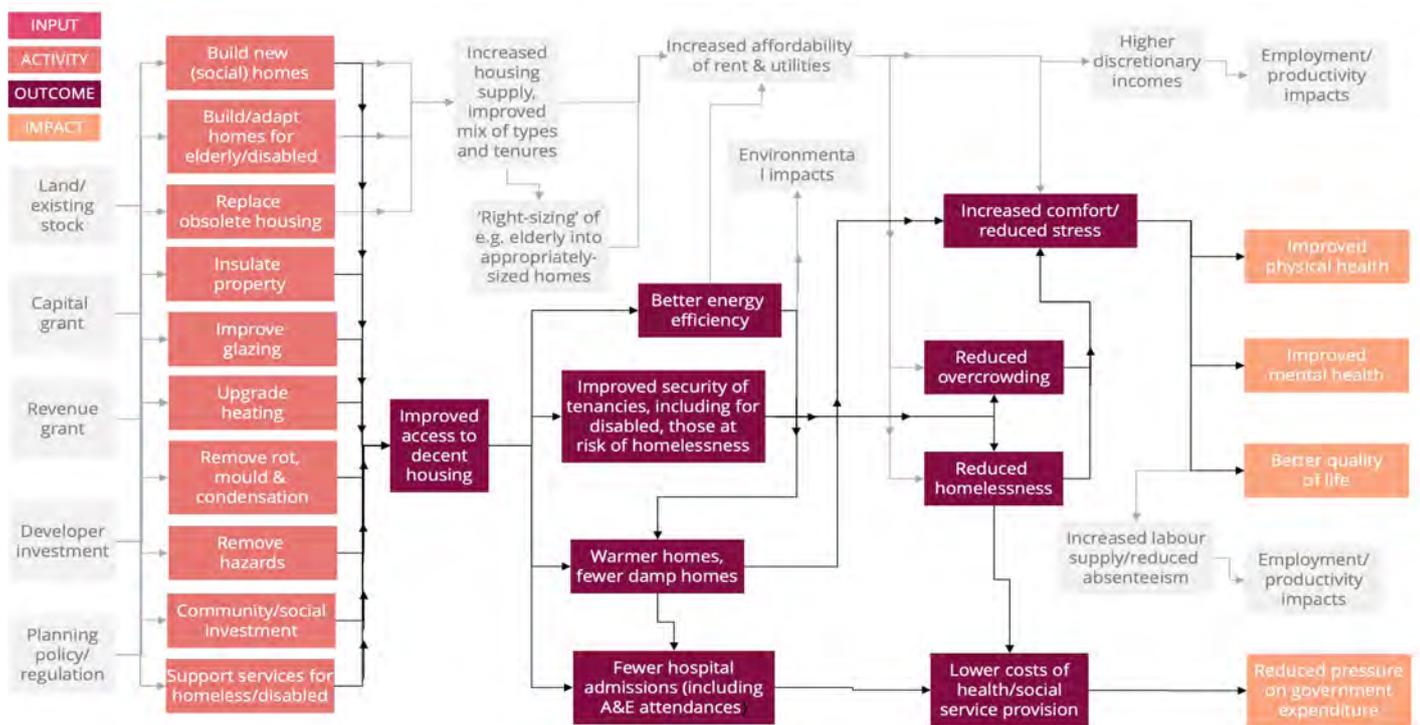
Within the health logic map there are two distinct sets of outcomes, explored in the following sub-sections with focused versions of the logic map:

- The direct health impacts of improved housing conditions (Figure 2)
- Impacts relating to improved housing affordability (Figure 3)

## Health impacts of improved housing conditions

Activities	<ul style="list-style-type: none"><li>• Build new (social) homes</li><li>• Build/adapt homes for elderly/disabled</li><li>• Replace obsolete housing</li><li>• Insulate property</li><li>• Improve glazing</li><li>• Upgrade heating</li><li>• Remove rot, mould &amp; condensation</li><li>• Remove hazards</li><li>• Community/social investment</li><li>• Support services for homeless/disabled</li></ul>
Outcomes	<ul style="list-style-type: none"><li>• Improved access to decent housing</li><li>• Improved security of tenancies</li><li>• Better energy efficiency</li><li>• Warmer homes, fewer damp homes</li><li>• Fewer hospital admissions</li><li>• Increased comfort/reduced stress</li><li>• Reduced overcrowding</li><li>• Reduced homelessness</li><li>• Lower costs of health/social service provision</li></ul>
Impacts	<ul style="list-style-type: none"><li>• Improved physical health</li><li>• Improved mental health</li><li>• Better quality of life</li><li>• Reduced pressure on government expenditure</li></ul>

Figure 2: Health logic map - Health impacts of improved housing conditions



The core set of impacts considered on the health logic map relate to improvements in housing quality and availability (whether through new build, replacement of stock, or retrofitting) and residents' health outcomes. There appears to be reasonably strong evidence to support the existence of these impacts:

- A 2014 review of evidence on excess winter deaths found that housing interventions can improve respiratory outcomes for both children and adults with asthma and related conditions. This included strong evidence from randomised control trials (RCTs) in the UK and New Zealand. There was also evidence that these interventions could improve mental well-being and limited evidence that they could reduce absences from school for asthmatic children;<sup>ii</sup>
- A 2018 study into the impact of various housing quality improvements (including upgrading of electrical systems, upgrading windows and doors, and wall insulation) found that hospital admissions for treatment groups were reduced by 20-40% relative to control groups;<sup>iii</sup>
- A (mainly US-focused) literature review from 2007 found a range of evidence linking poor quality or overcrowded housing with adverse health outcomes. This included higher rates of respiratory and digestive disorders, stress-related mental illnesses, and long-lasting health effects of being poorly-housed as a child;<sup>iv</sup>
- A 2003 literature review found clear correlations between living in high-rise or multi-family dwellings and poor mental health outcomes (though some studies had not adequately controlled for socio-economic factors). There were similar findings when considering the impacts of other measures of poor-quality housing, such as damp, mould, and pest infestation.<sup>v/vi</sup>

These health impacts should translate into NHS savings, and indeed there is some evidence for this:

- In the case of the Northern Ireland Warm Homes scheme, just 1-2% of scheme costs were estimated to be offset in direct cost savings to the NHS. When considering overall impacts on quality-adjusted life years (QALYs), however, it was estimated that between 23% and 42% of costs could be offset against health costs saved through the scheme. Given that the scheme was not purely a health intervention, but also had economic and environmental objectives, this was considered a highly satisfactory outcome;<sup>vii</sup>
- The Housing Health Cost Calculator (HHCC) produced by BRE estimates cost savings to the NHS and to society generally resulting from improvements to home safety. This is based on the likelihood of various harms occurring, combined with data on their costs.<sup>viii</sup>

There is also evidence focusing specifically on impacts related to homelessness:

- A 1988 US study based on site visits and interviews, which includes extensive data on the prevalence of several health conditions in the homeless and general populations. Whilst this study is now over 30 years old, it identifies an important confounding factor – poor health can be a cause of as well as a result of homelessness (e.g. because health problems may make it difficult to earn money). Nevertheless, it does find that being homeless can cause or aggravate health problems; <sup>ix</sup>
- A 2014 study by the UK homelessness charity Homeless Link provides fairly recent, UK-specific data on differential rates of physical health problems, mental health problems, and drug addiction between homeless people and the general population. It also reports that the number of A&E visits and hospital admissions is four times higher for the homeless than the general public (and they access GP services roughly 1.5-2.5 times more often). This evidence therefore suggests that homelessness leads to poor health outcomes and increased health costs – but the study does not control for poor health as a factor leading to homelessness; <sup>x</sup>
- A 2016 interview-based study from the US found that having ever been homeless (as opposed to currently or recently being homeless) is a good predictor of various poor health outcomes. <sup>xi</sup>

Furthermore, evaluation of previous housing improvement programmes in the UK also provides evidence for positive health impacts:

- A wide-ranging evaluation of regeneration initiatives under the 1997-2010 Labour government found that progress was made on closing performance gaps between the most and least deprived areas on rates of cancer and heart disease (as well as school attainment and worklessness). Life expectancy discrepancies, however, widened and all disparities remained large – suggesting that housing investment alone may not be sufficient to tackle these issues, or at least that it may take a long time to achieve its full impacts. Furthermore, some of the positive changes may be driven by other factors – such as educational policies targeted towards the poorest areas; <sup>xii</sup>
- Evaluation of the 39 areas included in the New Deal for Communities (NDC) showed an improvement in 32 out of 36 key indicators between 2002 and 2008. These included place-based outcomes (covering crime, community, housing and the physical environment) and people-based outcomes (education, health, worklessness), with comparisons against national averages, parent local authorities, and similarly deprived comparators. The NDC programme included aspects like crime and community safety initiatives as well as housing regeneration; <sup>xiii</sup>
- The Warm Front scheme provided grants to households for energy efficiency measures and heating improvements. A Defra-commissioned evaluation showed that the scheme was successful at increasing indoor temperatures and thermal comfort, and it was assessed as successful in improving mental health, alleviating respiratory problems, and reducing deaths of the elderly. Evidence on the reduction of damp and mould and on climate change was, however, more ambiguous. <sup>xiv</sup>

As well as demonstrating the value of housing schemes in improving health and other outcomes, these results show the value of ex post evaluation in building the evidence base. Recently, government housing investments have not been evaluated in the same level of detail.

## Summary of evidence

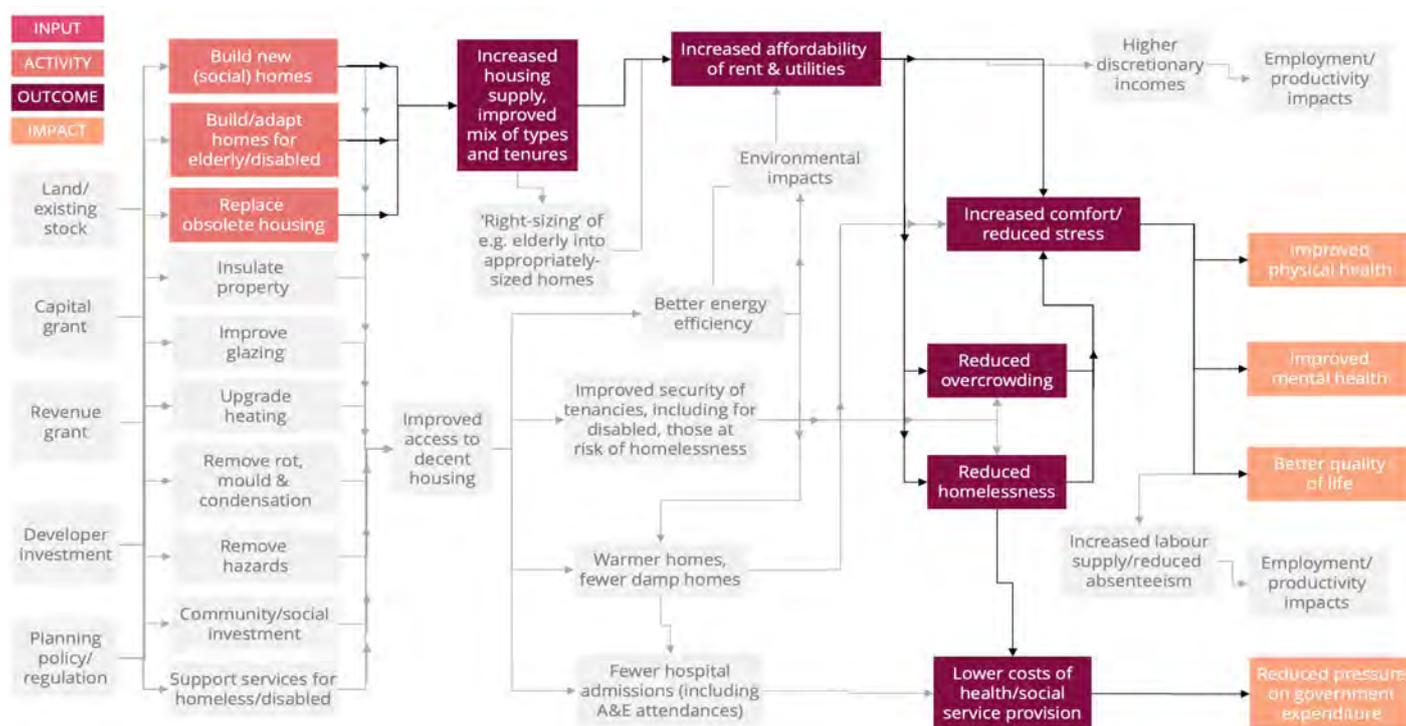
**Table 3: Health impacts of improved housing conditions evidence base - RAG ratings**

Overall quality of evidence base	High, including randomised control trials, treatment vs control group approaches, scheme evaluations	
UK-specific evidence	Good and includes some of the best evidence, e.g. evaluations. Supplemented by good international evidence.	
Applicability to Strategic Case	Impacts can be reflected in Strategic Case.	
Applicability to Economic Case	Impacts can be monetised and reflected in Economic Case.	

## Housing supply, affordability, and homelessness

Activities	<ul style="list-style-type: none"> <li>• Build new (social) homes</li> <li>• Build/adapt homes for elderly/disabled</li> <li>• Replace obsolete housing</li> </ul>
Outcomes	<ul style="list-style-type: none"> <li>• Increased housing supply, improved mix of types and tenures</li> <li>• Increased affordability of rent and utilities</li> <li>• Increased comfort/reduced stress</li> <li>• Reduced overcrowding</li> <li>• Reduced homelessness</li> <li>• Lower costs of health/social service provision</li> </ul>
Impacts	<ul style="list-style-type: none"> <li>• Improved physical health</li> <li>• Improved mental health</li> <li>• Better quality of life</li> <li>• Reduced pressure on government expenditure</li> </ul>

Figure 3: Health logic map - Housing supply, affordability, and homelessness



Housing investment can help to address issues of overcrowding, homelessness, and poverty by providing an adequate supply of housing (including socially rented and affordable).

- Research from the Department for Communities and Local Government (now MHCLG) shows that where supply is more constrained, house prices are higher. This suggests that new supply can address housing affordability issues. The research found, however, that in most places, planning constraints have a larger impact on house prices than physical supply constraints, and that greater incentives for local planning authorities to permit private development are needed;
- Recent research from the US Federal Reserve finds that supply constraints have sizeable effects on house prices, but comparatively modest impacts on rents. Given that residents of areas with socioeconomic challenges are more likely to be renting, this has concerning implications for investment to approve affordability in these areas – unless the impact on house prices is dramatic enough to enable them to purchase property, the effect on their housing costs may be small;
- There is also some evidence on the relationship between affordability and homelessness. A US paper found that the higher rents are as a percentage of incomes (at the community level), the higher is the homelessness rate, with more rapid increases above roughly 32% of income;
- As discussed under health impacts of improved housing conditions, homelessness is associated with health problems and financial costs (i.e. through provision of health services).

## Summary of evidence

Table 4: Housing supply, affordability, and homelessness evidence base - RAG ratings

Overall quality of evidence base	Moderate, with some doubt over size of key effects.	Orange
UK-specific evidence	Predominantly international evidence.	Red
Applicability to Strategic Case	Impacts can be reflected in Strategic Case – though demonstrating them may be difficult.	Orange
Applicability to Economic Case	Impacts can be monetised and reflected in Economic Case – though demonstrating them may be difficult.	Orange



## 4 THE PRODUCTIVITY AND EMPLOYMENT BENEFITS OF HOUSING INVESTMENT

### Logic map and theories of change

Housing investment can support local and regional economic growth – Figure 4 illustrates some of the mechanisms through which this could occur. In the context of the ‘Levelling-Up’ agenda, which aims to tackle regional economic disparities, this argument can form an important part of the Strategic Case.

