

Levelling Up Fund

Impact Evaluation Scoping Study

Ipsos UK



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Executive Summary

Ipsos UK was commissioned by the Department for Levelling Up, Communities and Housing (DLUHC) and the Department for Transport (DfT) to undertake a feasibility study for an impact and value for money evaluation of the Levelling Up Fund (LUF). The principal focus of the project was on quantitative approaches to impact evaluation.

Headline findings

In terms of the key findings of this review:

- A relatively robust quantitative impact evaluation of LUF is **feasible**.
- The evaluation could be achieved cost-effectively by **using existing sources of administrative and secondary data**. These sources will provide relatively comprehensive evidence of the impacts of LUF on economic welfare, and less extensive coverage of anticipated social impacts and effects in land and property markets.
- Comparatively robust inferences can be developed by exploiting the competitive nature of the funding allocation process. Areas associated with (a) declined but shortlisted applications and (b) declined applications sharing similar Levelling Up Priority Index scores could both provide **defensible comparison groups**. Statistical matching methods may also be helpful in ensuring that comparisons are only made between areas sharing similar features.
- An evaluation could be implemented with **well-established econometric methods** that would explore how impacts vary with distance from the locations benefitting from LUF funding. These will help identify any important **offsetting effects** (e.g. displacement) as well discriminate between benefits at the local and the national level (critical for any cost-benefit analysis of the programme).
- The credibility of findings will be improved by controlling for the effect of both historic and parallel regeneration programmes. This can be achieved if the specific location and timing of projects funded is known. To facilitate this, it is recommended that DLUHC compiles granular data on the location of projects where this is achievable (though it is recognised that this may not be achievable in all cases).
- There are also a variety of plausible options for valuing the social and economic benefits of the LUF as part of a **value for money analysis**.

Organisation of an evaluation

In terms of the potential structure of an evaluation:

- **Programme level evaluation:** A programme level evaluation would focus on those objectives that are common across the LUF portfolio. This would involve a relatively narrow focus on local economic growth and the quality of life of residents.
- **Thematic evaluation:** LUF projects can broadly be thought of as belonging to one of four 'thematic types' - interventions to unlock development, improve connectivity, strengthen visitor economies, or improve quality of life for residents. A programme level evaluation could be accompanied by a thematic evaluation exploring the relative effectiveness of these types of intervention.

- **Geographical intervention:** Funded LUF projects have a high level of spatial dispersion and while it may be possible to explore the effects of the programme in individual regions (or types of area – e.g. low, medium, and high productivity LAs), analysis at lower geographical levels will be constrained by sample sizes.
- **Project level evaluation:** A robust statistical impact evaluation will only be feasible by pooling projects of similar types to create a portfolio. This could be complemented by targeted project level impact evaluations (e.g. for large scale, novel, or contentious projects). Given the diversity of interventions, evaluation designs will need to be bespoke to each project, with implementation typically requiring primary research with local stakeholders, businesses, property agents and residents.

Evidence gaps and limitations

- **Coverage of outcomes:** There are some important potential social impacts that will not be possible to establish in an evaluation of LUF without additional evidence. Most significantly, there is no source of information that could be used to reliably establish the effects of the programme on the quality of the built environment or civic pride/pride in place outcomes. This could be addressed by commissioning a large-scale survey, and the trade-offs between cost and added value would need careful consideration. Scale economies could be achieved by co-ordinating across other evaluations with similar evidence needs (e.g. Towns Fund, Shared Prosperity Fund).
- **Commercial datasets:** There are a variety of commercial datasets that could be used to explore the vitality of local economies although these also usually involve significant costs. Again, scale economies could potentially be achieved with co-ordination with parallel studies.
- **Detailed thematic analysis:** It will be difficult to establish the effects of some types of intervention owing to small sample sizes. Sample size constraints are likely to be problematic for interventions seeking to improve connectivity between areas and interventions aiming to improve the quality of life for residents, as they represent a diverse portfolio of projects sharing little in terms of common intermediate results. A detailed understanding of how and why these interventions work (or not) could be achieved by pooling these projects with similar projects funded through other programmes, an approach that could be beneficially considered as part of a parallel study.

Timescales

- **Timeframes:** The LUF is funding capital investments that will not be complete until 2024/25, and their benefits may not be apparent for some time after that. Pursuing an impact evaluation is not advised until 2027/28 (and as some impacts may not be visible for the long-term, a longer-term impact evaluation could potentially be considered in 2031/32).
- **Process evaluation:** Stakeholders highlighted that there is a need for evidence to feed into the Spending Review expected in 2023/24. There may be benefits in undertaking a review of projects to understand progress made and explore the likelihood that they will produce their intended effects in the future (i.e. a process evaluation).

1 Introduction

Ipsos UK was commissioned by the Department for Levelling Up, Communities and Housing (DLUHC) and the Department for Transport (DfT) to undertake a feasibility study for an impact and value for money evaluation of the Levelling Up Fund (LUF). This document is the final report from this study.

1.1 Description of the Levelling Up Fund

The LUF was announced by HM Treasury (HMT), DLUHC and DfT in March 2021, with total funding of £4.8 billion. It is one of the key policies through which the government aims to achieve the Levelling Up agenda. Local authorities are required to bid for LUF funding, and it is anticipated that there will be three rounds of funding. The first round has been allocated. A total of 105 successful bids were awarded in Round One. The LUF projects were split into seven broad categories by the responsible Departments:

Category	Example
Cultural investments	For example, maintaining, regenerating, or creatively repurposing museums, galleries, visitor attractions
Transport: Investments in roads	For example, to create additional junctions, complete existing road infrastructure projects, or reopen bridges.
Transport: Active travel investments	For example, for new or improved paths for walking and cycling
Transport: Public transport investments	For example, to refurbish or upgrade rail and bus stations or replace ferry links.
Regeneration & Town Centre: Residential investments	For example, acquiring sites (brownfield, former retail space) for housing developments or redeveloping existing neighbourhoods
Regeneration & Town Centre: Commercial investments	For example, the creation of new commercial sites or redevelopment of existing premises.
Regeneration & Town Centre: Civic investments	For example, to create or upgrade community spaces such as healthcare and educational facilities, green and blue spaces.

1.2 Aims and objectives of the study

The primary objective of the project is to develop an approach to undertake a robust impact evaluation of the LUF, and to scope the possible approaches to a value for money assessment, which will allow the following questions to be answered:

- What impact LUF funding has had overall,
- What types of interventions are having the greatest impact, and why, and
- To what extent the Fund and specific interventions within it have delivered value for money

Further to these broad aims, the project will require a consideration of the scope alongside the methodology of the evaluation. The study will need to assess the feasibility of different levels of evaluation, including:

- Programme level: An evaluation of the entire fund
- Geographic level: An evaluation of the impact of LUF on different areas
- Theme level: An evaluation of the programme by the thematic focus of projects.
- Project level: An impact evaluation of individual projects.

1.3 Methodological approach

To address the key objectives of the study, the following research tasks have been undertaken:

- **A review of LUF programme documentation:** This included examining the business case for the LUF, applications for funding, the assessment criteria, the scores each application received, the exact geographic location of each application the Monitoring Information that projects are required to provide to DfT and DLUHC. This information was reviewed to help to inform the development of Theories of Change and how an impact evaluation could be implemented.
- **A review of literature:** Alongside the review of programme documentation, a wider literature review was undertaken. This included an examination of existing evaluations which have targeted similar outcomes (and evaluation plans for ongoing evaluations), academic literature covering the expected outcomes from the interventions funded by the LUF programme. This review was used to inform the design of the Theory of Change and the design of the impact and economic evaluation.
- **Revision of existing Theory of Change and workshop:** Following the review of programme documentation and literature, the research team made revisions to the existing Theory of Change for the LUF programme. A workshop was held with key programme stakeholders, to present these revisions and invite comments on the new Theories of Change. These comments were included in the LUF programme Theory of Change (presented in Section 2) where appropriate.
- **A review of data sources:** A quantitative impact evaluation of the LUF requires measures of the outcomes of interest both prior to and after the implementation of projects. To explore the feasibility of different evaluation approaches, the research team explored conventional (for example official statistics) and non-conventional (for example proprietary data sources) secondary data sources, which could be used to measure the outcomes of the LUF both before and after the intervention.
- **Depth interviews with 25 stakeholders:** These consultations included stakeholders involved in the design and delivery of the LUF programme, and individuals with responsibility for other programmes within DLUHC, DfT and the Department for Digital, Culture, Media and Sport (DCMS) which target similar outcomes to the LUF. These interviews were used to gather additional information about how the LUF programme has been designed and delivered, and how programmes targeting similar outcomes are being evaluated, to help inform how the LUF programme can be evaluated in the future.
- **Assessment of potential evaluation approaches:** Utilising the revised Theories of Change and mapping of data sources, alongside the information gathered from the literature review and depth interviews, the research team explored the possible evaluation approaches open to the LUF programme. These include both quasi-experimental and Theory based approaches.

1.4 Structure of the report

The remaining sections of this report are structured as set out below:

- **Section 2** sets out the analytical framework for the impact evaluation, including a revised typology of projects, the revised Theories of Change and evaluation implications;
- **Section 3** presents a review of the portfolio of LUF round one applications, including successful and non-funded project applications;
- **Section 4** details the potential data sources which could be used to measure the outcomes and impacts of the LUF;
- **Section 5** discusses the potential impact evaluation options for the LUF;
- **Section 6** considers the potential approaches for the economic evaluation of the LUF; and
- **Section 7** provides the conclusions and recommendations from the research.

2 Analytical framework

This section provides an analytical framework for an impact and economic evaluation of the Levelling Up Fund (LUF). This comprises an analysis and classification of different types of projects that have been funded through the scheme and ‘theories of change’ describing the causal process through which each group of interventions might be expected to deliver their intended outputs, outcomes, and impacts. The framework concludes with recommendations for how an impact and economic evaluation of LUF might optimally be approached.

The analysis set out below are based on a combination of (a) an analysis of project application forms that set out the aims and objectives of individual projects and the applicants’ perspective of the underlying causal processes, (b) consultations with relevant policy stakeholders, and (c) the application of economic theory relevant to the classes of intervention (much of which is synthesised in the evidence reviews prepared by the What Works Centre for Local Economic Growth).

2.1 Levelling Up Fund

The LUF was announced in 2020 with a £4.8bn budget to provide investment in capital infrastructure that improves everyday life across the UK with the aim of supporting the delivery of the strategic objectives of the Levelling Up White Paper. This set out the government’s strategy for, and approach to, addressing economic and other disparities in social outcomes at the regional level. The White Paper identified four priorities for action:

- Boosting productivity, pay, jobs, and living standards by growing the private sector, especially in those places where they are lagging;
- Spread opportunities and improve public services, especially in those places where they are weakest;
- Restore a sense of community, local pride, and belonging, especially in those places where they have been lost; and,
- Empower local leaders and communities, especially in those places lacking local agency.

The LUF was introduced (alongside complementary interventions to support the delivery of these aims). The scheme awards financial support for capital investment projects in three areas: transport investments (e.g. public transport, active travel, or road improvements), regeneration and town centre investment, and cultural investments. The LUF is being delivered over a series of competitive funding rounds. A total of 105 projects were funded in Round 1 of the scheme, involving a financial commitment of £1.7bn (to be spent by the end of 2024/25). At the time of writing, applications for Round 2 had been received but awards were yet to be announced (and it can be anticipated that additional projects will be funded).

2.2 Typology of projects

The LUF is a complex programme funding many different types of capital investment projects. While projects can all be expected to contribute to the four broad goals of the Levelling Up White Paper outlined above, there will be substantial differences in the underlying ‘mechanisms’ through which different types of projects might be expected to achieve these contributions. An impact evaluation of LUF will arguably need to assess the effects of projects both in terms of (a) their impacts in bringing about the types of change articulated in the goals of the White Paper in the longer term and (b) their shorter-term intermediate results which are expected to lead onto these outcomes. As these latter aspects will vary across projects,

a logical first step is to classify projects into different ‘types’ that share similar causal mechanisms for bringing about the desired changes in local economic and social outcomes.