Relevant activities are:

- The building of new homes (or improvements to existing obsolete housing stock) of a variety of types, including high quality homes suitable for highly-skilled workers;
- Improving place quality to make an area more attractive to residents – this includes public realm, green space, and supporting infrastructure (like new roads to unlock sites or improve connectivity);
- Investment in digital infrastructure to improve local Internet access.

These activities support local employment in a few different ways:

- Short-term employment impacts from growth in the local construction industry and increased demand for locally-produced goods and services. These could be targeted to address local problems of unemployment or economic inactivity, and under the new Green Book these local employment impacts can be reflected in business cases;
- Longer-term employment impacts at the local (neighbourhood/community) level:
  - Meeting local skills gaps (not just those for highly-skilled workers, but at various skill levels) by providing a mix of housing types and tenures for workers.
  - Increasing local population and therefore demand for goods and services – this may provide employment for existing unemployed or inactive residents.
  - Improving residents’ ability to find work through improved digital connectivity;
- Longer-term employment impacts through contributions to city-region growth. The growth of knowledge-intensive city-centre economies relies on attracting (mainly) highly-skilled workers. They need places to live in commutable distance of work, are likely to demand quality homes, i.e. large, family houses in areas with high ‘place quality’.

This investment can also support productivity growth in various ways:

- Growth in the local construction industry could support the deployment of modern methods of construction (MMC). Centralised, high-tech construction has the potential to radically improve productivity in the industry and create more highly-skilled jobs. A potential downside of this is that as construction moves towards MMC, it will create fewer of the lower-skilled jobs it has traditionally provided.

- Agglomeration economies are increases in productivity associated with a higher density of employment, i.e. due to reduced cost of business-to-business interactions. Knowledge-intensive industries are particularly susceptible to agglomeration economies. Development that supports the growth of these industries in city centres, i.e. by providing housing for skilled workers, would support these impacts. The impacts of agglomeration are additional to the effect of attracting more high-skilled workers generally, which directly increases productivity:
  - Increasing the population of an area and therefore overall demand for goods and services may also lead to a process of ‘residential agglomeration’ – improving the variety of privately-provided goods and services on offer. A similar process could occur with public services – a larger population may make the provision of services more viable. These phenomena make the area more appealing as a place to live and work – i.e. there are placemaking impacts.
  - Improved transport connectivity may also support the growth of nearby high-productivity areas (e.g. city centres or high-tech manufacturing clusters);
- Residents who have an insecure and frequently changing housing situation may struggle to sustain employment, for instance if they are unable to find long-term housing in commuting distance of their job. This could adversely affect their ability to gain work experience and therefore productivity. Their children could face similar impacts if frequent changes of school affect their academic performance. Provision of more secure tenancies and improved housing quality, e.g. through social housing, could therefore have short- and long-term productivity impacts;
- Good digital infrastructure supports productive home working. In the wake of Covid-19, this is likely to become more important in the long term for many occupations. Investment in technologies like full fibre broadband alongside housing can therefore make an area more attractive for home workers and support increased (and more productive) home working among existing residents.<sup>3</sup>
  - As working remotely avoids the need to physically travel to work, there are also positive environmental impacts.
  - Digital infrastructure does not just support productivity but boosts quality of life more generally, through improved opportunities to keep in touch with family, stay entertained, or access public services.

The key ultimate impact is therefore increased economic activity (GDP or GVA) at the local or regional level. In areas that have previously experienced poor economic outcomes this will represent a contribution to ‘Levelling-Up’ through spreading economic opportunity more widely. Insofar as market failures have been addressed, some of this growth may be net additional at the national level.

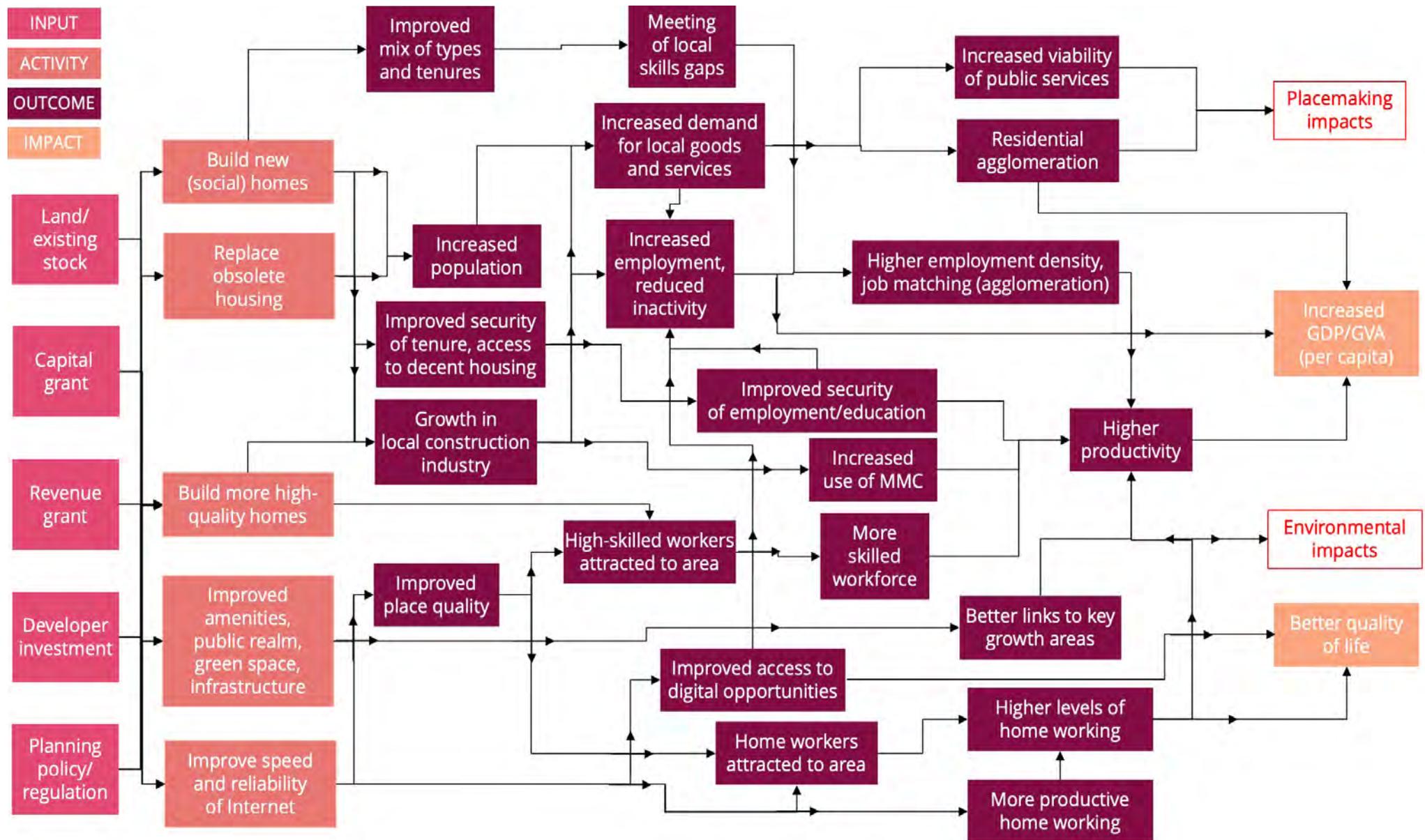
### MHCLG guidance on appraising productivity and employment impacts

The appraisal guidance takes a rather cautious approach to employment impacts. It assumes that jobs created by a development resulting from public expenditure do not increase aggregate employment, and therefore a monetary value should not be put on them unless there is strong evidence of a supply-side effect. The new Green Book confirms that these supply-side effects (i.e. through improvements to human capital, job-search activity, or access to jobs) can be included.

The new Green Book also states that productivity effects should be included in UK cost-benefit calculations, where they can be objectively demonstrated. They may arise for example from moves to more productive jobs, structural changes in the economy, agglomeration, or increased competition in local markets.

<sup>3</sup> This is, however, slightly tangential to housing investment – other than in cases where development clearly accelerates roll-out. In most areas this is already being driven by the government’s wider agenda for the roll-out of full fibre broadband (and 5G).

Figure 4: Productivity and employment benefits of housing investment logic map



## Evidence base review

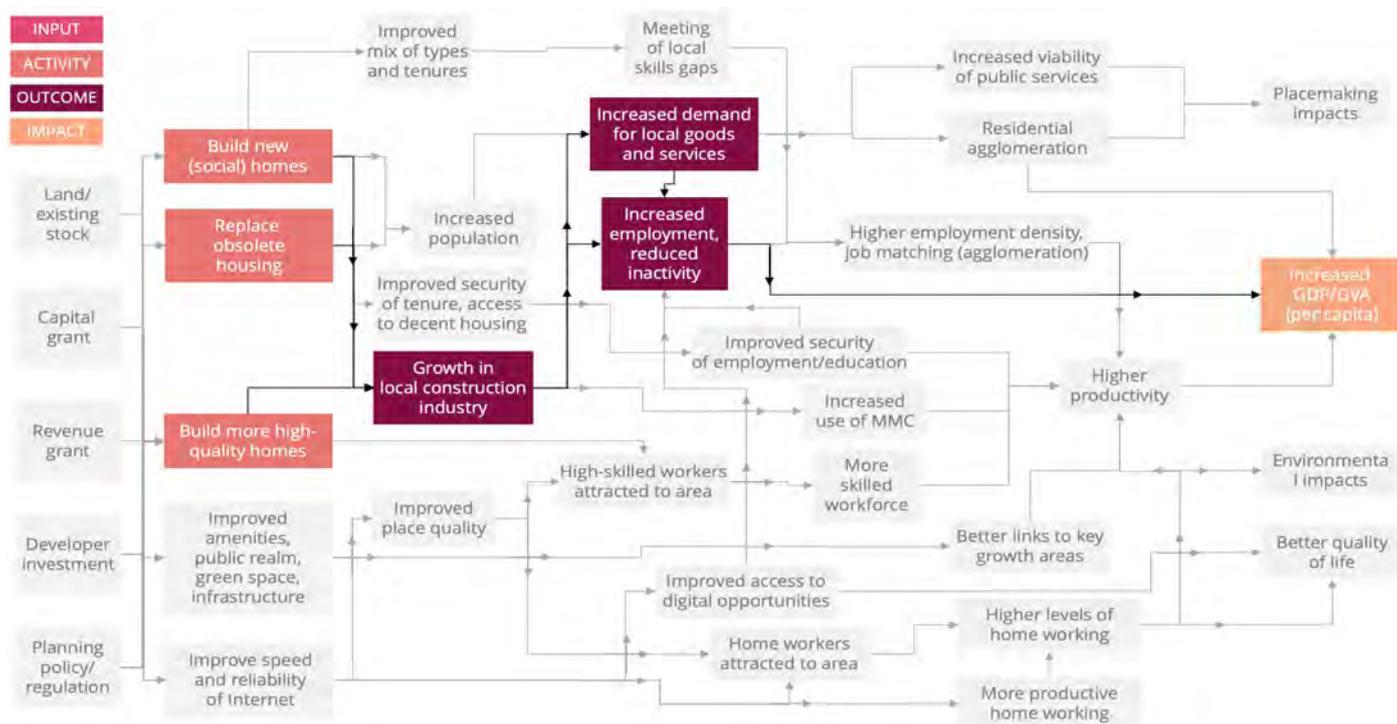
Themes from the productivity and employment logic map considered in the following sub-sections are:

- The employment effects of housing investment, both:
  - those which occur during construction (Figure 5)
  - longer-term effects (local and regional) from the attraction of new workers (Figure 6);
- The impacts of digital infrastructure on employment (Figure 7);
- The impacts of improved housing conditions on employment and education (Figure 8)

## Direct construction impacts

Activities	<ul style="list-style-type: none"> <li>• Build new (social) homes</li> <li>• Replace obsolete housing</li> <li>• Build more high-quality homes</li> </ul>
Outcomes	<ul style="list-style-type: none"> <li>• Growth in local construction industry</li> <li>• Increased demand for local goods and services</li> <li>• Increased employment, reduced inactivity</li> </ul>
Impacts	<ul style="list-style-type: none"> <li>• Increased GDP/GVA (per capita)</li> </ul>

Figure 5: Productivity and employment logic map - Direct construction impacts



Apart from any wider productivity or employment impacts brought about by housing investment, it can also have an immediate and direct impact through the creation of construction jobs. There are further indirect impacts through the supply chain, and induced impacts in the wider economy as a result of employees' spending. A well-respected 2015 study commissioned by the Home Builders Federation found that in the UK the 'scale of employment supported by house building is equivalent to between 4.2 and 4.3 direct, indirect and induced jobs per dwelling built'.<sup>xviii</sup>

Research commissioned by the Northern Housing Consortium and conducted by IPPR North found that a major decarbonisation programme for millions of the North's homes – including retrofits to improve energy efficiency, fitting of heat pumps, and creation of heat networks – could generate significant economic impacts in addition to the environmental benefits. The proposed programme would require £2.36 billion of investment per year over a ten-year period. It is estimated that by 2035 this would create 77,000 direct jobs across the North and a further 111,000 indirect jobs across the UK.<sup>xix</sup>

A research paper from Sheffield Hallam University includes several case studies of projects that have targeted employment impacts in economically struggling areas. These include a regeneration and placemaking project in Plymouth that created 500 jobs and 30 trainee and apprentice positions. 90% of these employees were from Plymouth and 10% from North Prospect (the neighbourhood being regenerated).

Every housing investment scheme will undoubtedly have impacts on economic activity and employment – both directly through the construction or renovation of housing and indirectly through the supply chain and workers' spending on local goods and services. The scale of these impacts and the extent to which they benefit targeted areas is not appraised or evaluated for most projects, however.<sup>xx</sup>

## Summary of evidence

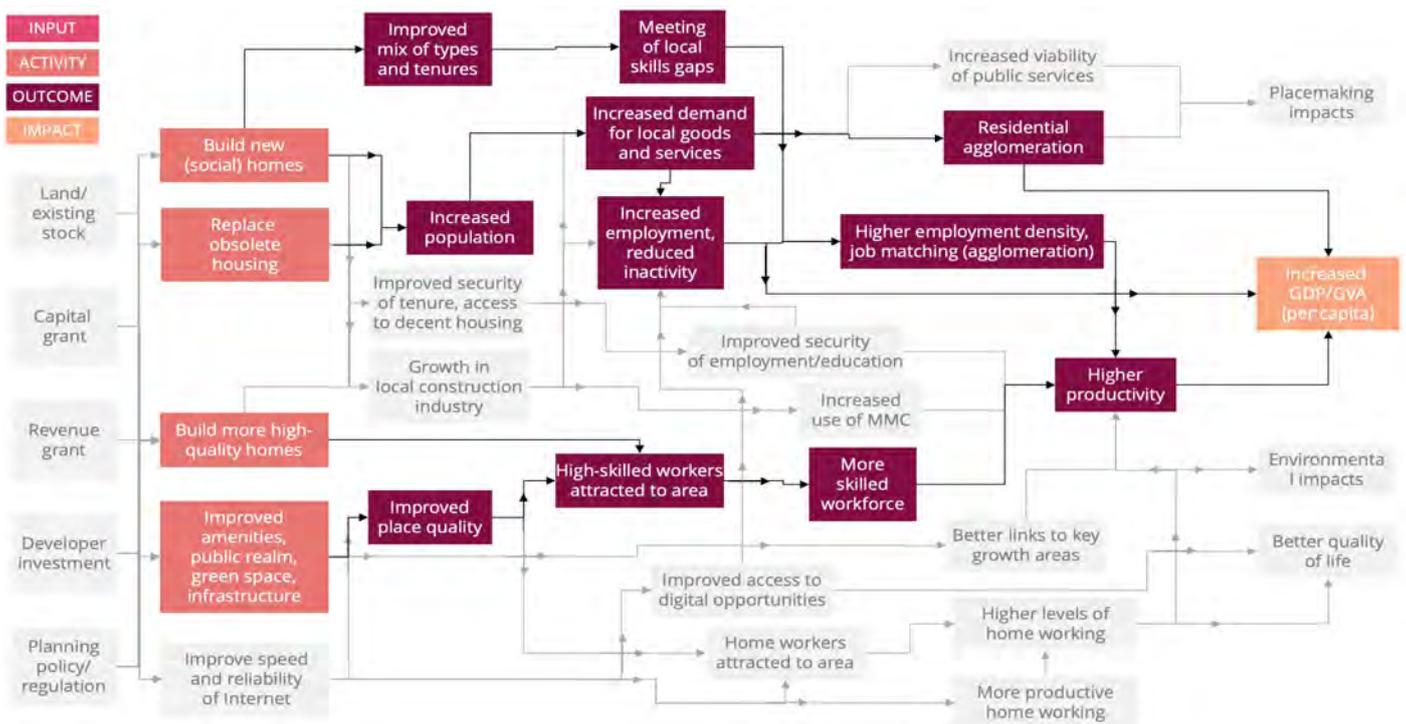
*Table 5: Direct construction impacts evidence base - RAG ratings*

Overall quality of evidence base	Overall impacts well-established, limited evaluation evidence on effectiveness of regionally targeted impacts.	Orange
UK-specific evidence	Analytical and case study evidence is UK-specific.	Orange
Applicability to Strategic Case	Impacts can be reflected in Strategic Case as part of place-based appraisal – if they can be demonstrated.	Green
Applicability to Economic Case	Impacts can be monetised and reflected in Economic Case as part of place-based appraisal – if they can be demonstrated.	Green

## Housing and the attraction of workers

Activities	<ul style="list-style-type: none"> <li>• Build new (social) homes</li> <li>• Replace obsolete housing</li> <li>• Build more high-quality homes</li> <li>• Improved amenities, public realm, green space, infrastructure</li> </ul>
Outcomes	<ul style="list-style-type: none"> <li>• Improved mix of types and tenures</li> <li>• Meeting of local skills gaps</li> <li>• Increased population</li> <li>• Increased demand for local goods and services</li> <li>• Increased employment, reduced inactivity</li> <li>• Residential agglomeration</li> <li>• Improved place quality</li> <li>• High-skilled workers attracted to area</li> <li>• More skilled workforce</li> <li>• Higher employment density, job matching (agglomeration)</li> <li>• Higher productivity</li> </ul>
Impacts	<ul style="list-style-type: none"> <li>• Increased GDP/GVA (per capita)</li> </ul>

Figure 6: Productivity and employment logic map - Housing and the attraction of workers



There is good evidence that the availability of skilled workers is an important factor in firms' location decisions, particularly for highly productive multinational investors. In theory, there is also an obvious link between the availability of high-quality housing or public realm and the attraction of highly skilled workers to an area – these workers should be reasonably mobile and well-off financially, so would be expected to choose to live in places which offer a high-quality home environment. There does not, however, appear to be strong academic research on this point. Nevertheless, international studies do provide some evidence:

- In the Netherlands, highly skilled foreign workers tend to locate in central urban neighbourhoods with lots of urban amenities and good access to employment. Land value, tenure composition, and date of construction seem not, however, to have significant effects; <sup>xxiii</sup>
- Net migration rates in German cities are positively influenced by availability of recreation areas and quality of housing (measured by flat size). Economic factors (low unemployment, high employment growth, high wages) and low crime rates are also important; <sup>xxiv</sup>

There is also some evidence focusing specifically on the challenges faced by key workers (highly skilled or not): Survey evidence gathered on behalf of the Scottish Government found that: <sup>xxv</sup>

- Lack of affordable accommodation in the most remote locations (i.e. outlying islands) impedes recruitment of healthcare workers;
- There are also issues in economically successful areas where earnings and housing costs are high (i.e. Aberdeen/Aberdeenshire in that context);
- A lack of suitable/affordable accommodation is most likely to have impacts on fixed term/temporary staff, teachers, and those on lower pay grades.

Whilst the link between new housing and increased population is obvious (provided new housing is occupied), there is a lack of evidence on the economic effects of this population through increased demand for goods and services.

## Summary of evidence

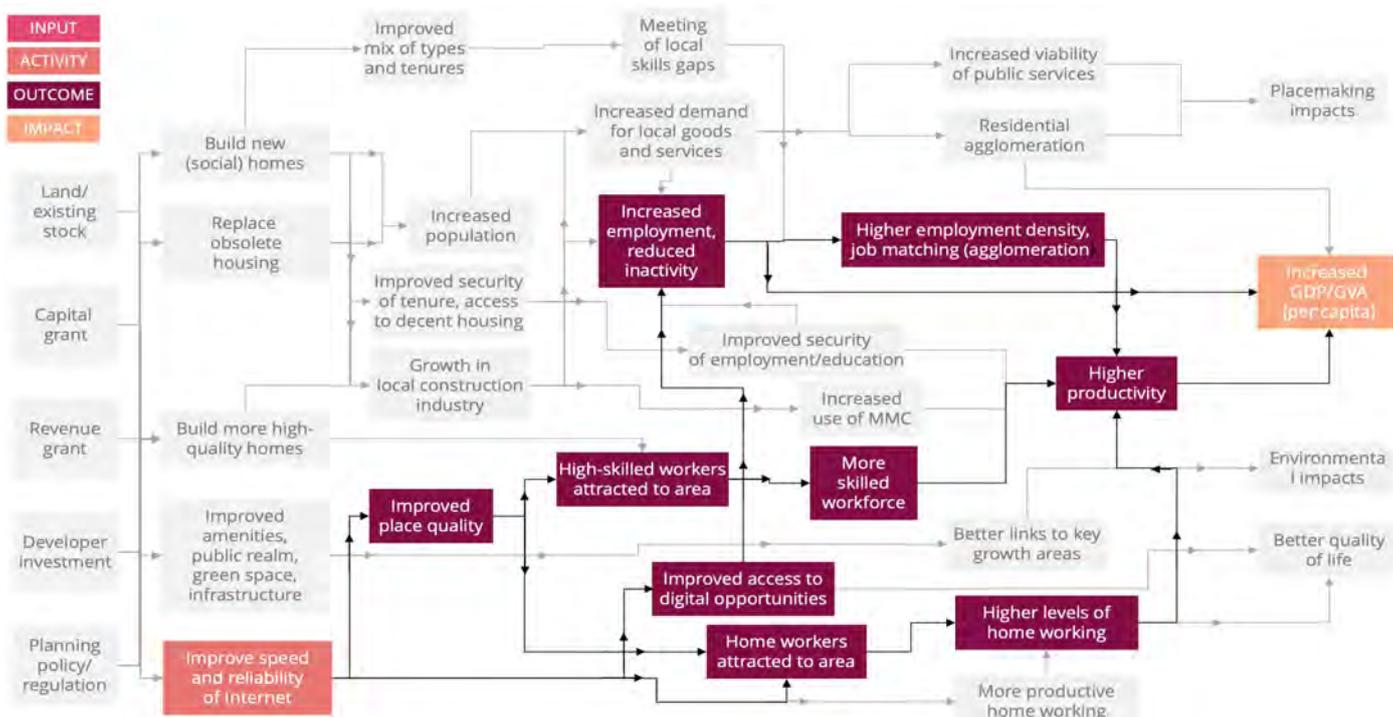
Table 6: Housing and the attraction of workers evidence base - RAG ratings

Overall quality of evidence base	Limited studies find weak links only. Case study/survey evidence relating to key workers.	Yellow
UK-specific evidence	Case study/survey evidence, only focusing on key workers	Red
Applicability to Strategic Case	Could support local growth/skills gap objectives and Levelling-Up, though evidence is limited.	Yellow
Applicability to Economic Case	Difficult to monetise and demonstrate additionality, evidence is limited.	Red

## Digital infrastructure and employment

Activities	<ul style="list-style-type: none"> <li>Improve speed and reliability of Internet</li> </ul>
Outcomes	<ul style="list-style-type: none"> <li>Improved place quality</li> <li>High-skilled workers attracted to area</li> <li>More skilled workforce</li> <li>Improved access to digital opportunities</li> <li>Increased employment, reduced inactivity</li> <li>Higher employment density, job matching (agglomeration)</li> <li>Home workers attracted to area</li> <li>Higher levels of home working</li> <li>Higher productivity</li> </ul>
Impacts	<ul style="list-style-type: none"> <li>Increased GDP/GVA (per capita)</li> </ul>

Figure 7: Productivity and employment logic map - Digital infrastructure and employment



There is some evidence to support a link between improved Internet connectivity (which may be provided as part of housing construction or regeneration) and labour supply:

- Statistical analysis conducted as part of a DCMS study suggested that delivery of subsidised broadband coverage led to modest reductions in unemployment, but not economic inactivity;
- A Canadian study estimated that deployment of FTTP (fibre-to-the-premises) to 100% of a region (considering 39 small regions in Canada) resulted in a 2.9% increase in employment.

Given the ubiquity of superfast broadband (which should be sufficient for job-search purposes) in the UK nowadays, the more important effects of high-quality digital infrastructure, like full fibre may be in the attraction of home workers and the quality-of-life benefits associated with fast, reliable connections. Employment effects may also be a result of full fibre helping an area to attract businesses which rely on fast, reliable Internet – in which case they may not all be additional at the national level.

There does not appear to be evidence one way or the other on the impact of improved Internet connectivity on attraction of high-skilled workers or home workers and the resulting economic impacts – perhaps unsurprisingly given how recent of a consideration this is.

## Summary of evidence

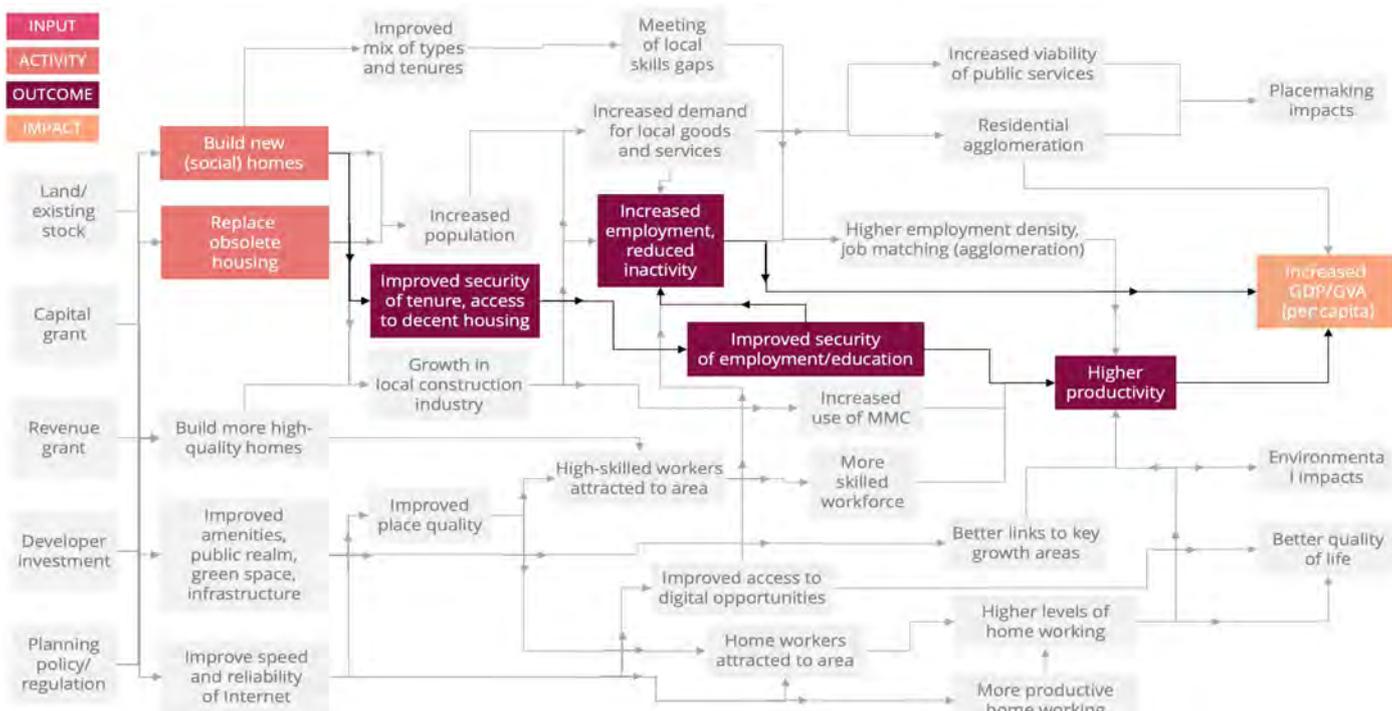
*Table 7: Digital infrastructure and employment evidence base - RAG ratings*

Overall quality of evidence base	Statistical evidence supports impacts on employment but not inactivity.	Green
UK-specific evidence	Mixture of UK and international evidence.	Orange
Applicability to Strategic Case	Could support Levelling-Up objectives in areas with low employment.	Green
Applicability to Economic Case	Provided additionality can be demonstrated, could be monetised and included.	Orange

## Economic effects of improved housing conditions

Activities	<ul style="list-style-type: none"> <li>• Build new (social) homes</li> <li>• Replace obsolete housing</li> </ul>
Outcomes	<ul style="list-style-type: none"> <li>• Improved security of tenure, access to decent housing</li> <li>• Improved security of employment/education</li> <li>• Increased employment, reduced inactivity</li> <li>• Higher productivity</li> </ul>
Impacts	<ul style="list-style-type: none"> <li>• Increased GDP/GVA (per capita)</li> </ul>

Figure 8: Productivity and employment logic map - Economic effects of improved housing conditions



The health logic map suggests that improved housing conditions may lead to improved labour supply or reduced absenteeism from work or school, and indeed there is some evidence to support this view.

- A wide-ranging, international literature review (with meta-analysis of quantitative outcomes where possible) on the various impacts of improvements to domestic thermal comfort found evidence that these measures can lead to statistically significant reductions in absences from school or work – alongside the sorts of health benefits more usually associated with them;
- Another review focused on the effectiveness of reducing exposure to asthma triggers in the home. It found that they were effective in improving overall quality of life and productivity in children and adolescents with asthma. The evidence regarding effectiveness of these interventions for adults was inconclusive due to a small number of studies and inconsistent results.