Each project funded through the LUF was assigned to a ‘lead assessment’ theme (Transport, Culture, and Regeneration) as part of the application process. This potentially provides a natural means of structuring the project portfolio for the purposes of the evaluation. However, analysis of the details of projects under each theme highlighted some potentially problematic issues associated with adopting this approach:

- **Divergent objectives:** This categorisation focuses on the nature of the activity rather than the objective of the intervention, resulting in interventions with divergent objectives being grouped together. As an example, there were 23 projects funded under the Transport theme of LUF. However, this group of projects including examples of:
 - Link roads to facilitate downstream development (e.g. a new junction on the A50 to unlock housing and employment land to support the growth of the Infinity Garden Village).
 - Projects aiming to reduce congestion and journey times to accommodate economic growth (e.g. improvements to the A38 Dunball roundabout).
 - One project aiming to re-open a suspension bridge to create a new visitor attraction in County Durham.
 - Refurbishments to Leicester Rail Station to improve the experience of visitors.

This diverse group of projects can be expected to produce different types of results and social and economic outcomes. As such, an alternative typology focused on the objective of the project may be more helpful for the purposes of an evaluation. An analysis of the project portfolio suggested that projects could be broadly categorised against four ‘intervention types’ as described in the following table. This alternative classification was tested and agreed with the evaluation steering group at an early stage of the scoping study and is proposed as an overall structure for an evaluation of LUF. Theories of change linked to each of these types of intervention are outlined in the following sections.

- **Multi-strand projects:** It should be noted that individual LUF projects are also complex, with many single projects comprising several discrete elements. These individual components may also align with different intervention categories. For example, the Round One LUF projects funded in Sheffield comprises three projects aiming to regenerate the Castlegate quarter:
 - The Castle – a land reclamation project aiming to unlock development of a large brownfield site in the area (Unlocking and enabling industrial, commercial, and residential development)
 - Harmony Works – acquisition and refurbishment of a Grade II listed building to house Sheffield Music Academy and Sheffield Music Hub (Improving the quality of life of local residents)
 - Park Hill Art Space – refurbishment and delivery of an art gallery (Strengthening the visitor and local service economy)

A review of the application forms submitted indicates that the discrete elements of each proposed project are clearly described. However, there is currently no database describing the component elements of each project. This implies that that in advance of any impact evaluation, it will be important

to review project applications to construct this database (including important attributes, such as the location of the proposed project) and assign projects to the appropriate intervention category

Table 2.1: Proposed intervention categories

Intervention type	Description
Unlocking and enabling industrial, commercial, and residential development	Projects aiming to support economic regeneration or accommodate economic growth by unlocking or enabling the development of brownfield or greenfield for employment or residential uses. These projects would include direct investments in property development, investments in land reclamation or remediation, as well as the provisioning of site services (including access roads) to enable their onward development.
Enhancing sub-regional and regional connectivity	Projects aiming to improve connectivity between areas by creating new routes between areas, reducing congestion, or otherwise reducing journey times. These include direct investments in new or improved road or rail links, as well as enhancements to other forms of public transport.
Strengthening the visitor and local service economy	Projects aiming to support economic regeneration via stimulating greater levels of consumer spending in local economies. These include investments in culture or heritage assets that serve as visitor attractions, investments in the public realm (e.g. town centre improvement projects or enhancements to other infrastructure to improve the visitor experience), and provisioning of new or improved retail floorspace.
Improving the quality of life of residents	Projects where the principal aim is to improve the quality of life of residents by improving the quality of local public services and associated infrastructure. Projects funded under this heading are diverse: including improvements to educational, health, leisure and community facilities, environmental amenities (e.g. parks), investments in new or improved social housing stock, and provisioning of cycling and walking infrastructure.

2.3 Unlocking and enabling industrial, commercial, and residential development

This group of interventions aims to intervene in local land and property markets to stimulate economic development by attracting new firms to an area (or facilitating the growth of incumbents) or by allowing the area to attract additional residents (where there is an explicit focus on accommodating anticipated future economic growth).

2.3.1 Rationale for intervention

These types of projects could be expected to address a variety of market failures (to varying degrees, depending on the specific focus of the project). Developers will have an incentive to provide industrial, commercial, or residential development without assistance from the public sector if the expected rate of return on the investment (arising from land value uplift associated with disposals or future rental income) exceeds their marginal cost of capital. However, investments in the land and property needed for local economic development and renewal may not come forward in the presence of the following market failures:

- **Abnormal costs:** Site development may be commercially unviable if there are abnormal costs involved arising from prior uses of the site. For example, the preparation of many ex-coalfield sites may require significant investment in environmental remediation that would reduce the expected return on investment to levels below the developer's cost of capital. This may provide a rationale for providing 'gap funding' to raise the rate of return to profitable levels.

- **Externalities:** There may be positive benefits associated with the development of sites that cannot be captured by the developer via rents. These benefits could take a range of forms. Attracting new firms to an area may help increase economic density and raise the productivity of the location by creating external economies of scale (including 'anchor tenant' effects where a large incoming firm has a significant effect in raising local demand levels) or reversing issues caused by selective outmigration of skilled labour. In these cases, the new development may raise the profits of neighbouring firms or the wage levels of local workers. Improvements to the built environment could also remove environmental 'disamenities' (such as derelict buildings), improving the attractiveness of the location and potentially raising broader social wellbeing by increasing civic pride (effects that could be partially at least capitalised into the value of neighbouring properties). In these cases, developers are likely to invest at socially suboptimal levels, again providing a market rationale for public subsidies.

2.3.2 Theory of Change

These types of projects would be expected to deliver their intended impacts via the following processes:

- **Inputs:** The delivery of these types of projects will typically involve a combination of public subsidies and private sector investment (including resources absorbed by follow-on investments in development activity, where these are not directly funded through the LUF project).
- **Activities:** Activities under this strand of LUF intervention broadly cover three types of activity:
 - **Site preparation activities** to enable follow-on development. This could include remediation of brownfield sites as well as the construction of site infrastructure (e.g. access roads) needed to develop greenfield sites.
 - **Commercial and industrial development** – direct investments in commercial and industrial floorspace to accommodate economic activity (including improvements to existing premises).
 - **Residential development** – investments in residential developments to bring forward additional housing to accommodate economic growth.
- **Direct effects on land and property markets:** Assuming that public funding is allocated to projects that would not have been taken forward in the same form by the private sector in the absence of the LUF, these projects may have a range of direct supply side effects in land and property markets:
 - **Land supply:** Site preparation activities would be expected to lead to a net increase in the supply of employment or residential land (on the presumption that there are no displacement effects where the funding or completion of the project leads to abandonment of other comparable projects locally).
 - **Supply of industrial and commercial floorspace and housing:** To the degree that there is demand from developers to develop the site (less of an issue for projects involving direct investment in development), the increase in land supply might also be expected to lead to an increase in construction activity. This would culminate in an increase in the local supply of commercial and industrial floorspace or housing units (providing that the project did not merely lead to a diversion of resources from alternative sites). There may also be improvements in the quality of local business accommodation or housing.
 - **Land prices and rents:** Other things being equal, an increase in the supply of land, floorspace, and housing would be expected to lead to a reduction in local land prices and rents (at the margin). If this

reduces the commercial viability of other developments locally, this may also limit the net expansion in supply (e.g. if parallel developments do not come forward as a result).

- **Indirect effects on firms:** These impacts in land and property markets would be expected to lead on to positive impacts on the local economy via the following mechanisms:
 - **Sorting effects:** Reductions in the price of accommodation or improvements in quality or suitability will increase the attractiveness of the location - encouraging firms to relocate to, or open new locations in, the areas benefitting from increased supply of floorspace. This would be expected to lead to increases in the number of firms located in the area, the creation of new jobs, and an expansion in local economic output (GVA). Additionally, if incoming firms are more productive than incumbents, then there may also be an increase in local productivity (GVA per worker).
 - **Supply chain effects:** Incoming firms may also establish supply chain links with local suppliers, increasing procurement spending in the local economy (providing a further stimulus to local employment and GVA). There may also be productivity spillovers associated with these processes. For example, research has shown that supply chain linkages established as result of the entry large firms or multi-national enterprises can result in the transmission of knowledge and working practices or stimulate productivity raising investments¹.
 - **Direct productivity gains:** Improvements to the quality of business accommodation could also raise productivity even if new units are occupied by firms that were already located in the local economy (for example, if they enable more productive working practices).
 - **Displacement:** The impacts of these projects may be limited by offsetting local displacement effects. This might occur if new units are principally occupied by firms that were already located in the local economy, in which case there will be no net increase in local employment (though improvements to the quality of business accommodation could also raise productivity and GVA if they enable more productive working practices – though this could also reduce labour intensity in some industries). Alternatively, incoming firms may seek to claim market share from local competitors, causing these firms to reduce their employment and GVA.

Finally, it is also important to recognise that any positive local economic impacts of these types of projects are likely to be offset to some degree by corresponding losses in other areas (as impacts would largely be expected to be driven by the relocation of firms). These projects will deliver against Levelling Up objectives if the areas from which activity is displaced are characterised by relatively high productivity levels (as that these types of local economies will find it relatively straightforward to adjust). However, if projects largely displace economic activity from other areas being targeted by LUF then these investments may not contribute to the broader objectives of the fund.

- **Crowding out and in:** If projects are successful in stimulating local demand for workers or other factor inputs, this is likely to place upward pressure on wages, rents, and other prices. The increase in prices may cause some locally based firms to reduce their production levels and limiting the net increase in local jobs and GVA (crowding out). Higher prices could provide signals to developers

¹ For example, Mariotti (2015) Productivity spillovers from foreign MNEs on domestic manufacturing firms: to what extent does spatial proximity matter?

and other firms that investments in the local economy are potentially profitable, stimulating further investments that enable economic growth (crowding in), easing pressure on prices.

The extent and balance of these effects will be determined by a range of local factors. For example, local economies with higher rates of unemployment are less likely to see significant price pressures in response to increased demand (though this may not hold if projects stimulate demand for workers with scarce skills). Scope for the local economy to absorb additional investment could also be limited by land supply or planning constraints (for example).