Evidence such as this could be important in supporting housing investment in the poorest areas with issues of very low housing quality – alongside the land value uplift and health benefits, it may be possible to demonstrate a long-term positive impact on GVA from improving residents' housing conditions.

## Summary of evidence

Table 8: Economic effects of improved housing conditions evidence base - RAG ratings

Overall quality of evidence base	Strong literature review-based evidence.	Green
UK-specific evidence	Mix of UK and international evidence.	Orange
Applicability to Strategic Case	Impacts can be reflected in Strategic Case.	Green
Applicability to Economic Case	Impacts can be reflected in Economic Case, but precise monetisation may be difficult.	Orange



# 5 THE ENVIRONMENTAL BENEFITS OF HOUSING INVESTMENT

## Logic map and theories of change

Housing investment can lead to improved environmental outcomes through impacts on domestic energy consumption and travel behaviour, as illustrated on Figure 9. Given the enhanced role of the Strategic Case in the new Green Book and the importance of the government's Net Zero agenda, this could form an important element of future housing investment business cases.

Relevant activities are:

- Building new, environmentally friendly homes or retrofitting existing ones in order to make them more energy efficient;
- Provision of low-carbon heating alternatives (e.g. district heat networks), local, renewable energy generation (e.g. solar panels fitted onto houses), and support services (e.g. affordable warmth advice provided through housing associations) to help residents reduce their environmental impact;
- Improvements to public and active transport provision integrated with housing provision. This may include provision of bus services, bus priority schemes, cycle lanes, and cycle storage alongside new or regenerated housing and designed to connect these developments to retail, employment, and education. As part of larger schemes, options such as guided busways, light or heavy rail connections could be provided;
- Investment in flood defences (including reducing damage from flooding through environmental design measures).

A reduction in CO<sub>2</sub> emissions is the key environmental impact of these activities.

This can occur in various ways:

- Lower consumption of electricity or gas in the heating or powering of homes, due to their increased energy efficiency and improved heating system management;
  - This also results in health impacts through reduced fuel poverty.
- Switching to more sustainable sources of energy, e.g. by switching home heating from fossil fuels to electricity (the generation of which is becoming progressively cleaner);
- Reduced car travel as a result of improved public and active transport alternatives.
  - This also results in positive health impacts due to fewer accidents, improved air quality, and increased physical activity.
  - Reduced traffic congestion improves quality of place.

Investment in flood defences could make an area more attractive to residents through improved feelings of security (i.e. improving the quality of place through reduced chance of damage, longer-term habitability of the area) and may be money-saving for central government in the long run as disaster recovery costs are reduced.

Improving the environmental performance of homes – through new build or retrofit, or provision of low-carbon heating alternatives – could form part of a 'green industrial revolution', creating employment, improving productivity, and advancing environmental objectives at the same time.

## MHCLG guidance on appraising environmental impacts

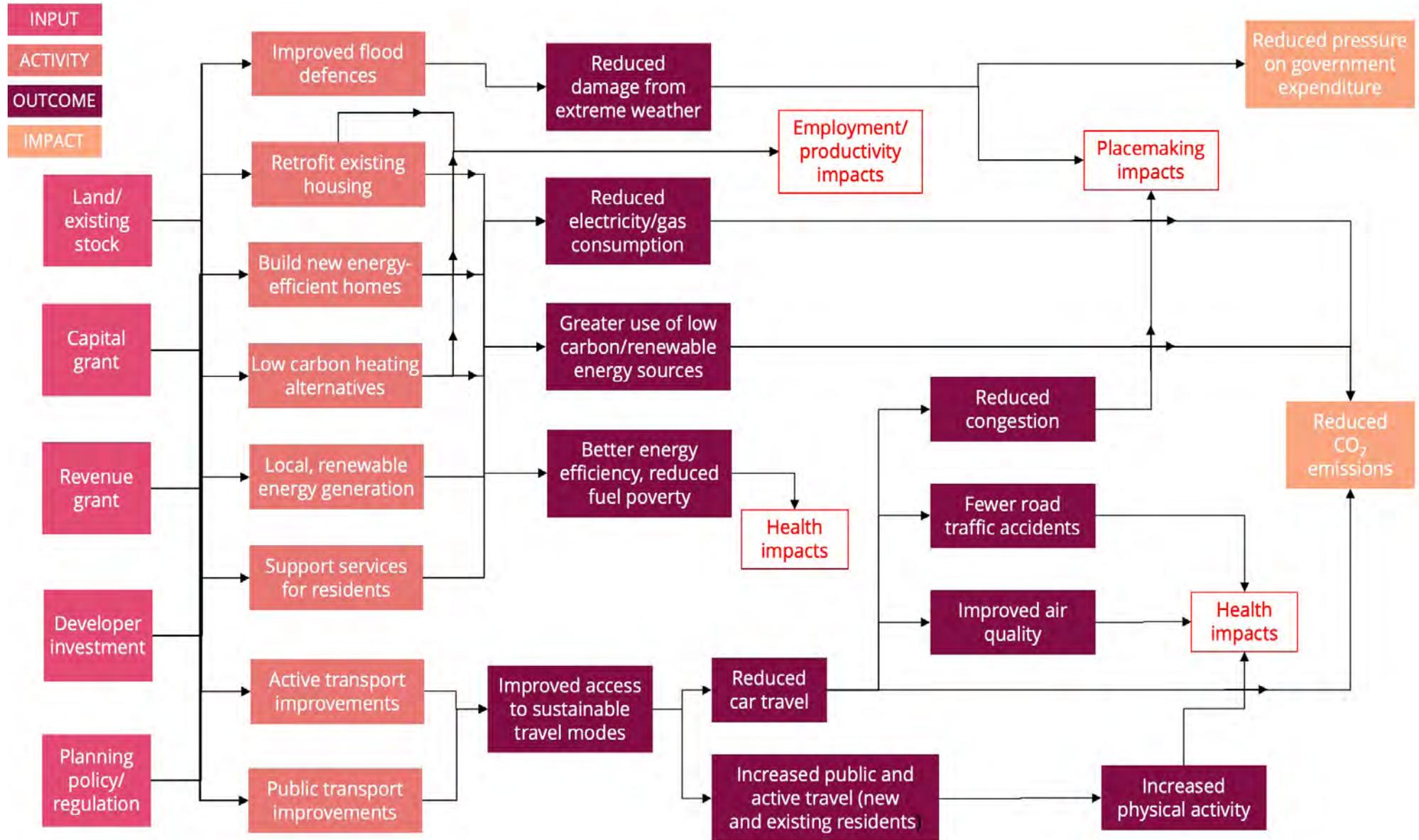
The Department for Business, Energy & Industrial Strategy (BEIS) guidance on valuation of energy use and greenhouse gas is supplementary to the Green Book, and provides guidance on appraisal of key environmental impacts.

The analytical process includes:

- Identification of energy use and emissions counterfactuals – in the case of housing policy this would relate to energy performance of homes and transport patterns without the scheme – and interactions with other policies;
- Quantification and valuation of changes in fuel use;
- Quantification and valuation of changes in emissions;
- Identification of other impacts, e.g. on air quality or energy resilience, distributional impacts.

Given the potential impacts on domestic energy consumption and transport use, it is clear that housing investment schemes can demonstrate significant environmental benefits under this process.

Figure 9: Environmental benefits of housing investment logic map



## Evidence base review

The environmental logic map primarily considers the impacts of:

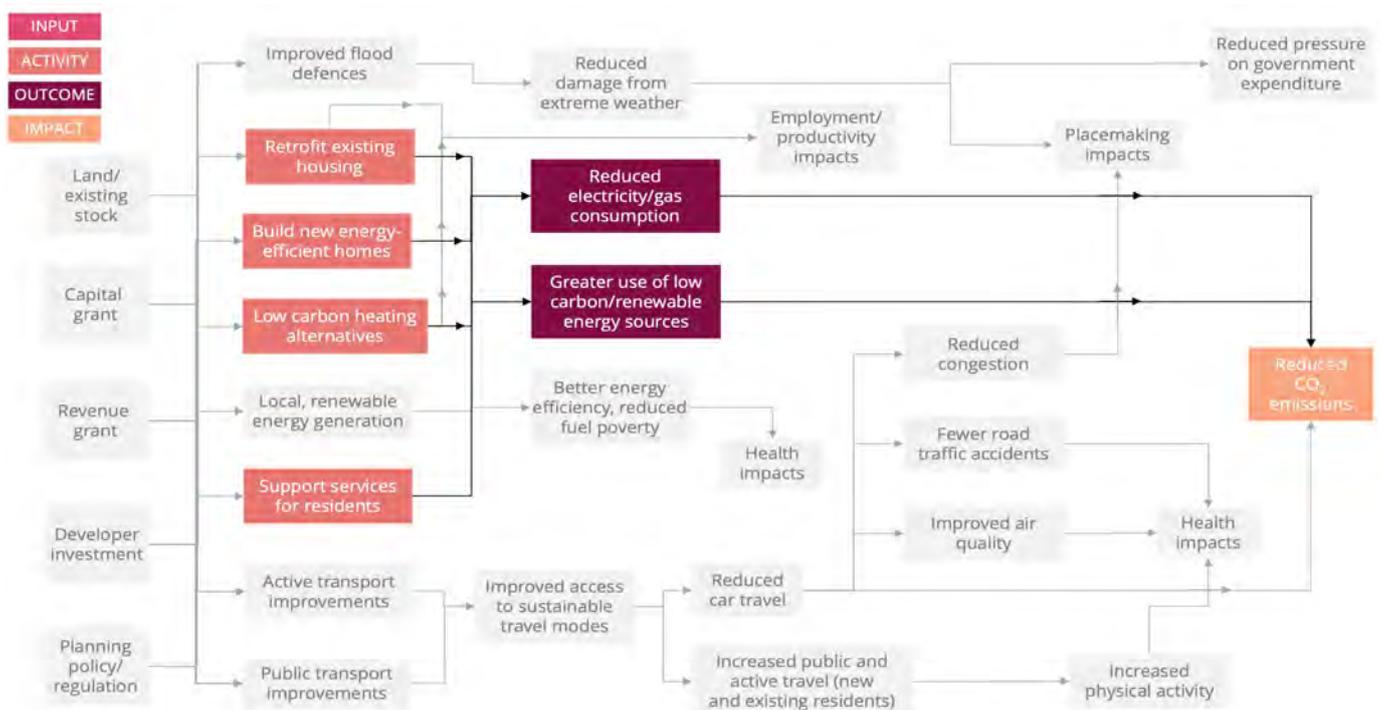
- Improved energy efficiency through construction or regeneration of housing (Figure 10)
- Public or active transport improvements provided as part of housing investment schemes<sup>4</sup> (Figure 11)

These are considered in the following sub-sections.

## Improved domestic energy efficiency

Activities	<ul style="list-style-type: none"> <li>• Retrofit existing housing</li> <li>• Build new energy-efficient homes</li> <li>• Low carbon heating alternatives</li> <li>• Support services for residents</li> </ul>
Outcomes	<ul style="list-style-type: none"> <li>• Reduced electricity/gas consumption</li> <li>• Greater use of low carbon/renewable energy sources</li> </ul>
Impacts	<ul style="list-style-type: none"> <li>• Reduced CO2 emissions</li> </ul>

Figure 10: Environmental logic map - Improved domestic energy efficiency



New or retrofitted homes can provide improved energy efficiency through more environmentally-friendly heating or improved insulation which reduce energy requirements.

<sup>4</sup> The development of housing in areas which are already well-connected to public transport (with available capacity) could achieve similar effects

In addition to the health and wellbeing benefits discussed previously, this can lead to reduced energy requirements and therefore reduced CO2 emissions associated with domestic energy use. There is good academic evidence to support this:

- The ‘Energy Bill Revolution’ was a proposed programme to bring all low income homes up to a Band C on their Energy Performance Certificate (EPC), and for other households to be offered interest-free loans for improvements. A model-based assessment of the economic, financial, and environmental impacts of the scheme found that it would lead to energy bill savings of £8.61bn<sup>5</sup> and CO2 reductions of 23.6Mt per annum by 2030; <sup>xxx</sup>
- The Homes Energy Efficiency Database (HEED) brings together data on energy efficiency retrofits and gas and electricity use for over 50% of all UK homes. A 2013 analysis of this data found that: <sup>xxxi</sup>
  - Controlling for other dwelling characteristics, those with energy efficiency improvements use less energy than those without.
  - ‘Substantial’ measures such as cavity wall insulation, double glazing and boiler replacements deliver the biggest impacts, whereas the energy reduction associated with loft insulation is comparatively smaller;
- Evaluation of the Warm Front scheme (mentioned under Health), however, suggested that improvements to energy efficiency and heating actually led to increased fuel consumption. This scheme was targeted at the poorest households, and it isn’t clear whether the response of this group was representative of the wider population;
- A paper from the Climate Change Committee found that energy efficiency measures could be cost-effective in delivering significant carbon reductions: <sup>xxxii</sup>
  - Heat pumps in new build homes were found to offer significant potential for carbon savings – between 25 and 85 tonnes of CO2 over the 60-year lifetime of a home relative to one built to current standards but with a gas boiler. The £800-£2,500 cost of installing a heat pump instead represents a 0.6%-2.0% increment on total build costs.
  - Ultra-high energy efficiency standards in new homes were estimated to deliver lifetime carbon savings of 27 tonnes (assuming a semi-detached home with gas boiler), and annual energy bill savings of £55. The uplift on build costs is between 1.1% and 4.3% but retrofitting existing homes to meet these standards is in the order of five times more expensive – indicating the value of designing in these standards from the start.

## Summary of evidence

*Table 9: Improved domestic energy efficiency evidence base - RAG ratings*

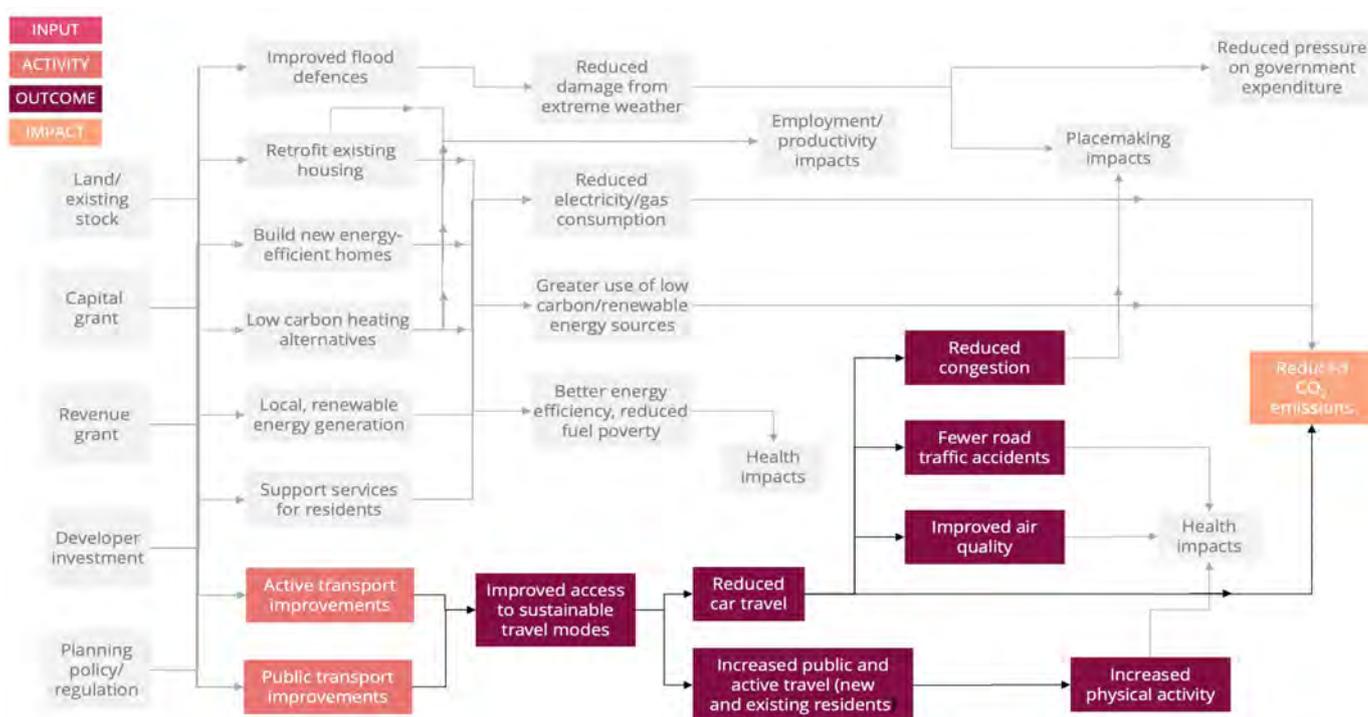
Overall quality of evidence base	Strong literature review-based evidence.	
UK-specific evidence	Strong UK-focused evidence.	
Applicability to Strategic Case	Impacts can be reflected in Strategic Case and are highly compatible with environmental objectives.	
Applicability to Economic Case	Impacts can be monetised and reflected in Economic Case.	

<sup>5</sup> To put this figure in context, according to BEIS estimates household expenditure on fuel and power (solid fuels, gas, electricity, and liquid fuels) was £25.5bn in 2019 (24.7bn in 2014, the year the report was published). Total household expenditure on energy, Department for Business, Energy & Industrial Strategy, June 2020. [Link](#).

## Public and active transport improvements

Activities	<ul style="list-style-type: none"> <li>• Active transport improvements</li> <li>• Public transport improvements</li> </ul>
Outcomes	<ul style="list-style-type: none"> <li>• Improved access to sustainable travel modes</li> <li>• Reduced car travel</li> <li>• Increased public and active travel (new and existing residents)</li> <li>• Reduced congestion</li> <li>• Fewer road accidents</li> <li>• Improved air quality</li> <li>• Increased physical activity</li> </ul>
Impacts	<ul style="list-style-type: none"> <li>• Reduced CO2 emissions</li> </ul>

Figure 11: Environmental logic map - Public and active transport improvements



There is good evidence to support environmental benefits arising from improved access to public and active transport. US-based literature reviews suggest that:

- Introducing or expanding public transport systems leads to increased usage, particularly in dense, centralised urban environments, where they can limit urban sprawl, and reduce car use. Given that public transportation systems produce significantly lower emissions per passenger mile than private vehicles, the impacts of will include reduced CO2 and improved air quality<sup>xxxiii</sup>. Some transport appraisals capture 'dependent development' benefits but this is not consistently the case;
- Provision of walking and cycling trails and improvements to safety (e.g. through traffic control) increases physical activity and use of active transport. This is a relatively cost-effective way of reducing vehicle miles travelled and emissions.<sup>xxxiv</sup>

A 2017 report into the air quality benefits of active travel commissioned by Sustrans evaluates the impacts of community-based active travel schemes.<sup>xxxv</sup> This report found that:

- Impacts vary according to size and population density of the area, the proportion of the scheme which is traffic-free, and the proportion of journeys taken by bus or car in the counterfactual;
- If England's Cycling and Walking Investment Strategy (CWIS) target to double cycling were achieved, this would result in £288 million in annual air pollution benefits. If the target to increase walking journeys by roughly 50% were achieved, there would be £279 million of benefits.

Academic evidence and DfT guidance on 'diversion factors' provides estimates of how an intervention on one mode of transport affects demand for other modes. The evidence assessment from RAND, for example, reviews UK-focused evidence and suggests bus diversion factors of 0.31 from car, 0.06 from rail, 0.42 from cycle/walk, and 0.21 generated. On this basis, if a service improvement generates 100 additional bus journeys, there is corresponding reduction of 31 car journeys, 6 rail journeys, and 42 cycle/walk journeys. 21 journeys are generated, i.e. they would not have happened in the absence of the improvement.

Whilst the sources considered here are about public and active transport provision in general – rather than that linked to new or improved housing – housing investment schemes may provide an opportunity to integrate sustainable transport with people's homes. In the case of larger schemes – e.g. 'garden village' plans, a whole community may be designed around the use of low-carbon transport options. The 'What Works' literature review on public transportation also notes that it can make a neighbourhood more attractive, leading to increased rents and displacement of residents – this suggests that there is a case for investing in transport and housing together to ensure that housing affordability is maintained.

## Summary of evidence

*Table 10: Public and active transport improvements evidence base - RAG ratings*

Overall quality of evidence base	Reasonably strong literature review and modelling evidence – not focused on housing investment context however.	Orange
UK-specific evidence	Mixture of UK and international evidence.	Orange
Applicability to Strategic Case	Impacts can be reflected in Strategic Case and are highly compatible with environmental objectives.	Green
Applicability to Economic Case	Impacts can be monetised and reflected in Economic Case.	Green



# 6 THE PLACEMAKING BENEFITS OF HOUSING INVESTMENT

## Logic map and theories of change

As shown in Figure 12, housing investment could lead to general 'quality of place' impacts, making certain locations more attractive to residents and businesses. These are likely to be particularly relevant where the scheme is part of a wider urban renewal strategy. Relevant activities are:

- Remediation of brownfield land and regeneration of low-quality or obsolete housing stock, which may be acting as a blight on an area and therefore inhibiting development;
- Improving public realm, green space, and supporting infrastructure – i.e. general improvements to place quality;
- Community and social investments (e.g. by housing associations).

A key outcome of these activities is a general improvement in place quality. This leads to:

- A direct impact on quality of life, i.e. for existing residents who now live in a more pleasant environment.
- Improved perceptions of the area – not just the location of the scheme itself but potentially the wider area around it.
  - This can make existing housing more viable – people who have a choice will be more willing to stay in the area, reducing turnover in the housing market and improving community cohesion (this may also be addressed more directly through housing associations' community/social investment activities).
  - More working residents will be attracted or retained, supporting local economic activity and employment;
- Uplifts in nearby land values – a low quality place may have been causing 'blight' on neighbouring areas.
  - This could unlock further housing development and densification, improving the supply and mix of housing, thereby improving quality of life.
  - New development increases local population, supporting employment, residential agglomeration, and public services, improving quality of life.

Remediation of brownfield land and regeneration of existing housing may also support more sustainable urban planning, e.g. high-density urban environments rather than sprawling, low-density, car dependent settlements that require the development of greenfield land. Making brownfield land viable for housing development (i.e. through removal of contaminants) can also reduce blight effects on neighbouring areas, increasing nearby land values and spurring further development or densification. These improvements could also help to reduce crime and anti-social behaviour, which imposes costs on the taxpayer and can be highly detrimental to residents' quality of life. This could occur through:

- Practical steps that reduce opportunities for crime/ASB, e.g. street lighting, CCTV, removal of subways;
- Increased employment resulting from the attraction/retention of skilled workers;
- Improved perceptions of the area and community cohesion.

Improvements to place quality and community/social investments may also reduce opportunities for crime and anti-social behaviour.

Whilst the key impacts considered here relate to quality of life, this logic map is closely related to the employment and productivity map, as quality of place is believed to be an important factor in supporting economic growth through the attraction of workers.

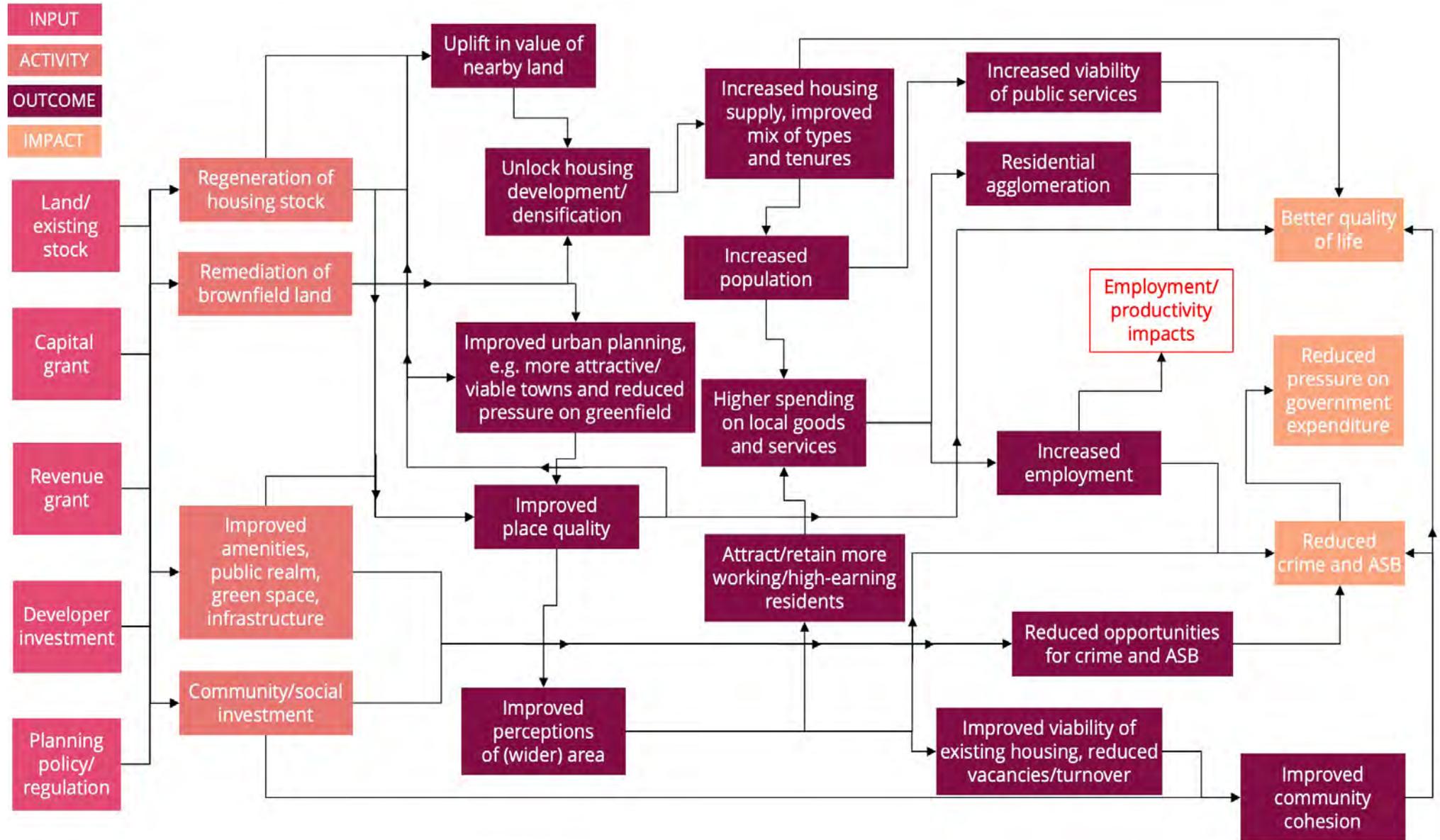
## MHCLG guidance on appraising placemaking impacts

The appraisal guide provides estimates for the amenity impacts of changes in land use, for instance the external benefits to society of developing a previously derelict site, or the external costs related to developing a greenfield site. Whereas amenity impacts to new individuals or firms are already captured by land value uplift, impacts on existing individuals or firms are external benefits.

There is also Home Office guidance on the economic and social costs of crime, providing prevention values for various crimes – for instance they estimate that a single domestic burglary costs £5,930. These costs cover preventative measures taken in anticipation of crime, consequences of crimes, and costs of police response, and even include consideration of the carbon costs of crime. Total costs of crime in England and Wales, 2015/16 were estimated at £50bn for crimes against individuals and £9bn for crimes against businesses.

Unsurprisingly, given the difficulty in capturing general 'quality of life' impacts, there is no specific guidance relating to them.

Figure 12: Placemaking benefits of housing investment logic map



## Evidence base review

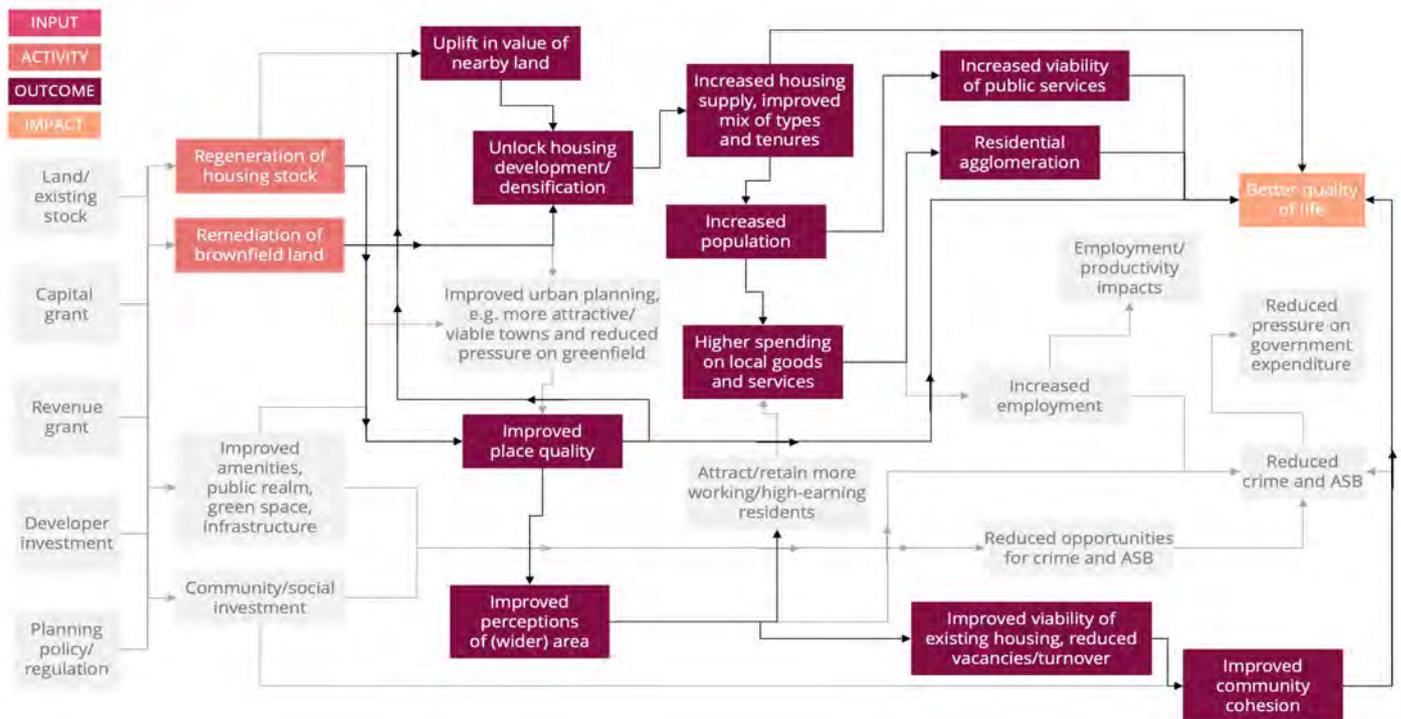
The key theories of change in the placemaking logic map explored in the following sub-sections concern:

- Housing market impacts resulting from housing improvements (Figure 13);
- The quality-of-life benefits from access to green space and other amenities (Figure 14);
- The ability to reduce opportunities for crime and anti-social behaviour through regeneration and place design (Figure 15);
- More sustainable modes of urban planning, for instance high-density brownfield development to preserve green space (Figure 16).