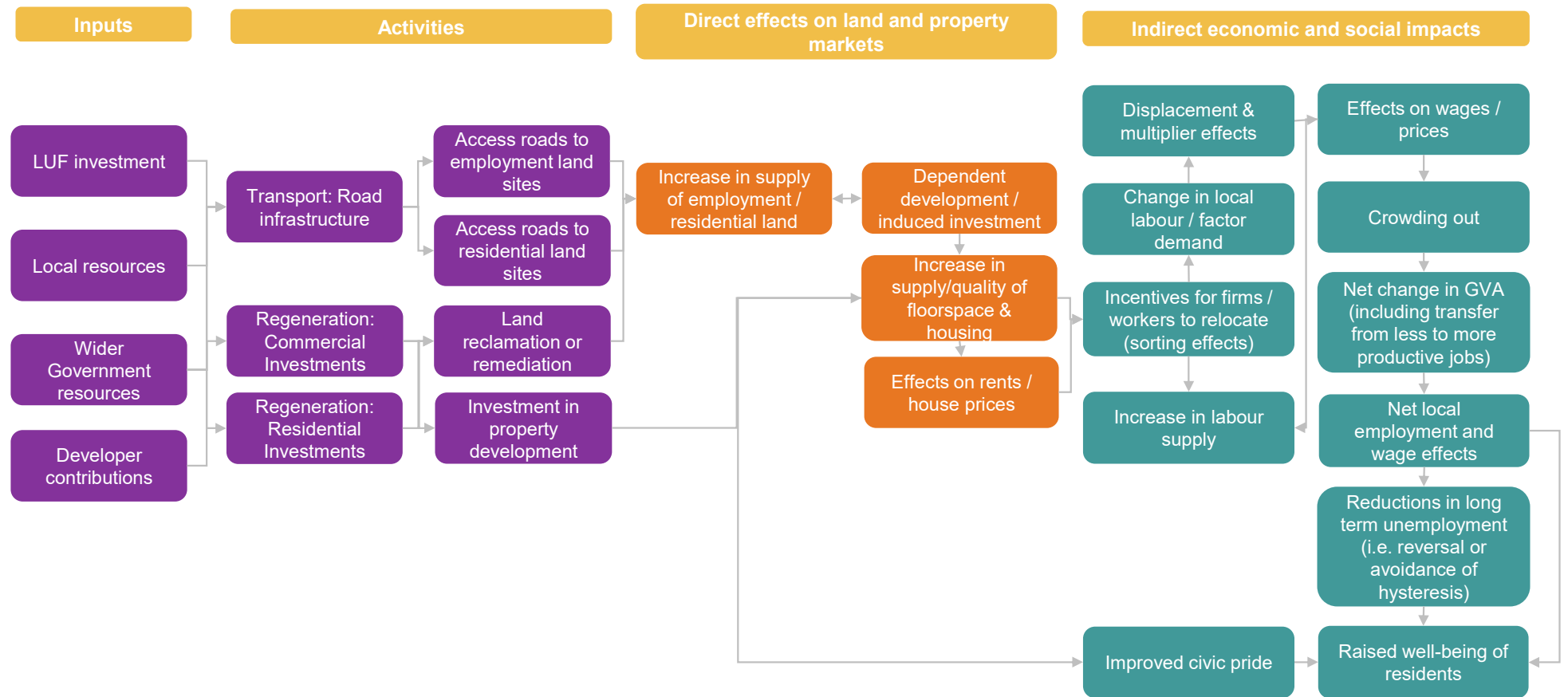
- **Agglomeration effects:** Finally, these projects might be expected to produce an increase in local economic density that enable firms to operate more efficiently (external economies of scale) or produce other productivity advantages associated with the location (such as increasing the ability of the local economy to absorb knowledge or innovation generated by universities or facilitating the transmission of complex information via face-to-face collaboration). This will increase the attractiveness of the location to other firms, who may be encouraged to relocate to the area to benefit from these productivity advantages (stimulating additional investment in the local economy, expansions in economic output, the creation of more jobs, and further productivity gains).
- **Effects on workers and residents:** It is also important to consider the effect of these types of projects on local labour markets (as well as residents):
 - **Population, labour supply and sorting effects:** Housing developments will potentially allow areas to attract new residents (to the degree that new units are not taken by 'latent' households), leading to an expansion of local population and labour supply. Economic growth stimulated by investments in the commercial property stock may also lead to in-migration (potentially placing upward pressure on house prices), which may also be associated with sorting effects in the labour market – for example, if incoming residents have a different skills profile to existing residents.
 - **Wages:** These types of intervention could have a variety of effects on wages. New jobs brought to the area by investments may be associated with higher productivity and wage levels. Additionally, higher levels of employment demand may also place upward pressure on wage levels if there are constraints on local labour supply or shortages of specific skills (though as noted above, this could crowd out other labour demand by other local employers). Higher income levels may feed through to higher levels of local consumer spending, inducing further growth of the local service economy.
 - **Unemployment:** On the assumption that the relevant labour markets are not already operating at full employment levels, local economic growth stimulated by these types of projects may also help reduce unemployment and/or take some workers out of episodes of long-term unemployment.
 - **Civic pride:** As highlighted, these types of projects may help provide a form of urban renewal by raising the condition and aesthetic quality of the local building stock. This may feed through into greater satisfaction amongst residents in relation to the quality of local built environment and higher levels of civic pride (a key aim of the Levelling Up White Paper). It be noted that these effects could also contribute to higher levels of housing demand as well as impacting on land and house prices.
 - **Well-being:** LUF projects of this nature may therefore raise the welfare of residents through two main channels: firstly by stimulating local economic growth and raising incomes, and secondarily via satisfaction and pride in the locality. However, given the risks that these projects may generate benefits for households moving into (or commute into) the relevant areas, it will also be important to

establish the extent to which any benefits generated by projects accrue to existing residents given the broader aims of the Levelling Up White Paper.

2.3.3 Logic model

A logic model summarising the analysis above is provided overleaf.

Figure 2.1: Logic model – unlocking commercial, industrial, and residential development



2.4 Enhancing regional and sub-regional connectivity

This group of interventions focus on the provision of new or improved transport links to facilitate greater connectivity between areas (including new road links to facilitate travel by vehicle or new public transport links). As the transport network is largely managed by the public sector, market failure type considerations are less relevant to the rationale for public intervention for these types of projects (as the private sector will largely not provide these investments in the absence of public sector). It should be noted that projects focusing on improving the provision of infrastructure for cycling and walking (active travel projects) are considered as part of the fourth group of projects below (i.e. 'Improving quality of life for residents).

2.4.1 Theory of change

These types of projects would be expected to deliver their intended impacts via the following processes:

- **Inputs:** A range of inputs are used to make enhancements to the road and public transport networks which vary substantially across the different types of projects. Schemes will typically be funded via public subsidies (although in some case, third-party developers may provide contributions).
- **Activities:** This group of interventions comprises two main types of activity:
 - **New and improved road links:** Road enhancement projects may include development of entirely new links in the road network or enhancement of existing links. Improvements could be made for a number of reasons such as improved new access to urban centres, bypassing traffic away from urban or rural centres or creating/improving links between one or more urban and/or suburban centres. The primary objective is generally to reduce journey times or costs.
 - **New and improved public transport links:** Some LUF projects involve investments in enhanced public transport infrastructure to improve connectivity by public transport. These projects are not common in Round 1 project portfolio and it was only possible to identify three projects with a focus on provisioning of enhanced public transport links. These included a new rail and bus interchange as part of the Porth Transport Hub, provision for bus connectivity as part of the White Hart Corridor set of upgrades to road links serving the Advanced Manufacturing Innovation District in Renfrewshire (a scheme that arguably could be classified as a new or improved road link), and a scheme to replace passenger and freight vessels forming sea links between the Isles of Scilly and the mainland.
- **Improved accessibility:** Road and public transport network enhancements are expected to reduce journey times and congestion, resulting in more predictable journeys and reduced generalised travel costs. Enhancements may generate additional demand for travel, e.g. encouraging transport road users to make use of the network or as a result of additional local economic activity stimulated by schemes.
- **Indirect effects on firms:** Improved accessibility could be expected to produce the following effects on businesses (these effects are likely to mostly be potentially more significant for road projects than public transport schemes):
 - **Productivity gains:** Reductions in journey times would be expected to reduce the costs associated with freight logistics and business travel. These effects may feed through into higher GVA per worker if workers spend less time travelling and allocate more time to production, if savings on freight logistics are not passed on to consumers, or if firms reorganise themselves more efficiently in response to more reliable or rapid journey times. These effects might be expected to be more important for those firms located near and/or making the most use of the road or public transport

infrastructure (such as logistics, construction, and manufacturing industries) within the areas most affected by the schemes.

- **Firm expansion:** To the extent that firms reduce their output prices in response to lower costs, enhanced competitiveness may allow them to acquire new customers (or expand orders with existing customers), leading to higher output (GVA). Firms may need to recruit new workers to meet the additional demand, resulting in increases in local employment. On the other hand, increased exposure to competition may negatively affect local firms, resulting in contractionary effects.
- **Sorting effects:** Road and public transport network enhancements may also make the areas concerned more attractive to firms looking to expand or relocate or to those considering starting a business, leading to new investment and the creation of jobs and GVA within the local areas concerned. Again, if incoming firms are more productive than incumbents, then there may also be an increase in local productivity (GVA per worker).
- **Displacement:** As with interventions focused on provision of industrial and commercial floorspace, there also likely to be offsetting displacement effects at local and national levels. If incumbents can raise their competitiveness as a result of enhanced connectivity, they may claim market share from competitors based elsewhere. Similarly, incoming firms may seek to claim market share from local competitors, causing these firms to reduce their employment and GVA. Additionally, there are important questions to be addressed as to the nature of the areas from which any economic activity is displaced (as noted above, if projects largely displace economic activity from other areas being targeted by LUF then these investments may not contribute to the broader objectives of the fund).
- **Crowding out:** The outcomes of connectivity improvements and associated increases in demand for labour, floorspace, and other inputs may also be dampened by the upward pressures these create on wages, rents and prices (encouraging other firms to reduce their output and GVA).
- **Agglomeration effects:** However, connectivity improvements also bring about increases in effective the economic density (by reducing travel times between firms) which may benefit the economy more widely by creating positive external economies of scale as local firms may become more productive by being in closer proximity to other firms, factors of production or infrastructure. However, there is also a risk of a ‘two-way’ road effect if improved links reduce the need for firms to maintain a local base to serve markets.
- **Effects in land and property markets:** Schemes that improve connectivity may have indirect effects on land and property markets via their effects in stimulating demand for floorspace or housing (which would be expected to feed initially into higher rents or land prices). This may create incentives for developers to invest in new housing or industrial, commercial, or retail floorspace.
- **Effects on residents:** Finally, it will also be important to consider the effect of improved connectivity on residents and workers:
 - **Leisure time:** Improved accessibility will produce direct benefits for residents by reducing the time taken to travel to work or for leisure purposes (allowing them to acquire additional leisure time).
 - **Wages:** These types of intervention could have a variety of effects on wages by extending the geographical range of workers’ job search patterns (allowing them to access more productive and higher paid sources of employment) or if new jobs brought to the area by firms relocating are be associated with higher productivity and wage levels. Additional demand for workers may also place

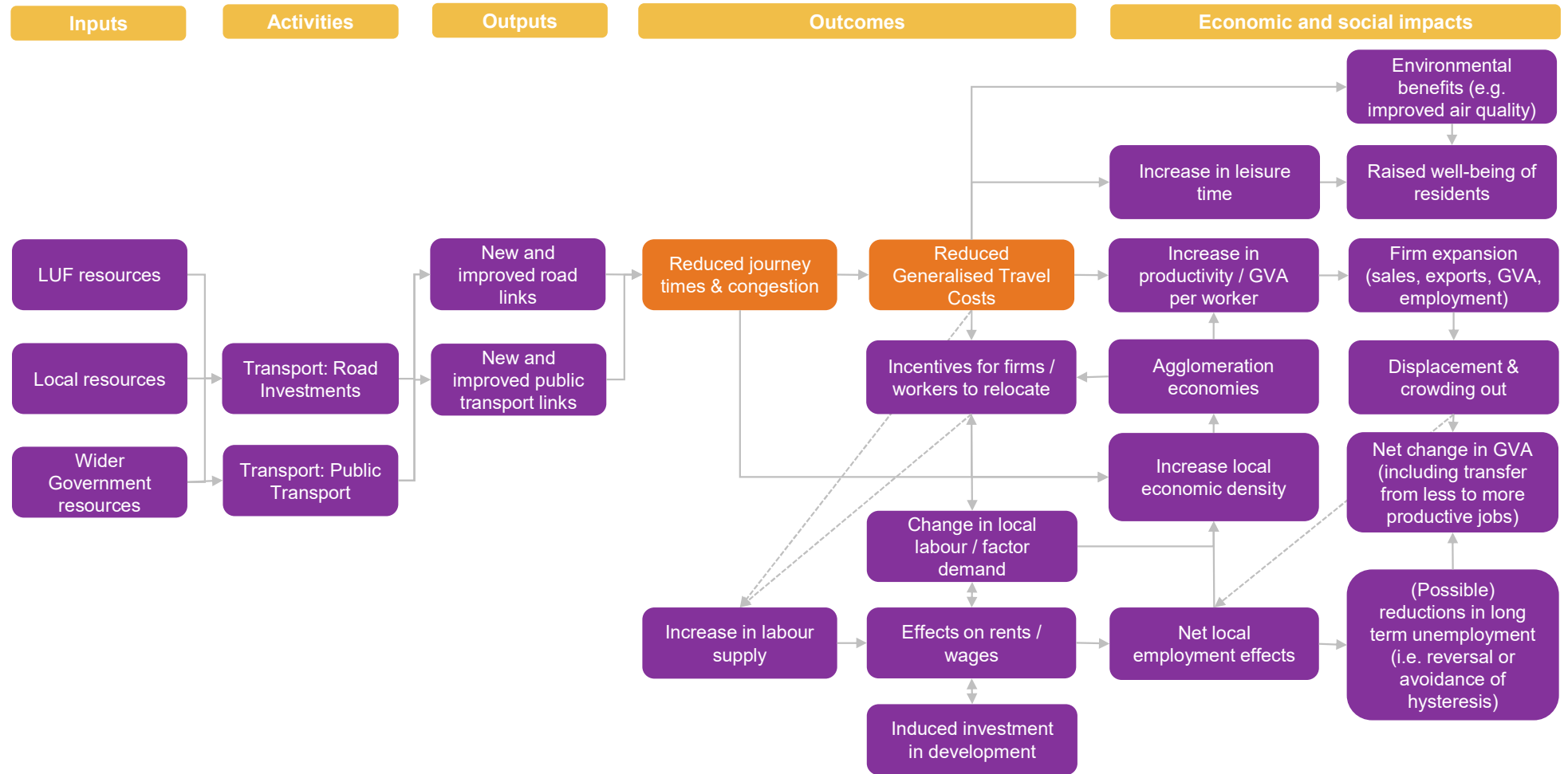
upward pressure on wage levels (and this may cause difficulties for local firms if they also faced increased competition for labour from firms based elsewhere). Higher income levels may also feed through to higher levels of local consumer spending and growth of the local service economy.

- **Effects on labour supply:** Improvements in road or public transport networks may cause economically inactive individuals to enter the labour market, typically by increasing their returns to labour. This could reflect an increase in wages, due to being able to access more productive employment opportunities or a decrease in travel costs. However, it should be noted that wider job search patterns could adversely affect local firms by reducing the supply of skills.
- **Unemployment:** On the assumption that the relevant labour markets are not already operating at full employment levels, local economic growth stimulated by these types of projects may also help reduce unemployment and/or take some workers out of episodes of long-term unemployment and avoid potential 'hysteresis effects' or long term reductions in the productive capacity of the economy.
- **Sorting effects:** Improved connectivity may also raise the attractiveness of areas to workers, attracting new residents and households. New residents may alter the composition of local skills supply, and if incoming workers are more productive than existing residents, then this may result in an increase in the average wages of residents. Population growth will also be accompanied by an increase in local labour supply - in tight local labour markets this could help alleviate constraints on local growth. In other cases, it could create downward pressures on local wage levels, at least in the short run (and likely accompanied by offsetting effects elsewhere).
- **Wellbeing:** LUF projects of this nature may therefore raise the welfare of residents through three main channels: firstly by stimulating local economic growth and raising incomes, via reduced travel times, or as a consequence of any environmental benefits (as described below).
- **Environmental impacts:** Although not the principal objective of relevant schemes, these types of projects may deliver environmental benefits via reduced emissions or improvements in air quality as a result of any effects on congestion levels.

2.4.2 Logic model

A logic model summarising the analysis above is provided overleaf.

Figure 2.2: Logic model – Enhancing sub-regional and regional connectivity



2.5 Strengthening the local service or visitor economy

This group of interventions aim to produce positive local economic and social outcomes by attracting visitors or stimulating footfall in town centres. These projects aim to raise levels of local consumer spending, leading to the growth of the local service and visitor economy, and potentially stimulating complementary investments by the private sector in renewal.

2.5.1 Rationale for intervention

These types of projects typically address co-ordination problems in local service economies where no single business can claim the profits associated with investments in raising the quality of or attractiveness of the area to visitors or consumers. For example, investments in improving the public realm may encourage greater levels of footfall, leading all businesses in an area to generate larger profits. However, as no individual business can extract the entirety of these profits, this significantly limits the strength of their incentives to make these types of investment (except in some cases, e.g. where developers are able to acquire a monopoly interest across commercial units, such as in out-of-town retail parks²). Similar issues also arise in relation to visitor attractions – culturally important attractions such as theatres or art galleries help act as a ‘draw’ for visitors.

Without public intervention, investments in the quality of visitor attractions and the public realm will be made at suboptimal levels (resulting in reduced levels of footfall and consumer spending), creating a rationale for public support for these types of schemes to boost local economic growth.

2.5.2 Theory of change

These types of projects would be expected to deliver their intended impacts via the following processes:

- **Inputs:** The delivery of these types of projects will typically involve a combination of public subsidies and private sector investment (including resources absorbed by follow-on investments in development activity, where these are not directly funded through the LUF project).
- **Activities:** Schemes funded under this strand would be include the following types of activity:
 - **New or improved visitor attractions:** Investments in cultural or related assets to raise their cultural value or attractiveness to visitors. This would include investments in new visitor attractions as well as improvements to existing assets (such as rehousing collections in new buildings or refurbishment of existing buildings to accommodate new cultural offerings).
 - **Provision of new or improved retail floorspace:** Renewal or provision of new retail floorspace (such as renovating markets or upgrading town centre retail spaces).
 - **Public realm improvements:** Investments to improve the attractiveness of public spaces in retail centres or other facilities that welcome visitors. While this would include town centre improvements, this would also include refurbishments to buildings providing public services (e.g. while the refurbishment of Leicester Rail Station is categorised as a public transport project, the aim of the project is to improve the visitor experience rather than to enable rail users access destinations more rapidly).

² Where profits can be extracted via premiums on commercial rents.

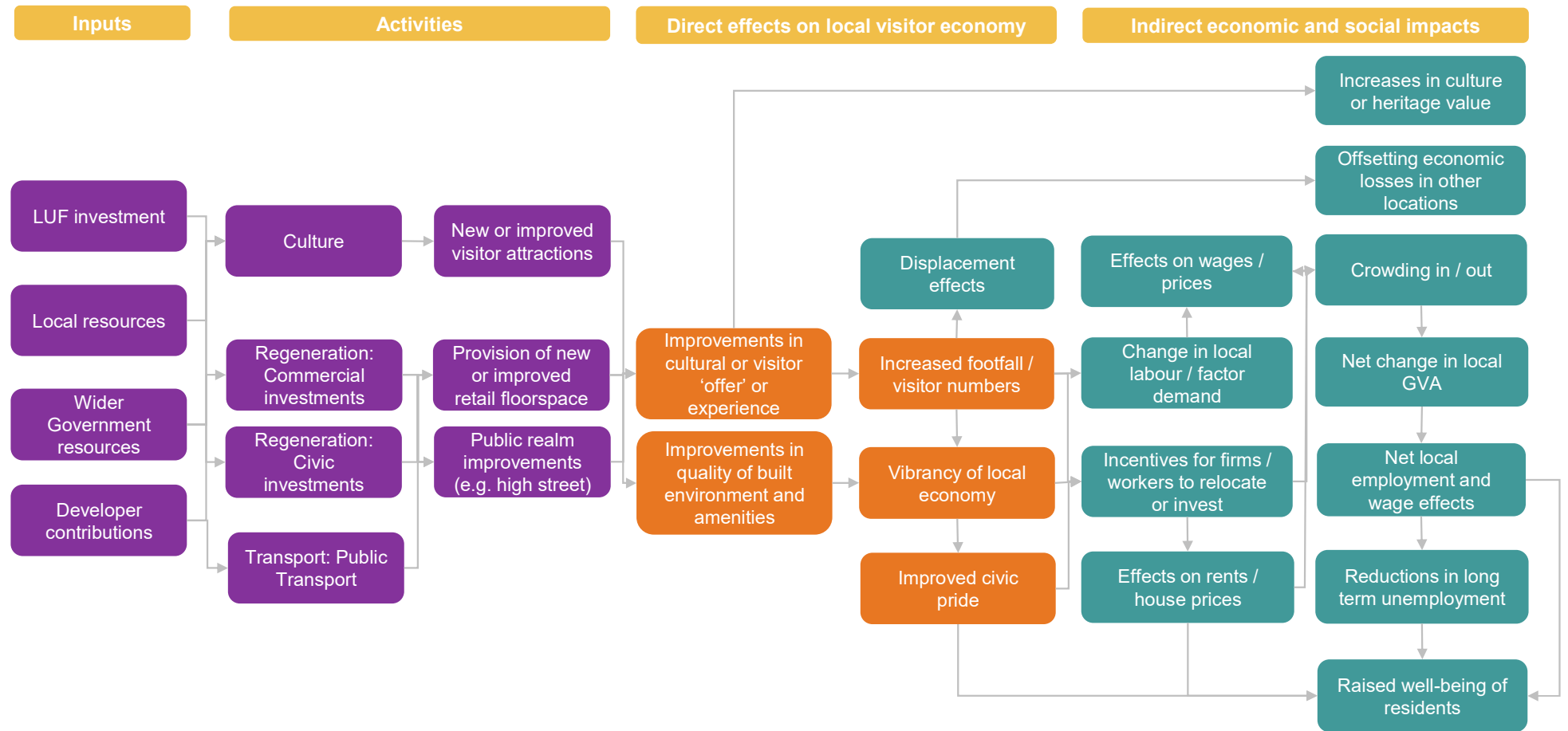
- **Direct effects on the local visitor economy:** These types of projects would be expected to produce the following direct effects on the local visitor economy:
 - **Improvements to the cultural or visitor experience:** These investments would be expected to result in an improvement in the attractiveness of the area to residents or consumers. This could be driven by a more attractive public realm, greater consumer choice, or more attractive cultural offerings.
 - **Vibrancy of the local economy:** In turn, these investments would be expected to result in increased footfall or visitor numbers and higher levels of consumer spending in the local economy.
- **Indirect effects on firms:** Higher levels of spending in the local economy would be expected to produce a range of indirect effects on local firms:
 - **Employment and turnover growth:** Higher levels of spending will stimulate the growth of the local service economy, with local firms benefitting from higher levels of spending, leading to growth in local economic output (GVA). This may encourage some firms to expand their levels of employment to help service the additional demand. There may also be productivity growth if firms are able to use the resources available to them more intensively as a result.
 - **Sorting effects:** If higher levels of local demand raise the profitability of the location, it may also increase the attractiveness of the location to firms based outside the areas - encouraging other firms in the service economy to relocate to, or open new locations in, the area. This would be visible in an increase in the number of firms located in the area, higher occupancy rates, the creation of additional new jobs, and a further expansion in local economic output (GVA).
 - **Local displacement, crowding out, and crowding in:** Higher levels of demand for floorspace in the area may be accompanied by upward pressure on rents, while additional demand for workers could potentially place upward pressure on wages. These could cause offsetting effects in the local economy if some existing firms are unable to afford rents or reduce their employment in response. Additionally, incoming firms may claim market share from incumbents (a particular risk for this type of intervention, given the focus on local service sector economies). However, higher prices could provide signals to developers that investments in the local economy are potentially profitable, stimulating further investments in retail floorspace or housing (crowding-in).
 - **National displacement:** It should be noted that the economic impacts of these types of projects will predominantly be driven by demand side effects, and any increasing in consumer spending locally is likely to be offset by reductions in spending elsewhere (with corresponding impacts on local jobs and GVA). This may not be problematic if spending is displaced from areas that are economically buoyant, although such processes would work against the aims of the LUF if those areas are predominantly lagging subregions.
- **Effects on residents:** As with other types of intervention, it will also be important the effect of these types of initiative on residents and workers:
 - **Population, labour supply and sorting effects:** Improvements to the quality of local amenities may increase the attractiveness of the area to residents of other areas, encouraging greater levels of housing demand and in-migration. This will potentially place upward pressure on house prices and result in sorting effects in the labour market – for example, if incoming residents have a different skills profile to existing residents (a ‘gentrification’ effect).