## Housing market impacts of housing improvements

Activities	<ul style="list-style-type: none"> <li>• Regeneration of housing stock</li> <li>• Remediation of brownfield land</li> </ul>
Outcomes	<ul style="list-style-type: none"> <li>• Uplift in value of nearby land</li> <li>• Unlock housing development/densification</li> <li>• Increased housing supply, improved mix of types and tenures</li> <li>• Increased population</li> <li>• Higher spending on local goods and services</li> <li>• Increased viability of public services</li> <li>• Residential agglomeration</li> <li>• Improved place quality</li> <li>• Improved perceptions of (wider) area</li> <li>• Improved viability of existing housing, reduced vacancies/ turnover</li> <li>• Improved community cohesion</li> </ul>
Impacts	<ul style="list-style-type: none"> <li>• Better quality of life</li> </ul>

Figure 13: Placemaking logic map - Housing market impacts of housing improvements



As shown on the placemaking logic map, if housing improvements, brownfield remediation programmes, or other place quality measures lead to increases in neighbouring land values, they could stimulate investment across a wider area (as well as implicitly improving the utility of nearby residents, hence the increase in land values).

Evaluations of the 2002-2011 Housing Market Renewal (HMR) programme provide evidence on relationships between housing regeneration and local housing markets. This programme targeted highly disadvantaged areas in the North and Midlands and focused on regeneration (40,000 homes refurbished between 2002 and 2008, compared to 1,100 new builds):<sup>xxxvii</sup>

- Assessing performance against departmental housing targets, the National Audit Office (NAO) found that in the targeted ('pathfinder') areas:<sup>xxxviii</sup>
  - The number of low demand properties fell. Low demand properties include those that are vacant, have low or falling values, and those that are difficult to let or have a high degree of tenancy turnover. The number of properties classed as low demand in pathfinder areas, however, fell by 42% between 2002 and 2006 – this compared to 44% in England as a whole;
  - Whilst some pathfinder areas were successful in reducing housing vacancy levels relative to their wider regions, overall performance was mixed;
  - House prices in pathfinder areas were 54% of regional figures in 2002, increasing to 71% by 2006, which indicates that the programme had a positive effect but that significant gaps remain;
  - Compared to low demand areas not included in the scheme, between 2002 and 2006 pathfinder areas saw bigger declines in vacancy rates (16% rather than 12%) and bigger increases in house prices (147% rather than 136%).

A report commissioned after the programme's cancellation makes the case that HMR achieved many positive outcomes, but that – given the scale and duration of action needed in ex-industrial and inner city areas – the cancellation of the programme in 2011 meant that opportunities to fundamentally change these areas were missed, as doing so is a very long-term process. It also argued that the economic context is vital, and regeneration must be co-ordinated with support for economic growth by providing the 'right housing in the right places at the right time'.<sup>xxxix</sup>

There is also some evidence on land and property value impacts from the United States:

- An urban revitalisation programme targeting neighbourhoods in Richmond, Virginia from 1999-2004 provides evidence for land value uplift externalities. Sites in targeted neighbourhoods that did not themselves benefit from capital improvements saw greater increases in land values than sites in a non-targeted control neighbourhood. These externalities appeared to decrease exponentially with distance, decreasing by half approximately every 990 feet (300m). Overall, the identified increases translated into land value gains of between \$2 and \$6 per dollar invested in the program over a six-year period;<sup>xi</sup>
- Another study examined data from the Brownfields Program run by the Environmental Protection Agency (EPA). It found positive, statistically significant, but highly localised effects on nearby housing prices.<sup>xii</sup>

Conversely, provision of affordable housing sometimes generates concerns that nearby property values will be adversely affected. Simpler 'test vs control' studies investigating this question find no effect or small positive effects. More complex studies produced more nuanced findings. They indicated that affordable housing *can* have detrimental effects on property prices, but the chances of this are reduced if the homes are of high quality design and are well managed, so that they 'fit in' with the host neighbourhood (i.e. there are not wide disparities in value between new and existing housing) and not concentrated among other affordable housing.<sup>xiii</sup>

Residential agglomeration and increased viability of public services are impacts which certainly exist in theory, but for which there is not at this point an evidence base.

## Summary of evidence

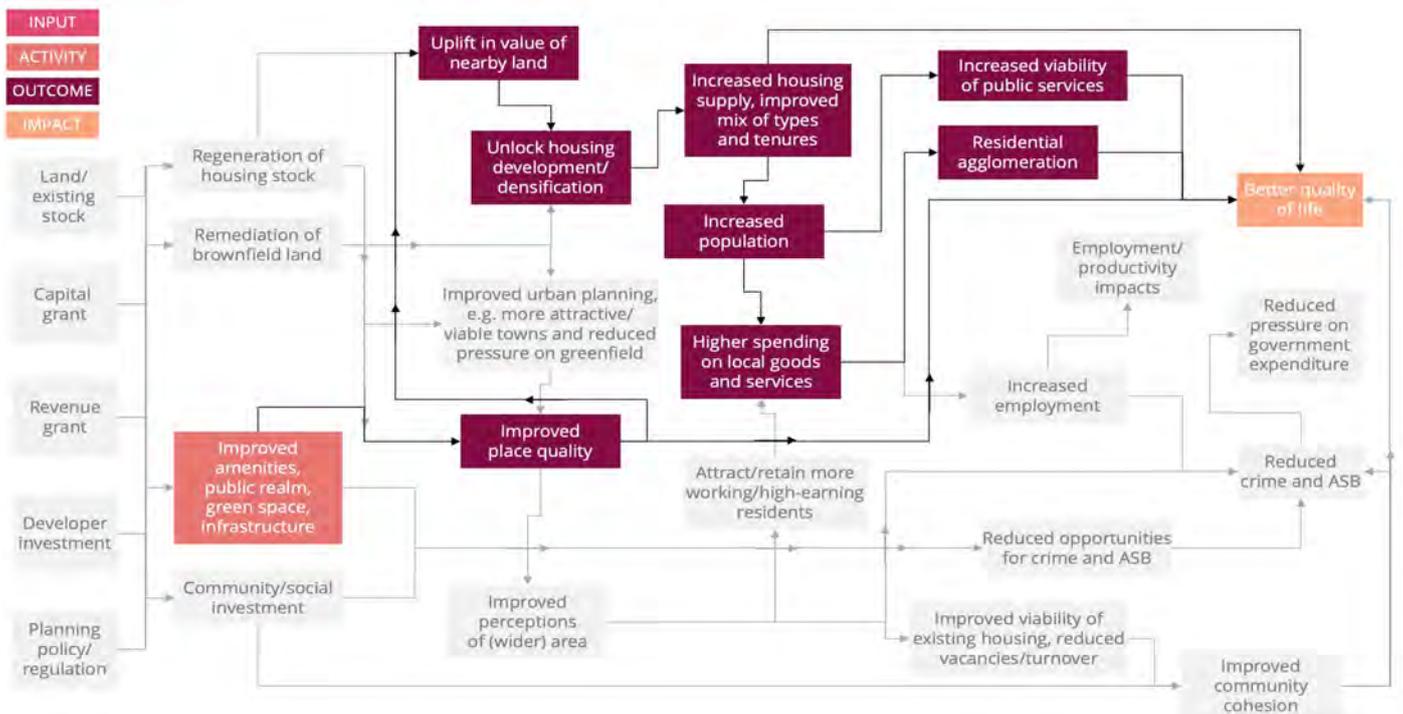
Table 11: Housing market impacts of housing improvements evidence base - RAG ratings

Overall quality of evidence base	Strong, statistical evidence to support nearby land value impacts. Evaluation evidence to support impact of regeneration on housing market.	Green
UK-specific evidence	Land value impact evidence is international. Regeneration impact evidence is UK-focused.	Orange
Applicability to Strategic Case	Impacts can be reflected in Strategic Case.	Green
Applicability to Economic Case	Land value impacts can be monetised and reflected in Economic Case.	Orange

## The impacts of green spaces and amenities

Activities	<ul style="list-style-type: none"> <li>Improved amenities, public realm, green space, infrastructure</li> </ul>
Outcomes	<ul style="list-style-type: none"> <li>Uplift in value of nearby land</li> <li>Unlock housing development/densification</li> <li>Increased housing supply, improved mix of types and tenures</li> <li>Increased population</li> <li>Higher spending on local goods and services</li> <li>Increased viability of public services</li> <li>Residential agglomeration</li> <li>Improved place quality</li> </ul>
Impacts	<ul style="list-style-type: none"> <li>Better quality of life</li> </ul>

Figure 14: Placemaking logic map - The impacts of green spaces and amenities



Land value effects may also arise from the provision of public amenities such as parks. A hedonic modelling approach, carried out by the GLA, relating London house prices to access to green space provides evidence to support this view. Each hectare of park space within 1km was found to increase house prices by 0.08%. The presence of a regional or metropolitan park within 600 metres was found to add between 1.9% and 2.9% to total house value. <sup>xliii</sup> These benefits therefore appear to be at least partially captured in land value uplift already, however a scheme that provides quality green space may also have positive land value impacts on nearby areas. Impacts of land value uplifts on housing markets are explored in the previous section.

There is also evidence to support a link between access to green space and quality of life, through health and recreation benefits, outlined in another GLA report. Based on previous research by the World Health Organisation, this report estimates that the existence of London’s parks results in £67/year of physical health cost savings and £42/year of mental health cost savings per resident. It also estimates that each resident enjoys £120/year in benefits due to the recreational value of parks. These estimates are London-specific and would need to be applied cautiously in other contexts. <sup>xliv</sup>

## Summary of evidence

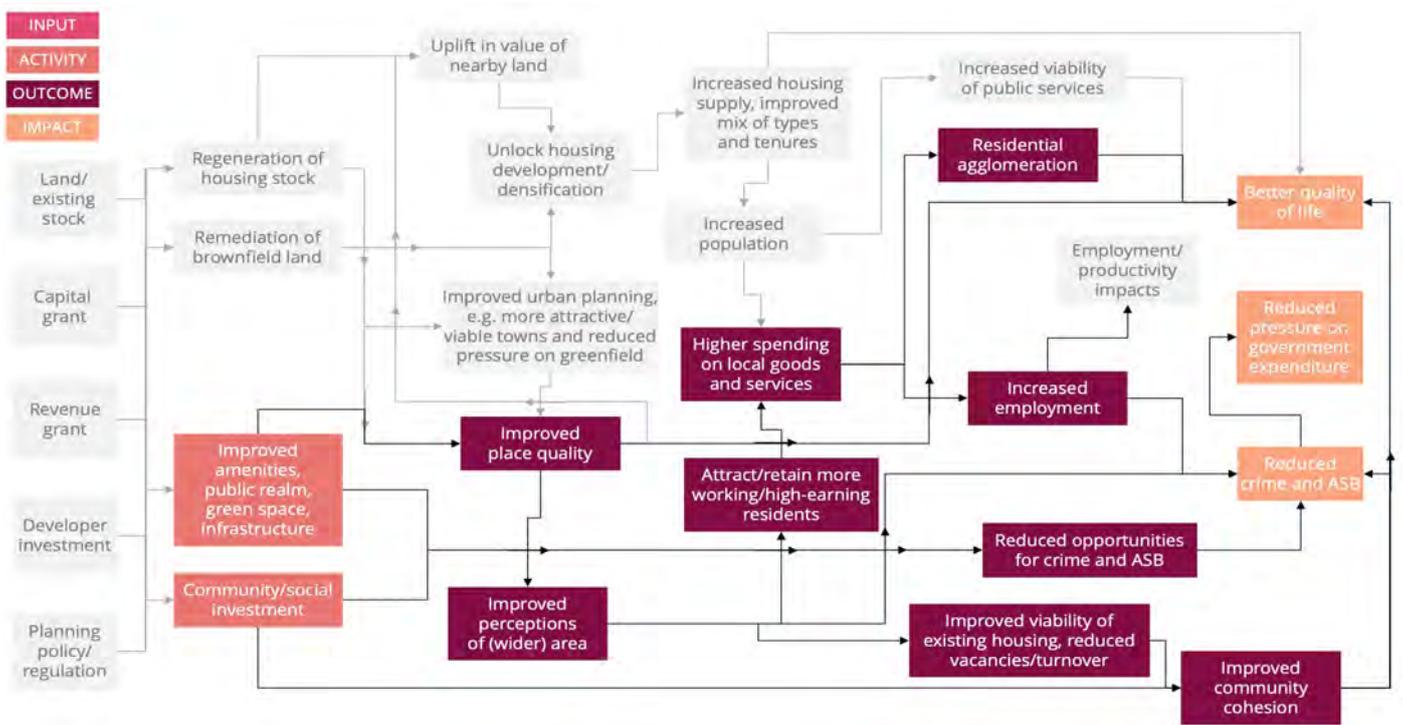
*Table 12: The impacts of green spaces and amenities evidence base - RAG ratings*

Overall quality of evidence base	Strong statistical evidence.	
UK-specific evidence	Evidence is UK-focused, albeit predominantly related to London rather than wider UK.	
Applicability to Strategic Case	Impacts can be reflected in Strategic Case.	
Applicability to Economic Case	Monetised impacts can be reflected in Economic Case.	

## Combating crime and anti-social behaviour

Activities	<ul style="list-style-type: none"> <li>• Improved amenities, public realm, green space, infrastructure</li> <li>• Community/social investment</li> </ul>
Outcomes	<ul style="list-style-type: none"> <li>• Improved place quality</li> <li>• Improved perceptions of (wider) area</li> <li>• Attract/retain more working/high-earning residents</li> <li>• Higher spending on local goods and services</li> <li>• Residential agglomeration</li> <li>• Increased employment</li> <li>• Improved viability of existing housing, reduced vacancies/turnover</li> <li>• Improved community cohesion</li> <li>• Reduced opportunities for crime and ASB</li> </ul>
Impacts	<ul style="list-style-type: none"> <li>• Reduced crime and ASB</li> <li>• Better quality of life</li> <li>• Reduced pressure on public expenditure</li> </ul>

Figure 15: Placemaking logic map - Combating crime and anti-social behaviour



An important aspect of quality of place is residents' risk (or perceived risk) of being affected by crime. In theory, community and social investments and physical placemaking should be able to reduce the number of opportunities for crime, and perhaps address some of the core issues that lead to crime.