- **Wages:** As noted, higher levels of employment demand may also place upward pressure on wage levels if there are constraints on local labour supply or shortages of specific skills (though as noted above, this could crowd out other labour demand by other local employers). Higher income levels may feed through to higher levels of local consumer spending, inducing further growth of the local service economy.
- **Unemployment:** On the assumption that the relevant labour markets are not already operating at full employment levels, local economic growth stimulated by these types of projects may also help reduce unemployment and/or take some workers out of episodes of long-term unemployment.
- **Culture and heritage value:** Some projects in this portfolio involve investments in culture and heritage assets, which will have an intrinsic value for users and non-users of those facilities (and these values are likely to be higher for residents than those located at greater distances from the new or improved assets).
- **Civic pride:** As with projects aiming to unlock land for development, these types of projects may raise the condition and aesthetic quality of the local built environment as well as improve the quality or value of local cultural and other amenities. This may feed through into greater satisfaction amongst residents in relation to the quality of local built environment and higher levels of civic pride (a key aim of the Levelling Up White Paper). It should also be noted that these types of effects could also contribute to higher levels of housing demand as well as land and house prices.
- **Well-being:** LUF projects of this nature may therefore raise the welfare of residents through two main channels: firstly by stimulating local economic growth and raising incomes, and secondarily via satisfaction and pride in the locality. However, given the risks that these projects may generate benefits for households moving into (or commute into) the relevant areas, it will also be important to establish the extent to which any benefits generated by projects accrue to existing residents given the broader aims of the Levelling Up White Paper.

2.5.3 Logic model

A logic model summarising the analysis above is provided overleaf.

Figure 2.3: Logic model - Strengthening the local service economy



2.6 Improving the quality of life of residents

The final group of interventions are distinct those described above in that their principal objective is to raise the quality of life of residents directly (rather than indirectly via stimulating economic growth). These typically involve capital investments to improve the provision of public services and amenities. While they share a common focus on the welfare of residents, this is the most diverse group of interventions in the LUF portfolio.

2.6.1 Theory of change

These types of projects would be expected to deliver their intended impacts via the following processes:

- **Inputs:** The delivery of these types of projects will typically involve public subsidies for capital works. However, as the assets involved will typically be maintained by the public sector in these cases (or used to provide services), it may also be important to consider any additional costs for public sector organisations arising from the completion of the assets. However, in many cases, it is not clear that there would necessarily be additional costs as new buildings are often used to rehouse existing public services (and could even produce savings – e.g. if the new building is more energy efficient than previous premises).
- **Activities:** The range of activities considered under this group of interventions are relatively diverse and have been categorised into five subcategories of intervention as described below.

Table 2.2: Activities – Improving the Quality of Life for Residents

Activity	Description
New or improved educational facilities	Projects aiming to provide new facilities for the provision of education or training. Examples include investments in a new skills and training facility as part of Bolton NHS Foundation Trust and the refurbishment of Hartpury University Innovation, Career and Enterprise and Learning Centre.
New community, leisure, or well-being facilities	Projects focusing on providing new community, leisure, or well-being facilities. This would include new leisure facilities (such as swimming pools), community assets, as well as facilities through which healthcare services can be provided to residents. In some cases, investments will have mixed uses of this nature (such as the Squire Lane Leisure, Wellbeing and Enterprise centre).
Active travel infrastructure	Several projects have involved the delivery of 'active travel' infrastructure (generally as part of a broader scheme). While this could in principle include investments in infrastructure to support walking or cycling, projects funded in Round 1 of LUF have generally focused on providing new cycle routes or segregated cycle lanes.
Public realm improvements	Projects investing in the public realm principally for the benefit of residents (e.g. provision of new parks or other environmental amenities)
Residential investments	Projects aiming to invest in new or existing housing with the principal objective of improving the quality of housing services for existing residents (rather than to accommodate economic growth).

- **Intermediate outcomes:** Depending on the nature of the activities supported, these projects might be expected to produce the following types of outcomes:

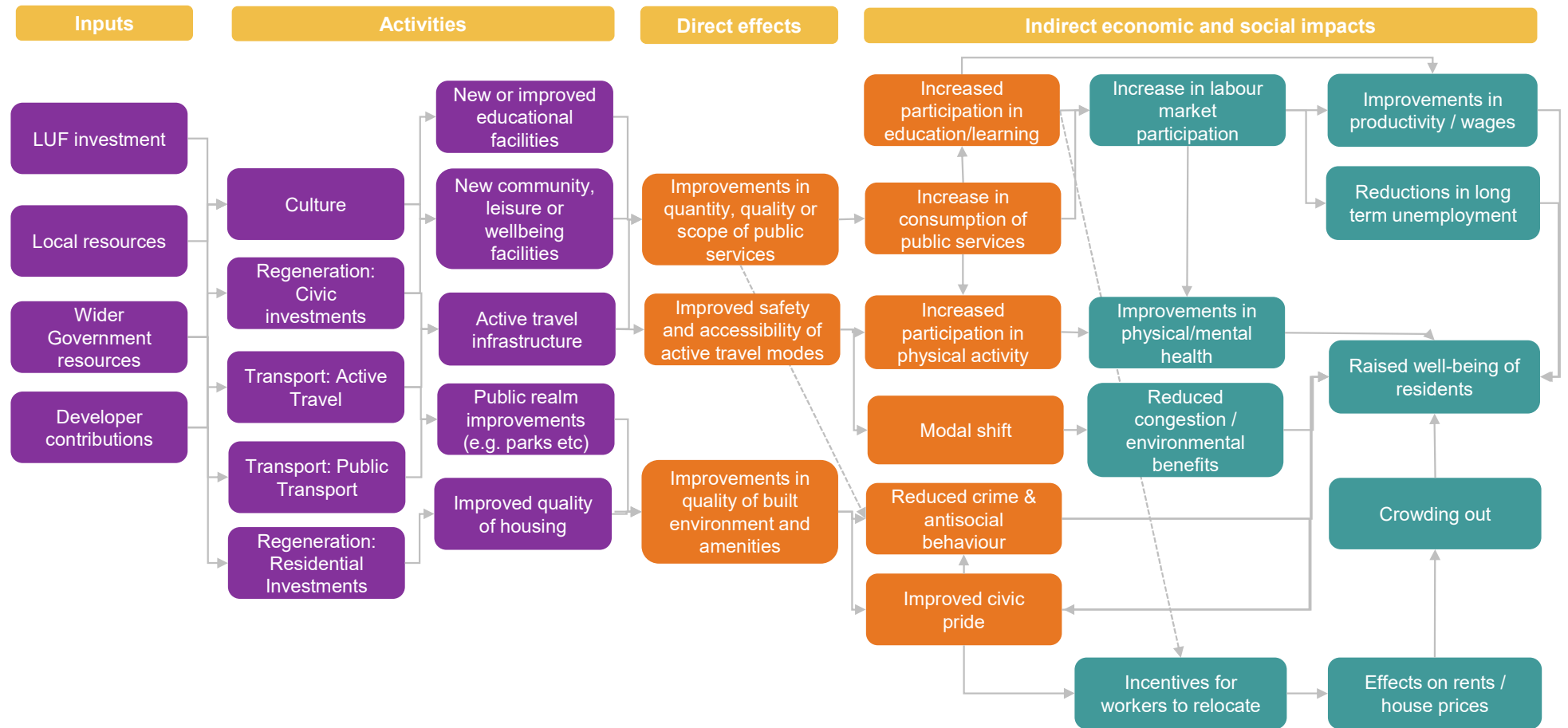
- **Improvements to the quantity, quality, or scope of public services:** Investments in new or improved educational, community, leisure or wellbeing facilities would be expected to deliver highly specific improvements in the provision of public services depending on the characteristics of the project. However, at a more general level, these types of intervention might be expected to enable the provision of public services at greater volumes (e.g. if the project is addressing local capacity constraints), at higher qualities (if new or refurbished building allow the public sector to deliver services more productively), or at greater scope (if new buildings allow the public sector to increase the range of public services provided). This is a critical assumption of the theory of change that would require testing in an evaluation (i.e. to establish how far new infrastructure is being used to provide the intended services, and the degree to which it has enabled these types of improvement).
- **Improved safety and accessibility of active travel modes:** The emphasis of active travel infrastructure is on segregated cycle routes and other infrastructure to support cycling. This would be expected to improve the safety and accessibility of cycling as an active travel mode (assuming that infrastructure has been effectively designed and implemented).
- **Improved quality of the build environment and amenities:** Investments in the public realm and the residential building stock would be expected to lead to improvements in the quality of the built environment (aesthetically as well as in terms of the condition, energy efficiency, and other properties of housing).
- **Behavioural and attitudinal impacts:** In turn, these types of projects might be expected to lead onto the effects on the behaviour and/or attitudes of residents:
 - **Increased consumption and/or satisfaction with public services:** Improvements to the quantity, quality, or scope of public services might be expected lead in turn to greater levels of consumption of those services by residents as well as improvements in satisfaction.
 - **Participation in education or training:** This might also be associated with increases in levels of participation in education or training (e.g. where investments have enabled new provision).
 - **Modal shift:** Active travel infrastructure may also encourage a modal shift to cycling. However, it should be noted that the provision infrastructure is only likely to address one type of barrier to take-up of active travel modes, and there are likely to be other types of barriers that need to be addressed locally to maximise modal shift outcomes (e.g. attitudinal barriers to modal shift, or affordability constraints in relation to equipment). LUF projects will not address these other aspects, though other projects funded locally may support these types of impact.
 - **Participation in physical activity:** Modal shift encouraged by active travel infrastructure as well as provision of new opportunities to participate in physical activity (e.g. the construction of new swimming pools or leisure facilities, or improvements to local parks or environmental assets), would be expected to encourage greater levels of participation in physical activity.
 - **Civic pride:** Improvements to the condition and aesthetic quality of the local built environment and amenities might also be expected to feed through into greater satisfaction amongst residents in relation to the quality of local built environment and higher levels of civic pride.
 - **Reductions in crime and antisocial behaviour:** The outcomes above might also be anticipated to contribute to reductions in criminal or antisocial behaviour (including via improving the quality of the built environment, as predicted by some criminological theories).

- **Economic and social benefits:** In turn, these types of projects might be expected to produce a broad range of economic and social benefits for residents, including:
 - **Economic benefits:** Education and training provision might be expected to lead onto an array of economic benefits for residents able to take up new opportunities, as a result of increases in labour market participation, improvements in productivity and wages, and/or reductions in short- or long-term unemployment.
 - **Improvement in physical and mental health:** Improvements in the capacity or quality of local healthcare services, increased participation in physical activity, increased safety of active travel infrastructure and potentially other improvements in local public services might reasonably be expected to deliver improvements in physical and mental health.
 - **Reduced congestion and other environmental benefits:** Shifts to active travel modes may also help reduce congestion, reducing journey times as well as potentially delivering other types of environmental benefit (e.g. reduced emissions). Though it should be noted that active travel schemes may also have adverse effects on congestion and air quality (particularly in other areas) depending on their design.
 - **Wellbeing:** In aggregate, the social benefits of the outcomes arising from the types of LUF project may be captured in improvements in the quality of life or wellbeing of residents.
- **Sorting effects:** It should be noted that these types of projects may make the relevant areas more attractive places to live and stimulate additional housing demand from non-residents. This has the potential to place upward pressure on house prices and lead to processes in which existing residents are replaced by incoming households (gentrification type effects). As with other types of intervention considered as part of this analytical framework, it will be critical to understand how far benefits accrue to existing as opposed to incoming residents (and in some cases, visitors) to determine how far LUF has met its objectives.

2.6.2 Logic model

A logic model summarising the analysis above is provided overleaf.

Figure 2.4: Logic model – improving the quality of life of residents



2.7 Contextual factors

Any evaluation of the LUF will also need to address the following contextual factors that may influence the outcomes achieved by the programme:

- **Parallel and historic interventions:** Local economic growth and other outcomes are likely to be influenced by the delivery of parallel or historic interventions that have aimed to produce similar outcomes. This creates a risk that changes in local economic or social outcomes arising from these programmes could be misattributed to LUF (particularly as LUF has tended to target areas that have formed the focus of past interventions) unless they are accounted for in the analysis. Interventions of particular relevance can be grouped into three broad types:
 - **Tax or regulations:** Local or area-based initiatives where taxes or regulations are eased to attract economic activity to an area. Historic examples include the Enterprise Zones programme, while parallel interventions would include Freeports or the recently proposed Investment Zones scheme.
 - **Capital infrastructure:** Numerous programmes to fund capital infrastructure that are analogous to those delivered through LUF have been funded. Historic examples might include the Changing Places Fund, Local Growth Deals, and the ERDF programme (although this also provided funding for other forms of local intervention), while examples of parallel schemes include the Towns Fund and the Shared Prosperity Fund.
 - **Business support and skills:** Additionally, some areas may also benefit from historic or parallel business support or skills interventions at the local level. Again, numerous schemes of this nature were funded through the ERDF and the Regional Growth Fund programmes and are expected to be an important feature of the Shared Prosperity Fund. However, these types of schemes tend to be less focused on a specific place or neighbourhood (being delivered, for example, at the level of a borough) and might be expected to have effects that are more spatially diffuse.
- **Broader economic context:** It will also be important to set any evaluation in the broader economic context in which LUF projects are delivered. LUF projects are expected to be delivered in a challenging economic environment as the economy emerges from COVID-19 and is entering a period expected to be characterised by inflationary and recessionary pressures as well as higher interest rates. Some areas may be facing longer term economic ‘scars’ as consequence of social distancing restrictions while private investment levels and consumer spending are likely to be affected by increased borrowing costs and expectations regarding future economic growth. These factors could limit the degree to which LUF projects are able to deliver against their intended outcomes (e.g. by creating challenges in securing developers or encouraging firms to occupy premises).

2.8 Existing evidence base

The analysis above describes the hypothesised outcomes and impacts of the main intervention classes funded through the LUF and potential issues that would need to be accounted for in an evaluation of the programme. A review of the broader literature (particularly the policy reviews undertaken by the What Works Centre for Local Economic Growth) were used to assess the strength of the evidence base with regard to the effectiveness of these classes of intervention and gaps in the evidence base. The results of this review are summarised in the following table, though it should be highlighted that in general, there is limited robust evidence of the impacts of the types of intervention funded through LUF (either in a UK or international context).

Table 2.3: Existing evidence base

Intervention type	
Unlocking land for commercial, industrial, or residential development	Interventions in land and property markets were not drawn out as a specific category of intervention by the What Works Centre for Local Economic Growth. However, a small number of rigorous impact evaluations have been completed with a UK focus. This includes a detailed review of the long-term impacts of 187 investments in commercial property made through the Single Regeneration Budget between 1994 and 2002 ³ . This study concluded that these types of initiatives led to job creation in the immediate vicinity of the scheme, there was some evidence that there may have been displacement of jobs from areas further than 3km from the relevant sites. Additionally, these effects did not necessarily lead to benefits for existing residents, with the evaluation demonstrating no positive effects on local employment rates. Nevertheless, it is widely recognised that the general evidence base regarding the effectiveness of interventions in land and property markets to support regeneration is limited (both in the UK and more widely) ⁴ .
Transport connectivity	The What Works Centre for Local Economic Growth identified a relatively large number of studies providing robust assessments of the local impacts of investments in both rail and road infrastructure (including some rigorous UK focused studies). Road investment projects have been shown to produce positive effects on local employment, although this is partly driven by the relocation of firms, and the extent of displacement effects are not well characterised. Evaluations of rail projects tend to show similar, but more localised effects. Gaps in the evidence base highlighted included a lack of evidence in relation to the productivity impacts of transport connectivity projects, as well as lack of evidence in relation to the relative effectiveness of investments in the Strategic Road Network and smaller scale road investment projects more typical of LUF).
Strengthening the local visitor economy	<p>Most robust evidence in relation to the local impacts of sporting and cultural interventions relates to large scale events or facilities, and typically focuses on effects on local incomes and employment (and where these types of projects produce these effects, they are generally highly localised and small in magnitude). Past studies may also not offer a helpful guide to the potential impacts of LUF projects as there is paucity of evidence in relation to cultural interventions.</p> <p>Evidence on the impacts of interventions to improve the public realm were also highlighted by the What Works Centre for Local Economic Growth as a significant gap (with no robust evaluations of the local impacts of these types of projects identified in their review).</p>
Improving the quality of life for residents	The types of investments in local amenities funded through the LUF are covered under the broader theme of 'Estate Renewal' as part of the What Works Centre for Local Economic Growth's policy reviews. Robust evidence of impact tends to be available for large scale investments in housing improvements which are perhaps less relevant for the types of projects funded through LUF. Evaluation evidence for some categories of intervention (investments in education facilities or active travel schemes)

³ Gibbons et al (2021) The local economic impacts of regeneration projects: Evidence from UK's single regeneration budget, Journal of Urban Economics

⁴ See for example Ploegmakers & Becker (2015) Evaluating urban regeneration: An assessment of the effectiveness of physical regeneration initiatives in run-down industrial sites in the Netherlands, Urban Studies

Intervention type	
	are also relatively limited and/or restricted to observational studies examining changes in outcomes over time rather than including control groups or areas.

2.9 Evaluation implications

The analysis set out above highlights a range of implications for an impact and economic evaluation of LUF:

- Programme level evaluation:** At the level of the overall programme, LUF projects share some level of basic commonality in their aims in terms of (a) raising the wellbeing or quality of residents and (b) improving satisfaction with the quality of public services and the built environment in their areas (civic pride outcomes). However, a distinction can be drawn between the three classes of intervention that seek to achieve these objectives principally by supporting local economic growth, and the final class of intervention which are principally focused on delivering improvements in quality of life. These two groups of projects would be expected to produce very different types of local outcomes, and it would only be sensible to pool the two groups of intervention when examining these headline impacts.
- Economic interventions:** The theories of change for interventions to unlock land for development, improve connectivity, and strengthen the local visitor economy have many features in common, and are expected to involve broadly similar patterns of indirect economic and social impacts. These groups of projects could arguably be grouped together for the purposes of a 'portfolio' level evaluation (or indeed pooled along geographical lines to explore effects at the level of specific region).
- Social interventions:** Interventions to deliver improvements in quality, on the other hand, are highly diverse and might be expected to produce highly specific changes in behaviour and attitudes depending on the nature of the project. Owing to this diversity, it may more challenging to pool projects for the purposes of portfolio analysis, except when examining some of the final outcomes of the programme (i.e. wellbeing and civic pride).
- Sorting and displacement effects:** All types of projects funded through LUF are likely to produce sorting and/or displacement effects in which (a) the positive benefits of the projects may be accompanied negative consequences elsewhere and (b) the capital investments risk attracting new residents or firms. As such, there is a risk that the benefits of LUF projects do not accrue to the communities it was intended to support or that it produces negative effects on other areas facing economic disparities. An impact evaluation will need (as far as practicable) to establish the extent of these sorting and displacement effects if it is to provide an assessment of how far LUF has met its objectives.
- Timeframes:** LUF projects are investments in capital infrastructure and their benefits are unlikely to be visible until they are completed (while these projects may generate jobs in the construction sector in

the interim, these should largely be understood as a cost, rather than a benefit, of the programme⁵). Phase 1 LUF projects were typically funded on the basis that they would reach completion in 2024/25 (with some stakeholders indicating that delivery timescales are likely to extend beyond this timeframe).

As such, it may not be possible to generate strong evidence of short-term impact until after 2024/25 and in many cases not for a significant period after this. For example, the local economic impacts of land reclamation projects will largely not be visible until (a) developer agreements are in place, (b) planning applications have been approved, (c) construction of new premises is complete, and (d) new units have been leased to tenants. While stakeholders highlighted a need for evidence of effectiveness in 2024/25 to feed into a potential spending review, it will not be possible to make any strong claims of impact at this stage. However, it would potentially be feasible to assess the likelihood of future impact as part of a process evaluation (e.g. by examining extent to which developers are in place to take forward activity at strategic land sites unlocked).

⁵ Though they may produce some of the same types of impact (e.g. on unemployment) in the short term.

3 Portfolio Review

This section set out a brief review of the portfolio of projects funded through Round 1 of the LUF with a view to identifying potential implications for a structure of an impact evaluation of the programme. The principal focus is on assessing the distribution of projects funded across the intervention categories set out in the preceding section. As rigorous approaches to evaluation will require sufficient sample sizes of projects to support statistical analysis, this section examines the size of the portfolios of projects funded under different headings to determine where such approaches might be feasible.

3.1 Classification approach

The following approach was adopted to classifying projects funded by the LUF:

- The starting point for the review was the 105 projects marked as 'approved' in DLUHC monitoring information provided for this assessment (from a population of 305 applications).
- As highlighted in the preceding section, many project applications can be understood as a package of smaller discrete projects. These discrete projects are generally clearly described in application forms, and a review of these applications was used to enrich the DHLUC monitoring data by decomposing each project into its constituent parts. This resulted in an expanded population of 170 sub-projects.
- Each of these sub-projects were then assigned to the typology of intervention types described in the preceding chapter, as well as the specific 'activities' described under each category:
 - As highlighted below, this exercise demonstrated the robustness of the typology developed as all projects could be classified to the groups of activity identified with one exception⁶ (a project in Belfast to replace and deliver additional charging points for electric vehicles). This does not preclude the possibility that future rounds of LUF may reveal new types of projects, although consultations with stakeholders did not indicate that there were significant changes in the profile of applications that have been received for Round 2.
 - Individual projects were assigned to a single intervention category. However, there were some cases in which the project could arguably have been assigned to multiple projects. For example, several projects assigned as 'active travel infrastructure' interventions involved the improvement of pedestrian walkways and cycle lanes as part of a broader package of visitor economy interventions designed to revitalise town centres. The underlying objective of these interventions were not always to increase participation in active travel modes (e.g. where the principal aim was to improve visitor experience).
- The data was further enriched by extracted details of the spatial location of each project (i.e. the postcode associated with the capital investments). It should be noted that application forms did not always set out the locations of projects in a straightforward way, and often had to be inferred from maps provided with the application or from online searches. Additionally, while each project has been represented as a 'point' in the following analysis, the project portfolio comprises interventions that should either be understood as a 'region' (e.g. areas covered by public realm enhancements, such as

⁶ There was also one project for which an application was not available.

the Linear Park in Hillsea) or as a 'path' (e.g. new road linkages). There was only one project that could not be assigned to a specific location: a project in Nottingham involved delegating funding to each ward to make improvements to accessibility and the public realm, implying that the locations of investment were not known at the time of application.

Recommendation: Any systematic quantitative evaluation of LUF projects (or similar programmes funding small scale capital investments, such as the Towns Fund) will require detailed information on the spatial location of the investments that have been made. This information is available through the application forms provided, though it is a labour-intensive process to enrich DLUHC monitoring data with these spatial details. A future evaluation of the LUF and analogous initiatives could be streamlined if applicants are requested to provide the (a) postcodes associated with each sub-project put forward (where they relate to investments in buildings) or (b) provide shapefiles for interventions better characterised by regions or paths. It is not anticipated that this would prove burdensome for applicants, as their application forms generally provide electronic maps of the proposed site locations (implying these types of files are readily available).

3.2 Overview of the Round 1 Portfolio

Table 3.1 sets out the distribution of projects across interventions and categories. This illustrates:

- **Overall distribution of projects:** There are broadly similar shares of projects funded under the themes of 'unlocking development,' 'strengthening the local service economy' and 'improving the quality of life of residents.' There are relatively small numbers of projects funded with explicit objectives to improve connectivity between areas (although these projects do tend to be more costly).
- **Spatial extent of intended impacts:** The review of project applications indicated that in most cases, projects tended to be relatively small in scale and were expected to produce highly localised impacts on economic activity and/or community wellbeing (perhaps up to a 1km radius from the investment). Interventions tended to be spatially clustered in small scale regeneration areas or involved investments in a single building or community asset (e.g. leisure centres, swimming pools, etc). This is consistent with past evaluations of comparable initiatives:
 - A 2017 evaluation of investments in business floorspace made through the Single Regeneration Budget (broadly equivalent to projects funded under the 'unlocking development' theme) found that the positive employment impacts of these projects were contained within 1km of the developments (although there were displacement effects at larger distances)⁷.
 - An evaluation of a €2.3bn housing renewal programme funded in Berlin (using a hedonic pricing method focused on understanding its benefits through its effects on house prices) found that the scheme successfully raised the condition of the local building stock. However, its social benefits were contained within the areas benefitting from the initiative (and there were no 'spillovers' to adjacent areas).