The College of Policing has conducted a useful and authoritative review of evidence on the impacts of various different interventions on crime prevention. These included home improvements (e.g. physical security measures, compartmentation of multi-family dwellings), neighbourhood-level interventions (alley gating, street lighting, Neighbourhood Watch schemes, street access measures like closing subways), and community programmes (crime prevention advice, neighbourhood wardens).<sup>xlv</sup> Most of the interventions covered could be considered as part of or alongside new build, regeneration, or placemaking schemes. Key findings regarding the impact of different types of intervention on crime reduction include:

- There is strong evidence (i.e. based on evaluations or systematic review evidence) relating to physical home security measures (e.g. door and window locks, security lights), gating of alleys, street lighting, CCTV, and Neighbourhood Watch schemes;
- There is moderate evidence (i.e. based on single studies using before-and-after or control group methods) relating to the closing of roads, footpaths, and subways, secure car parking, and crime prevention advice;
- There is limited evidence (i.e. based on survey or interview data) relating to compartmentation of multi-family dwellings, intruder alarm systems, moped, scooter, motorcycle and cycle parking, youth shelters, and neighbourhood/community wardens.

In the context of housing schemes, particularly those at quite a small geographical level, it will be important to make the case where possible that interventions genuinely reduce crime, rather than displace it, i.e. simply reducing it in one place and increasing it nearby. Where possible, the College of Policing study notes these 'displacement' impacts in the evidence considered, as well as the overall strength of the evidence.

The evaluation of the New Deal for Communities programme, previously considered under health impacts, also includes evidence that major, community-level regeneration schemes can be effective in crime reduction.<sup>xlvi</sup>

Home Office guidance on the costs of crime, discussed earlier in this section, provides useful estimates for the appraisal of these impacts.<sup>xlvii</sup>

As with broader place quality measures, there is a lack of evidence on the impact of crime on attraction of high-skilled or working residents and resulting economic impacts. There also appears to be no specific evidence regarding viability of existing housing.

## Summary of evidence

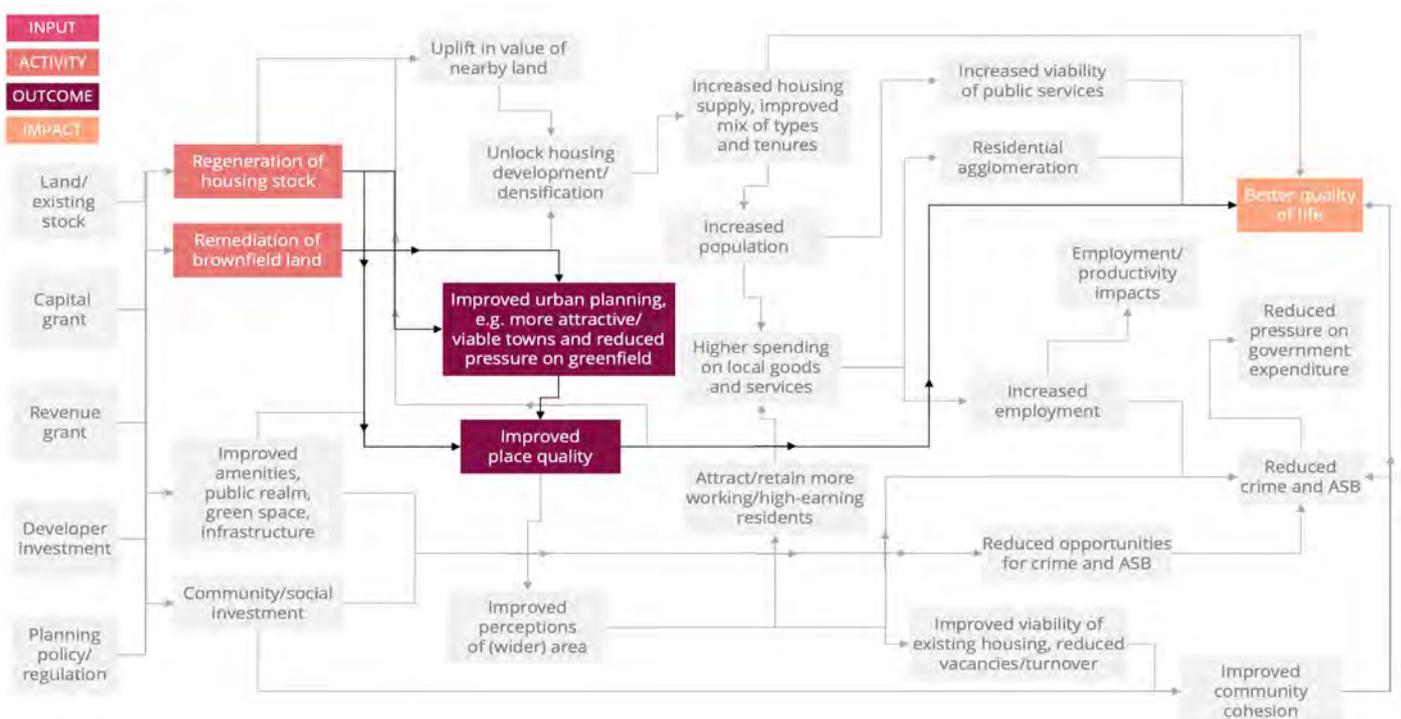
Table 13: Combating crime and anti-social behaviour evidence base - RAG ratings

Overall quality of evidence base	Evidence on impacts and displacement effects varies according to specific interventions and overall scale of scheme.	Orange
UK-specific evidence	UK-focused evidence.	Green
Applicability to Strategic Case	Impacts can be reflected in Strategic Case – however, displacement effects may pose difficulties.	Green
Applicability to Economic Case	If monetised, impacts could be included in Economic Case – however doing this robustly poses difficulties.	Orange

## Supporting sustainable urban planning

Activities	<ul style="list-style-type: none"> <li>• Regeneration of housing stock</li> <li>• Remediation of brownfield land</li> </ul>
Outcomes	<ul style="list-style-type: none"> <li>• Improved urban planning, e.g. more attractive/viable towns and reduced pressure on greenfield</li> <li>• Improved place quality</li> </ul>
Impacts	<ul style="list-style-type: none"> <li>• Better quality of life</li> </ul>

Figure 16: Placemaking logic map - Supporting sustainable urban planning



As there is no simple or objective measure of 'good' urban planning<sup>6</sup>, this is an area in which the evidence base is limited. Nevertheless, case study evidence from Ireland indicates that placemaking can support efficient, sustainable ways of living.

6 Though Transport for New Homes does provide a checklist for non-car-dependent new housing developments. [Link](#).

This evidence highlights the issues with unsustainable development in and around Dublin. There is a lot of low-density, car-dependent, greenfield development in a wide radius (around 100km) around the city, which is not compatible with sustainability goals. Where high-density, sustainable housing has been provided (mainly in the city centre) there are issues with demand for them, due to their generally small size and a lack of family dwellings. This research therefore suggests that planning authorities must pay attention to:

- The integration of housing, land-use, and public transportation policies;
- Enforcing building regulations;
- Providing sufficient social and affordable housing;
- Supplying the social infrastructure required for sustainable communities, including adequate staffing of community services;
- Management and maintenance of sustainable housing, and retrofitting the unsustainable housing constructed in the past.

If Northern city-region growth is to be high quality and compatible with objectives such as avoiding car dependency and protecting green spaces, it is therefore important to ensure through good planning policies that high-density urban developments offer a high quality of life to a variety of residents.

## Summary of evidence

*Table 14: Supporting sustainable urban planning evidence base - RAG ratings*

Overall quality of evidence base	Case study evidence only.	Red
UK-specific evidence	International evidence only.	Red
Applicability to Strategic Case	May be able to demonstrate fit with local/national development strategies.	Yellow
Applicability to Economic Case	Difficult to monetise impacts.	Red

### Note: tools for evaluating quality of life impacts

Perhaps more than any other theme considered in this report, the benefits of placemaking investments are intangible quality of life impacts. These are real and important effects but capturing them and monetising them is difficult compared to impacts on health, CO2 emissions, or economic activity. Doing so better would, however, help to support cases for housing investment in areas with socio-economic challenges, where the scope to improve residents' quality of life is greatest.

There are tools that can be used for this purpose, notably the Wellbeing Valuation Approach developed by HACT. This provides data on the values of various quality of life and quality of place impacts, e.g. community cohesion, absence of crime/ASB, reduction of littering, etc. There are also potentially useful values relating to health and economic impacts. The research underpinning this work was rigorous, and the Wellbeing Valuation Approach was therefore included as an evaluation approach in the 'old' Green Book.<sup>xlix</sup>



## 7 CASE STUDY

The previous chapters provide a basis for identifying the theoretical chains of causation between housing investment 'inputs' and a wide range of outputs, outcomes and ultimate impacts. The aim is to identify all the key 'externalities' and other market failures (effects not captured in Land Value Uplift) and to explore where gaps in the evidence base need to be addressed in order to attach values to these effects. This has the potential to improve case making in the context of Levelling Up in at least two main ways:

- enabling more of the impacts to be captured in the BCR and Economic Case more generally, i.e. the 'value for money' assessment. In 'left behind' areas the balance between LVU and externalities is likely to be different to areas of more general affordability pressure, with a greater emphasis on externalities in the former. This suggests that better capturing externalities should produce a more efficient and equitable allocation of resources across different types of area;
- The revised Green Book calls for scheme promoters to provide a stronger local foundation in their Strategic Cases and for more rigour in the analysis of how an intervention contributes to national-level policy objectives. The logic maps also provide a useful means of considering the transmission mechanisms between investment inputs and desired policy outcomes.

The aim of this chapter is to examine a practical application of the approach in a context that poses 'Levelling Up' challenges and to explore how a business case might have benefitted, together with the extent to which outstanding challenges remain unresolved. The specific case discussed is based on conversations with stakeholders and material they kindly provided, together with our own analysis.

In the rest of this chapter, we:

- set out the context for the case study, which is in a northern town on the edge of a large conurbation;
- describe the scheme;
- set out our view of how the logic map methodology could be used to build the Strategic and Economic Cases for the scheme;
- compare this with the approach that was taken;
- draw some insights and conclusions from the case study.

### **Northern context**

In conurbations across the North, there is evidence of growth potential in the wider economy – i.e. the growth of knowledge-intensive city centres and high-tech manufacturing clusters – but parts of the local population have problems accessing these opportunities and ex-industrial towns have struggled to attract investment.

Key challenges include:

- The quality of existing housing – neighbourhood effects create low investment traps, and such areas face difficulties attracting new residents;
- A legacy of environmental and socioeconomic problems from earlier industrialisation.

Key opportunities include:

- The potential to attract a wider range of residents as technological and cultural changes have weakened constraints on the location of work. This would diversify the local economic base and increase aggregate demand through the spending of new, economically active residents;
- Chances to reinvent town centres as traditional models of retail decline, for instance by exploiting attractive heritage buildings in places with strong industrial legacies. They could help to provide an 'ecosystem' that attracts digital entrepreneurs and other young, skilled workers. Elements of this might include a high quality residential, cultural & leisure offer;
- Coherently investing in housing and transport can make a major contribution to environmental objectives.

Successful future investment in these places could therefore:

- Enable high quality, high density development which creates sustainable communities with excellent public and private services;
- Remove barriers to employment faced by the low-skilled by improving connectivity to existing employment centres;
- Provide standards-driven housing – in terms of space, comfort, and environmental performance.
- Ensure sufficient access to high quality open space and amenities;
- Nurture culturally and economically vibrant environments, i.e. by turning around town centres to make them into places that attract and retain young, skilled workers;
- Address public health issues associated with poor quality or overcrowded housing – some of these have been brought to the fore by the impact of Covid-19;
- Show a path to reducing the housing benefit bill, by using public resources to unlock economic opportunity, by not subsidising people to be stuck in the wrong places, and by and improving social housing policy.

### Issues with appraisal methodology in this context

Historically, the BCR has acted as a 'gateway' – if a scheme's BCR has not cleared an initial hurdle, little attention has been paid to the merits of the Strategic Case. Given the difficulties of quantifying many of the wider effects, attempts to achieve high BCRs have pursued land value uplift, rather than other objectives. For instance, northern stakeholders reported that generating good BCRs for schemes in ex-industrial towns requires the inclusion of executive housing projects on greenfield sites. Whilst there is a clear need to provide more spacious, high quality housing, there is a risk that pursuing such new greenfield development will be at the expense of opportunities to address the challenges of existing towns, i.e. through regeneration, retrofit, or urban brown-field development.

Our discussions have also identified a few other issues with the appraisal system that have made it difficult for areas to secure much-needed funding:

- A Future High Streets Fund bid currently under consideration was challenged by the requirement that no more than 5% of the money be for beautification (i.e. improving public realm). Whilst this may be appropriate for some areas, in others, it is possible that very poor public realm acts as a barrier to growth and that addressing it has much larger funding requirements;
- In the case of a town centre bid (including residential and mixed-use components) that was successful in securing funding, an arbitrary 'top slice' was applied by the Treasury, meaning that only 70% of the funding bid for was provided. This meant that a carefully designed scheme had to be substantially reprofiled, which was in itself costly and inefficient.

## Case Study

### Context and scheme

The scheme considered in this case study was proposed as part of a wider sub-regional housing development programme, the benefits of which are expected to include:

- Thousands of new homes, making a significant contribution to sub-regional housing requirements.
- Improving the local 'market mix', the diversity of the residential offer, through provision of affordable homes, homes for older households, market rent schemes, and self-build opportunities;
- Preserving local greenfield space by focusing development on brownfield land;
- Addressing constraints on the strategic transport network through investment in road infrastructure. This will also enhance connectivity to nearby high-growth areas;
- Various economic benefits from construction through direct, indirect, and induced effects, and the creation of hundreds of apprenticeships;
- Boosting local employment in the longer term through provision of new homes for economically active people;
- Significant health service savings through improved housing quality and reduced crowding.

The proposed scheme is on a large, predominantly brownfield site, the industrial legacy of which poses a major land remediation challenge. Public green space, employment land, and a link road is to be provided alongside housing. Low land values created challenges in demonstrating substantial land value uplift and therefore a high BCR.

## Case-making under the revised Green Book

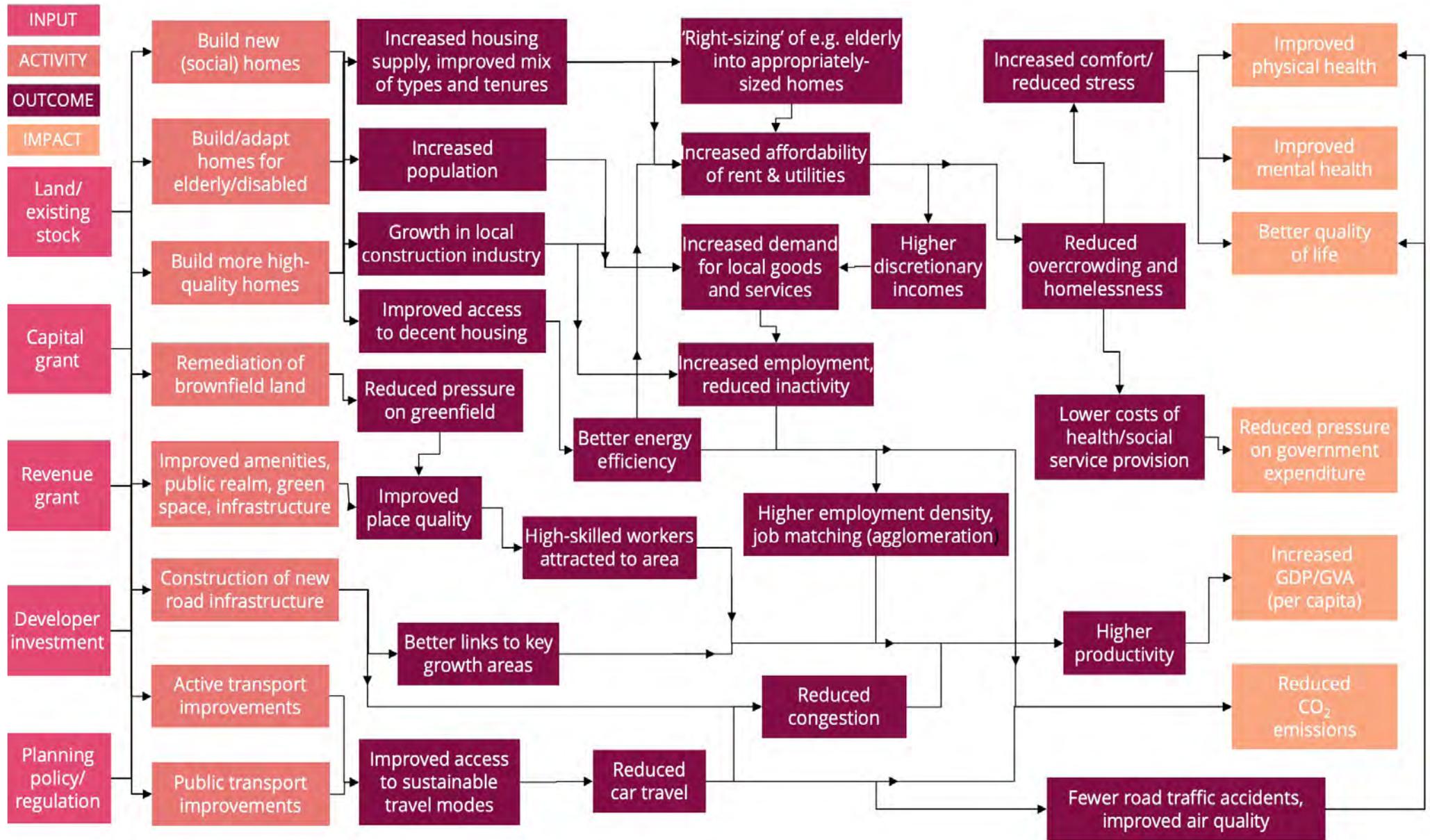
Given the issues set out in the previous two sub-sections, the scheme promoters designed the scheme in a way that aimed to generate a sufficiently high BCR to attract funding support (through the HIF programme). A key question is whether the revised Green Book provides a framework that could have enabled the scheme to be designed differently, i.e. with greater emphases on tackling market failures or locally / regionally specific strategic issues that would have not (easily) been reflected in the BCR, for example:

- Addressing issues of unemployment/economic inactivity in an area with socio-economic problems - both through short-term construction impacts (which may now be included in the BCR as well) and longer-term economic growth;
- Improving housing standards in an area where these are a concern, generating health, environmental, and quality of life impacts;
- Improving or maintaining access to green space – both through the availability of public green spaces alongside new housing, and reduced pressures on greenfield land elsewhere in the city region.
- Ambitious transport improvements (private and public) that generate strategic benefits through improved connectivity to growth centres in the wider region;
- Addressing place quality issues in existing urban areas.

Logic maps can help to explore how a much broader context – including a range of national priorities and local challenges or opportunities – could be incorporated in Strategic and Economic Cases by scheme promoters, taking account of a vision for development based on integrated social, economic, and environmental policy making.

Figure 17 sets out the main factors that a housing investment in this context could be built on, drawing on activities, outcomes, and impacts from the four ‘thematic’ logic maps and showing relationships between them.

Figure 17: Case study logic map



## Appraisal approach and realised outcome

The bid of which this scheme was a part was made prior to the launch of the new Green Book. Despite largely positive feedback from MHCLG, it was unsuccessful (though funding may yet be secured through further bids).

The Economic Case included:

- A transport modelling-based assessment of housing deadweight, which suggested that this transport investment would unlock significant housing development;
- Assessment of likely displacement effects – these were found to be low due to a lack of suitable alternative sites;
- Land value impacts from land being brought into residential use;
- Changes in externalities associated with car usage (both negative due to increased housing and population and positive due to improved road infrastructure);
- Reduced health and social costs through affordable housing reducing overcrowding and homelessness.

Other impacts that were identified but not monetised in the Economic Case are:

- Land value uplift associated with commercial development;
- Amenity value associated with bringing brownfield land into use;
- Static and dynamic agglomeration;
- Impacts of new development and infrastructure on public and active transport;
- Severance impacts.

In principle, it should have been possible to include and monetise commercial land value uplift and impacts of the development and infrastructure on transport. It is therefore interesting that MHCLG only flagged up one 'missing' benefit that could, under the Green Book, have been included in the Economic Case – that provision of affordable housing reduces housing costs, providing an opportunity for increased disposable income to be spent in the local economy.

The Strategic Case set out the programme's compatibility with various regional economic, spatial, and housing strategies.

## Implications for future case-making

The wider bid produced an overall BCR and housing BCR in excess of the relevant 'gateway' (1.5). The BCR for the individual housing scheme, however, was lower due to the high costs of ground remediation and low property values.

The bid was rejected owing to its required grant rate and concerns over deliverability of the scheme by 2024. Ironically, the link road made deliverability more difficult and thereby enhanced these concerns – though it was important in improving the BCR. This issue was also compounded, however, by significant delays in the MHCLG decision-making process.

In the context of the UK's ambitious environmental targets, the lack of major public transport investment to accompany the scheme may seem surprising. This reflects, however, the problem that major investments would add to scheme costs and to risks on timely delivery, while monetising all their benefits is difficult.

**It is clear, however, that:**

- The greater prominence of a compelling Strategic Case and inclusion of place-based impacts that the revised guidance enables appears to offer greater scope for scheme promoters to tailor schemes to meet the challenges and opportunities that exist in their local / regional context. The logic map approach appears to be a potentially useful tool for building an understanding of the mechanisms by which this can occur;
- Levelling Up challenges, however, cannot be solved through changes to appraisal methodology alone – rebalancing requires not just a shift in the geographical distribution of housing investment but also in its nature, which calls for a rethink about the design of government funding programmes themselves;
- The longer-term challenges that are inherent in Levelling Up also call for other changes in approach by funders – for instance delayed decision-making combined with a rigid deliverability requirement also led to the rejection of this bid. More broadly, funders are used to an approach dominated by the BCR, and it will be important to ensure that they are equipped to place greater emphasis on the Strategic Case in future decision-making.



## 8 CONCLUSIONS AND RECOMMENDATIONS

### Recommendations to scheme promoters

The combination of the Levelling-Up agenda, changes to the Green Book, and the state of the qualitative and quantitative evidence base as identified in this report pose clear implications for how scheme promoters – particularly those operating in areas that have traditionally struggled to attract housing investment – should go about building business cases in future. These are summarised below.

- Start by looking at the **policy context** and identifying which local, regional, and national policies the project may help to achieve, focusing on the full range of **social, economic, and environmental** policy objectives.
- Develop an outline **logic map** (starting with the examples set out in this report) that identifies a wide range of potential benefits and theories of change, focusing on those for which the evidence base is likely to be strongest.
- Consider the **counterfactuals** – for instance what local housing conditions are or would be like in the absence of the scheme (this is particularly important for the improvement or replacement of poor quality housing).
- Identify the **market failures** that the scheme has the potential to tackle.
- Undertake **targeted evidence gathering**, focusing on the most promising benefits and transmission mechanisms that can be estimated and monetised, and looking for highly relevant local and/or recent evidence.
- Reflect thoroughly in the **Strategic Case** those impacts that cannot easily be monetised but for which there is good qualitative evidence – whether standard academic evidence or approaches such as stakeholder engagement or surveys.
- Consider **revising the scheme** itself (or ideally designing it from the outset) in order to achieve maximum fit with strategic policy objectives and monetisable benefits.

## Priorities for future research

Table 15 sums up the findings of our evidence base review. For each topic covered, the strength of evidence and implications for case-making are summarised.

There are several areas in which the evidence base is strong, and impacts can be included in the economic and/or strategic cases. Perhaps the most important of these are the key health and environmental impacts of improved housing conditions. These externalities will be most significant where existing housing quality is the poorest – i.e. in places that have generally received little housing investment. They could therefore form an important part of Economic and Strategic case-making for future investment in these areas.

Conversely, there are some areas in which impacts could be very important, but the evidence base is in clear need of strengthening – this has implications for scheme promoters and government alike.

- **Housing supply, affordability, and homelessness:** Given the importance of arguments about affordability in justifying housing investment, the lack of good evidence here is surprising. Further research could help to demonstrate positive impacts on household disposable incomes (and therefore local economies), reducing overcrowding, and reducing homelessness;
- **Direct construction impacts:** There is no question that these effects exist – housing investment requires the employment of workers. There, appears, however, to have been limited evaluation of how effective schemes are at benefitting particular areas, to what extent employment created is additional, and the scale and nature of indirect and induced impacts. As the new Green Book allows for local employment impacts to be reflected in the BCR, improving the evidence base could allow housing schemes in areas of high unemployment/inactivity to better demonstrate these benefits;
- **Housing and the attraction of workers:** Skills gaps may exist in industries targeted for growth at the local and regional level (e.g. the Prime and Enabling Capabilities identified by the Northern Powerhouse Independent Economic Review). If it can be demonstrated that appropriate housing can help to attract the workers required, this could form a powerful part of future case-making in the context of 'Levelling-Up'. The current evidence is, however, surprisingly limited.
  - Even in the absence of suitable academic evidence, individual scheme promoters could consult with major local employers or representative bodies (i.e. Chambers of Commerce) to understand whether a lack of suitable or affordable housing acts as an impediment to recruitment. Monetisation may be difficult but this issue could nevertheless form a powerful part of the Strategic Case;
- **Housing market impacts of housing improvements:** There is good international evidence on housing improvement schemes' impacts on nearby land values, but little for the UK. Generating a good BCR will continue to be important under the new Green Book, so better evidence for these impacts could help to support case-making in areas where low-quality housing 'blights' nearby land and property prices.

Category	Theory of change	Overall quality	UK-specific	Strategic Case	Economic Case
Health	Health impacts of improved housing conditions	Green	Green	Green	Green
	Housing supply, affordability, and homelessness	Yellow	Red	Yellow	Yellow
Productivity and employment	Direct construction impacts	Yellow	Yellow	Green	Green
	Housing and the attraction of workers	Yellow	Red	Red	Yellow
	Digital infrastructure and employment	Green	Yellow	Yellow	Green
	Economic effects of improved housing conditions	Green	Yellow	Green	Yellow
Environmental	Improved domestic energy efficiency	Green	Green	Green	Green
	Public and active transport improvements	Yellow	Yellow	Green	Green
Placemaking	Housing market impacts of housing improvements	Green	Yellow	Yellow	Green
	The impacts of green spaces	Green	Green	Green	Green
	Combating crime and anti-social behaviour	Yellow	Green	Yellow	Green
	Supporting sustainable urban planning	Red	Red	Red	Yellow

## Recommendations to government

Drawing on all aspects of this report, we suggest that the following steps by government could improve the evidence base, ensure clarity for decision makers and scheme promoters, and improve the quality and consistency of case-making in housing investment.

- **Recommendation: support further strengthening of the evidence base on housing externalities, including through project evaluations.**

Ensuring the success of Levelling-Up requires an improved evidence base on the externalities associated with housing investment, to ensure that funds are better directed to areas where they can support improved economic, social, and environmental outcomes – as well as those where large land value uplift benefits can be demonstrated.

Whilst some of this research may be conducted or commissioned by housing associations and other scheme promoters, government can also help to provide more evidence, for instance through more regular and thorough evaluation of projects. Given the deep-seated nature of socioeconomic problems in some areas, fully understanding the impacts of housing investments may require detailed, long-term evaluation of outcomes. This is difficult and expensive but could yield ‘gold standard’ evidence.

It is worth reiterating that even in those areas where the evidence base is reasonably good – i.e. those with green indicators in Table 15 – there is still room to improve the evidence base further. Given that some of these areas – particularly health impacts of housing and domestic energy efficiency – are those likely to have large impacts, ensuring the best quality evidence is of paramount importance.

- **Recommendation: develop a Strategic Case-making toolkit to help promoters of housing schemes clearly explain admissible impacts and standards of evidence to help scheme promoters produce consistent, high quality cases.**

Given the substantial time and money costs of assembling evidence and appraising impacts, and the constraints faced by promoters such as local authorities, this could help to streamline the case-making process and make it more consistent. This would allow all schemes to be supported by high-quality cases, allowing government decision-makers to make more informed judgements.

A good Strategic Case-making toolkit could also provide an interim solution to the limitations of the quantitative evidence base. Improved evidence on externalities will take time to develop – particularly that which relies on long-term evaluation of projects. In the meantime, schemes still need to be developed and appraised. A framework provided as part of such a toolkit could allow for externalities to be dealt with in a consistent way, i.e. through ready reckoners where impacts cannot precisely be estimated or monetised and clarity on where qualitative impacts should be reported.

- **Recommendation: develop a Levelling-Up strategy around which convincing Strategic Cases can be developed.**

The decision to put Strategic Case-making at the heart of future appraisal under 'Levelling-Up' is welcome. This could be supported through provision of resources for decision makers to clarify what Levelling-Up is and what a good Strategic Case looks like.

This could, for example, provide for more ambitious regional growth, productivity, or housing delivery targets, support housing regeneration and brownfield land remediation, and set out how housing and other schemes can contribute to social, economic, and environmental objectives. The Levelling Up White Paper, led by the Prime Minister and to be published later in 2021, may provide such a strategy. It promises to articulate 'how bold new policy interventions will improve opportunity and boost livelihoods across the country'.<sup>7</sup>

- **Recommendation: review Government funding programmes to ensure they support all aspects of housing investment that can support Levelling Up and remove barriers to clear, consistent decision-making.**

Our research and stakeholder engagement has clearly shown that improving appraisal methodology will not on its own deliver the vastly improved outcomes the government is aiming for with the Levelling-Up agenda. There are also wider issues, for instance with the structure and focus of funding programmes. Scheme promoters have faced arbitrary limits on funding awards<sup>8</sup> and challenging deliverability requirements combined with delays in decision-making, which can result in good schemes being compromised or rejected.

Widespread place-based issues and areas of poor housing quality show that a simplistic focus on building new houses misses the point of the problems faced by some areas. For instance, investment is needed to retrofit or regenerate existing poor-quality stock, improve transport connectivity to change the value of existing housing and unlock development, and engage in wider place-making schemes to make previously unattractive areas more desirable.

Developing a proper understanding of the challenges facing some regions needs to be at the heart of the Levelling-Up agenda. The challenge is not fundamentally about redistribution but about unlocking latent economic potential, allowing areas to better contribute to national growth and enabling people to exploit economic opportunity. Given the legacy of very deep-seated problems in some areas, there are no quick or easy fixes – significant resources need to be committed patiently, over a long period of time.

<sup>7</sup> Government to publish Levelling Up White Paper, Gov.uk, May 2021. [Link](#).

<sup>8</sup> The 80:20 rule is the most notable example, but this also includes 'top-slicing' of funding awards and limits on how much investment can be targeted towards activities such as improving public realm.

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