While the effects of projects may be more diffuse in relation to some outcomes (e.g. improvements to town centres may reduce unemployment or raise the wellbeing of residents located at further

⁷ Gibbons et al (2017) Local Economic Impacts of Regeneration Projects: Evidence from the UK's Single Regeneration Budget

distances), this provides an indication of the size of populations that might be expected to benefit from the projects funded.

- **Path dependency:** It should also be noted that many (if not most) projects formed part of a broader 'masterplan' or regeneration strategy for the areas concerned. LUF funding was being used to support specific components of these plans, with alternative funding streams being used to fund other complementary projects. There was also substantial variation in the level of progress in implementing these strategic plans. In some cases, LUF funding was used to fund initial site preparations as part of a long-term vision for an area, while in other cases LUF funding to fund residual programmes of works nearer the completion of plans.
- **Synergy effects:** Some (though not the majority) packages of projects involved the delivery of different types of intervention to maximise the benefits of the projects funded. These typically involved investments in facilities to support the training of workers in specific skillsets in combination with physical investments to support the growth of a local industry. Examples include a construction skills academy in Sunderland to support a programme of housing investments, a seafood cooking training centre in Newhaven to complement investments in both additional fisheries capacity and a seafront restaurant, and a digital skills centre in Margate complementing other investments to support the growth of the local creative industries. This indicates that in some cases there are scope for 'synergy' effects in which the combined impacts of projects may exceed their individual contributions.

The analysis also highlights some important implications for any impact evaluation:

- **Sample sizes:** Projects funded do not generally have well defined beneficiary populations though, given the discussion above, it can be anticipated that an evaluation will need to focus on the firms and residents located within a small distance of the projects that have been funded. A rigorous quantitative evaluation would use statistical methods to compare outcomes in these areas to a comparison group of similar areas that did not benefit from the LUF. The extent to this is feasible will be dependent on how far there are sufficient volumes of firms and residents benefitting from projects, which in turn will be a function of how many projects have been funded. The analysis of project volumes below indicates:
 - **Programme level evaluation:** A total of 170 projects were funded in Round 1 and this number is expected to increase with further funding rounds. Past evaluations comparable initiatives have been able to demonstrate the causal effects with a smaller number of treated locations using similar datasets to those described in the next chapter. For example, the evaluation of the Single Regeneration Budget cited above focused on a sample of 165 locations benefiting from the scheme using data configured at the electoral district (ED) level. This provides reasonable prima facie evidence to indicate that a programme level evaluation of the LUF is likely to be feasible, subject to the following caveats:
 - **Administrative data:** A statistical evaluation is unlikely to be problematic where administrative data is available (i.e. microdata capturing the outcomes of interest for each firm, property, or resident located in the relevant areas).
 - **Survey data:** Greater constraints may be faced where there is a reliance on longitudinal surveys (e.g. Understanding Society) that take samples of the UK population. In this case, the number of observations captured by these surveys may be a limiting factor.

- **Thematic analysis:** While the number of projects funded under the top-line themes are relatively small following Round 1 (i.e. 50 to 60), these are likely to expand with subsequent funding rounds. As such, a thematic analysis focusing on the aggregate effects of projects funded under the 'unlocking development,' 'strengthening the local service economy,' and 'improving quality of life for residents' themes are also likely to prove feasible. However, the number of projects funded under the 'enhancing connectivity' theme is relatively small, and it appears probable that any separate analysis of this group of projects is likely to be highly constrained (although there may be opportunities to include these in broader thematic evaluations as described below).
- **Value of addressing gaps in the evidence base:** Analysis of the evidence reviews undertaken by the What Works Centre for Local Economic Growth highlights that there are substantial gaps in the evidence base regarding the effectiveness of the main classes of intervention funded through LUF. For example, the centre was unable to find any significant body of robust impact evaluation of interventions in the public realm or culture and highlighted that the volume of evidence available for estate renewal was also relatively limited (with much of the evidence drawn from outside of the UK)⁸. As such, a robust quantitative evaluation is likely to add significant value to DLUHC, DfT, and DCMS' understanding of the relative impacts and value for money of these types of intervention.
- **Sub-thematic analysis:** Any further decomposition of the project population is likely to prove highly problematic. This is a particular issue for projects funded under the 'improving quality of life' theme identified, as this group represents a highly diverse group of initiatives with a great deal of variation in their intermediate outcomes. As such, for this component of a thematic analysis, it may be preferable to focus on those common anticipated outcomes relating to pride in place, satisfaction with public services, and quality of life rather than seeking to understand intermediate outcomes (such as modal shift outcomes which are only relevant for a very small number of projects).
- **Alternative approaches:** The types of projects funded through LUF are not unique to the fund, and there may be significant opportunities to understand 'what works' at a sub thematic level by pooling LUF projects with initiatives funded through other schemes. For example, projects funded through the Cultural Development Fund are very similar in nature to many of the projects funded in relation to 'strengthening the local service economy' and could reasonably be grouped with these projects to provide a more rigorous quantitative assessment of the net local impacts of these types of investments. A similar argument can be made in many other areas (e.g. investments in small scale road connectivity improvements could straightforwardly be pooled with analogous projects funded through the Local Growth Deals or Local Major projects, while active travel infrastructure projects could be pooled with other projects funded through the Active Travel Fund).

It is beyond the scope of this study to specify methods for bringing these pools of projects together (and challenges might be encountered given variations in funding mechanisms across individual schemes). However, there may be an opportunity for DLUHC, DfT, DCMS to explore further thematic portfolio analysis of this nature, especially where there are significant gaps in the evidence base.

- **Project level evaluation:** The terms of reference also outlined the possibility of undertaking robust evaluations at a project level. The analysis of the project portfolio suggests that scope for quantitative

⁸ The What Works Centre for Local Economic Growth did not explicitly consider investments in commercial land and property markets as a separate category of intervention.

assessments at this level is likely to prove challenging owing to both their nature and the size and scope of their anticipated effects. Achieving the required sample sizes would require a focus on individual firms or residents in the areas⁹ concerned and it is difficult to conceive of opportunities in which it would be possible to establish a comparison group. For example, all businesses in a particular area can be expected to benefit from greater levels of footfall induced by town centre improvements. Additionally, the projects funded are generally small scale in nature and would be expected to have relatively small effects that would be difficult to detect when focusing on a single intervention. Based on the review of Round 1 applications, there were no programmes that could be reasonably characterised as of a 'transformative' scale. As such, detailed project level impact evaluations are not considered proportionate and are not recommended in general (though case studies may have value as part of an on-going process evaluation of the programme and could give useful qualitative insights into the underlying mechanisms through which impacts have been realised). However, there may also be value in exploring options for project evaluations in cases where projects involve significant levels of investment or are particularly contentious (e.g. larger cultural investments).

Recommendation: Given the volumes of projects funded, a quantitative impact evaluation of the LUF is likely to prove feasible **at the programme level** and **at the level of top-level classes of intervention** (i.e. unlocking development, strengthening the local service economy, and improving the quality of life for residents).

Subtheme analysis: Volumes of projects funded at sub-thematic level (as well as connectivity improvements) are insufficient to support robust impact evaluation methodologies. However, there could be opportunities to pool these projects with comparable projects funded under other initiatives to provide robust assessments of these types of initiatives as part of broader portfolio reviews.

Project level evaluation: Robust evaluation of individual projects is likely to prove infeasible and may not be proportionate given the scale of projects and the size of anticipated effects.

⁹ Comparing a single area to another area is unlikely to produce satisfactory results owing to the risk that external factors are highly influential the outcomes observed.

Table 3.1: Distribution of projects (discrete elements) by intervention type and activity

Intervention type / activity	Number of projects	% of projects
Unlocking industrial, commercial, and residential development	41	24%
Investment in property development	31	18%
Land reclamation or remediation	4	2%
Site preparation	6	4%
Enhancing subregional and regional connectivity	14	8%
New and improved public transport links	2	1%
New and improved road links	12	7%
Strengthening the local service economy	63	37%
New and improved visitor attractions	34	20%
Provision of retail floorspace	12	7%
Public realm improvements	17	10%
Improving the quality of life of residents	49	29%
Active travel infrastructure	11	6%
New and improved community/leisure facilities	21	12%
New and improved education facilities	13	8%
Public realm improvements	3	2%
Residential development	1	1%
Other	2	1%
Charging infrastructure	1	1%
Unknown	2	1%
Total	170	100%

3.3 Spatial distribution of funded projects

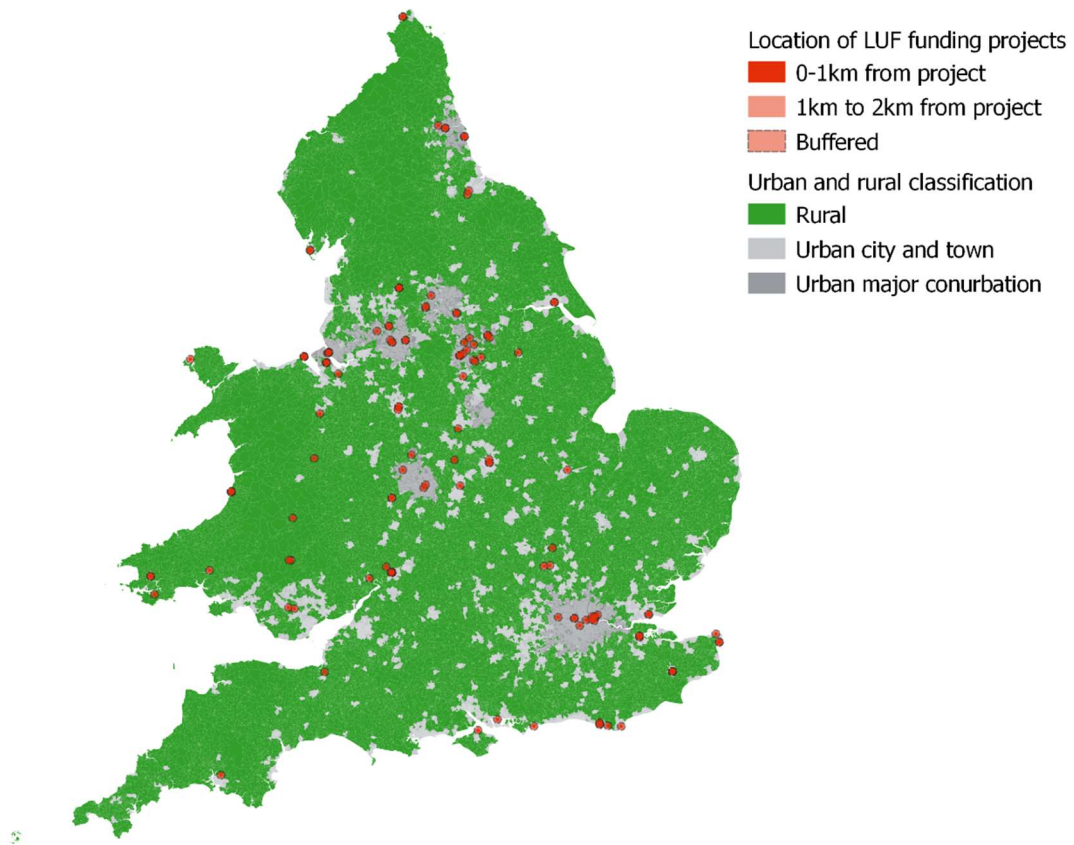
The map overleaf (Figure 3.1) provides an overview of the spatial distribution of projects funded (with 'buffer zones' of up to 3km from funded projects (with the second map providing a closer view of a cluster of projects funded in the North West region). The figure illustrates that there is a high level of spatial dispersion of projects, with some clusters of projects funded in urban districts. The map highlights:

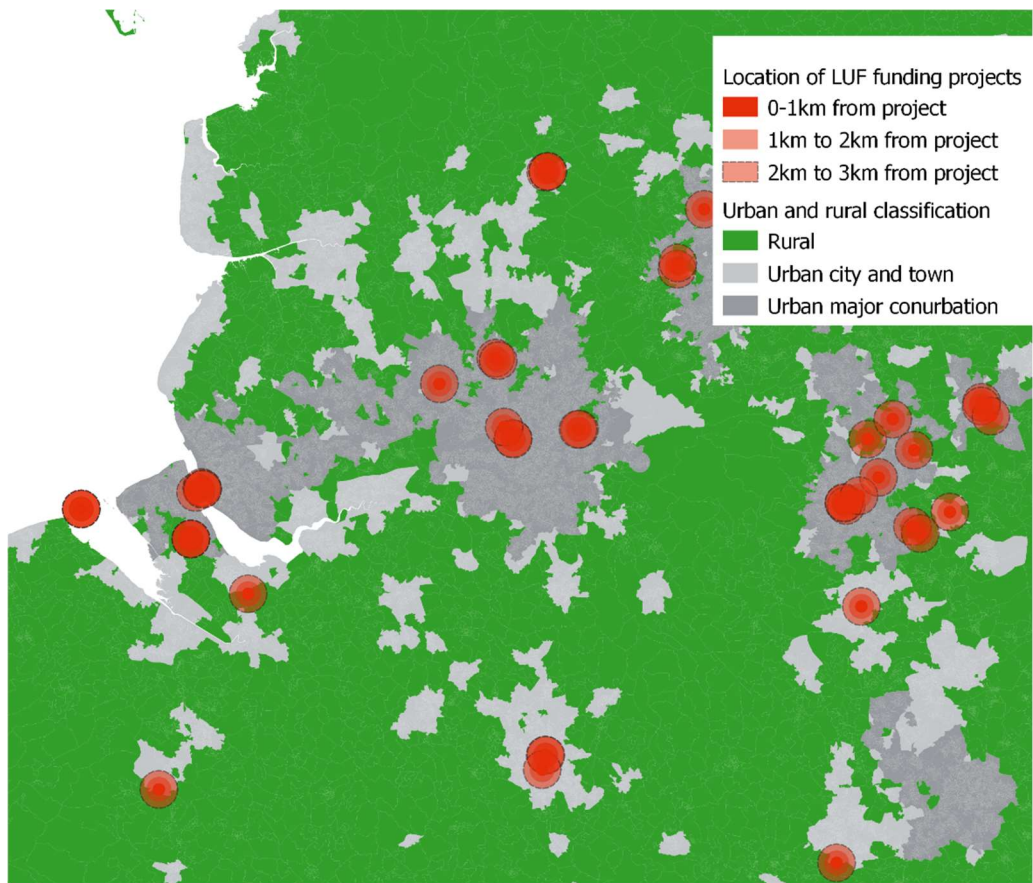
- **Scope for geographical analysis:** An evaluation focused on assessing the impact of LUF at a geographical level is likely to be constrained to regional level analysis (i.e. by focusing on the effects of all projects funded within a given region).¹⁰ There is limited scope to consider the effects of the programme at smaller grained geographies as the volume of individual projects funded at the local level is relatively small.
- **Thematic analysis:** The 'buffer zones' of projects overlap in some areas. This is not necessarily problematic at a programme level, although for the purposes of thematic analysis it may be necessary

¹⁰ This would provide evidence at the regional level, or the former Government Office for the Regions (GOR) level. There are nine regions within England. See <https://www.ons.gov.uk/methodology/geography/ukgeographies/administrativegeography/england#regions>

to control for the effects of parallel projects (to ensure that effects are fully attributable to the interventions of interest).

Figure 3.1: Spatial distribution of LUF projects (England and Wales, North West in box)





4 Measurement of outcomes

This section provides an overview of how the key outcomes of the LUF might be established. This chapter draws on a review of administrative and secondary datasets that could potentially be exploited to support a robust quantitative evaluation of the LUF.

4.1 Data requirements

An impact evaluation of the LUF will likely require:

- **Need for local evidence:** LUF projects are expected to benefit relatively small areas and neighbourhoods. The impacts of the programme are likely to only be visible at a small area level (Lower Super Output Area and below), and the focus will need to be on sources of evidence with this level of spatial granularity (or below). This does not necessarily imply that robust LSOA level estimates are needed, it may be possible to construct sufficiently large samples of individuals or firms located in proximity to the portfolio of LUF projects where it is possible to access microdata with spatial identifiers (i.e. accessing individual survey responses rather than using measures aggregated an area level).
- **Longitudinal data:** It will be necessary to determine how the outcomes of interest have changed in the areas of interest following the completion of LUF projects. This implies a requirement for pre/post measures (at the minimum) and ideally annual observations.
- **Reliance on secondary data:** It is also presumed that while it would be technically feasible to collect primary data to support an evaluation of the LUF, this would likely require repeated primary surveys of the resident populations of the areas benefitting from the programme (and any comparison areas). These are likely to involve significant costs that might be considered disproportionate (particularly as most outcomes of interest can be explored using existing datasets). As such, the assumption is that the evaluation will need to rely on existing sources of administrative and secondary data.

The criteria against which data sources have been assessed is whether the data is available at a sufficiently granular level (either individual level data which can be aggregated to small geographic areas or pre-aggregated data available at Output Area, LSOA or MSOA level), if the data covers multiple time periods and whether the data source can provide data for treatment and comparator areas. If a data source cannot meet these criteria, they have been assessed as infeasible for use in an impact evaluation of the LUF.

LUF programme Monitoring Information has also been examined as part of the feasibility study. The data provides granular detail on the costs associated with delivering the LUF projects, and the outputs and outcomes achieved at a granular geographic level. However, it will not provide indicators which can be used to measure some of the economic indicators (described below), and does not provide data for changes in outcome indicators in comparator areas. Therefore, secondary data sources have been assessed as being more appropriate to support an impact evaluation of the LUF.

4.2 Overview

The review of data availability suggests:

- **Economic outcomes:** There are a wide variety of administrative and secondary datasets with sufficiently large sample sizes to support a statistical evaluation of the impacts of LUF projects. These datasets will enable a comprehensive assessment of the impacts of LUF projects on local firms (e.g.

jobs created, productivity gains, etc), on local labour markets (unemployment, wages, etc), and a partial assessment of the effect of the programme on land and property markets (supply of commercial and industrial floorspace).

- **Town centre vitality:** There are some opportunities to explore the impacts of LUF projects on town centre vitality in more depth using non-conventional proprietary datasets on footfall, mobility, and consumer spending. These outcomes are most relevant to the 'strengthening the local service economy' group of projects. It should be noted that obtaining access to these datasets comes with significant charges, costs which may not be considered proportionate (given the impacts of LUF projects will also be visible in the revenues earned by local firms).
- **Social benefits:** There are expected to be greater challenges in establishing the social benefits of LUF projects. While it may be possible to determine the effects of LUF projects on overall wellbeing, these metrics are generally established using social surveys with relatively small sample sizes and questionnaires that do not directly align with the objectives of LUF. Additionally, the number of projects seeking to produce specific types of social benefit (e.g. health outcomes) are too small to merit detailed statistical analysis.
- **Quality and perceptions of the built environment:** There is a major gap in the evidence base regarding objective and subjective measures of the quality of the built environment that might be applied to explore the effects LUF and other urban renewal schemes. While methods for quantifying urban decay based on image classification are under development in the academic community, it is anticipated that these outcomes could only be reasonably established by commissioning a large scale bespoke social survey (which may not be proportionate). There is also scope to examine changes in land and property values to capture these types of impact as highlighted in Section 6.

A summary of data availability is provided in the following table.

Table 4.1: Overview of data sources¹¹

Outcome	Data source	Unlocking development	Enhancing connectivity	Strengthening the local service economy	Improving quality of life for residents	Key issues
Effects on firms						
Jobs created	Business Structure Database (BSD), Annual Business Survey (ABS)					
Turnover	BSD, ABS					
Gross Value Added (GVA)	BSD, ABS					
Productivity	BSD, ABS					
Firm relocations/sorting effects	BSD, ABS					
Effects on land and property markets						
Planning applications	Glenigan, Barbour-ABI					Provides an early signal that development activity may take place, though does not measure actual build. Data access will involve costs.
Housing starts and completions	None					No data available beyond LA level aggregated returns.
House prices	Land Registry					
Commercial and industrial floorspace	Valuation Office Agency (VOA)					
Commercial rents	VOA, Costar					Data on commercial rents only updated with revaluations which take place irregularly
Quality of built environment	None					No data sources.
Effects on town centre vitality						
Footfall	Retail Traffic Index (RTI), Springboard					Data coverage - distribution of footfall counters is not uniform. Data access will involve costs.

¹¹ Data sources have been assessed on the strengths and weaknesses of the data source to be used during an evaluation of the LUF. Data sources marked as green provide microdata at an individual response level (business, individual), allows analysis at a granular geographic level, and is available to a research team at no/minimal expense (most through the ONS Secure Research Service). Data sources marked as orange is theoretically available to support an evaluation at a sufficiently granular geographic level – although the data has been assessed to either have concerns about its reliability (e.g. frequency of updates) or has a large cost associated with access (which would need to be considered when deciding whether to use the data for an evaluation). Data sources marked as red are either not available at a sufficiently granular level to support an evaluation, or there are insufficient projects with the stated outcomes to support an evaluation.

Outcome	Data source	Unlocking development	Enhancing connectivity	Strengthening the local service economy	Improving quality of life for residents	Key issues
Mobility	EE, O2					Data coverage may not be representative and data access involve significant costs
Consumer spending	Verisk, Fable					Data coverage may not be representative and data access involve significant costs
Effects on households						
Wages (average earnings)	Annual Survey of Hours and Earnings (ASHE)					
Unemployment	Claimant count					
Labour market participation	Annual Population Survey (APS)					
Subjective wellbeing	APS, Understanding Society (USoc)					
Perceptions of place/civic pride	None					No data sources available (although some surveys explore related concepts).
Other social outcomes (e.g. health, travel behaviour etc)	Datasets available but sample sizes too small					Significant sample size issues with the available datasets (e.g. NTS)

Green = good data availability, orange = data available through with concerns regarding reliability or cost, red = no data available

4.3 Effects on firms

There are a wide variety of administrative and secondary datasets that could be used to explore the impacts of LUF on firms, which could potentially be exploited to provide a relatively comprehensive assessment of the economic impacts of LUF. The data sources presented below are Office for National Statistics (ONS) data sources, which are available at an individual firm level through the ONS Secure Research Service (SRS). These data sources have been used to estimate the effects of Government interventions on businesses in multiple studies for Government Departments such as the Department for Business, Energy and Industrial Strategy (BEIS), the Department for Digital, Culture Media and Sport (DCMS) and the Department for International Trade (DIT).

4.3.1 Business Structure Database

The Business Structure Database (BSD) is an annual snapshot of the Inter-Departmental Business Register and can be accessed through the ONS Secure Research Service. It is a census of all firms registered for PAYE and VAT (covering 98 percent of economic activity in the UK). The data provides longitudinal observations of employment and turnover for all firms in the register (between 1998 and 2016) and is used as the main sampling frame for ONS surveys of businesses. The data also provides industry sector and spatial characteristics (enabling tracking of relocations and the opening of new locations) and can be used to identify business births and deaths. Individual firm level data is available via the ONS SRS facility.

Although the BSD is widely used to assess the effects of spatial interventions, there are some issues that need to be borne in mind:

- **Turnover data:** The data provides information on employment at a site level, but only captures turnover data at an enterprise level. This means that changes in turnover typically need to be apportioned across sites based on employment, implying an assumption of equal productivity across sites. The robustness of the apportionment process can be tested by restricting analyses to firms that only have a single site (though this is an imperfect test, since this will exclude multi-site firms).
- **Productivity:** It is only possible to derive a proxy measure of productivity using the BSD (turnover per worker). This will only provide a good approximation of changes in productivity if firms continue to operate using similar shares of labour and other inputs in the production process.
- **Recording lags:** The main issue to be aware of with respect to the BSD is that the underlying data on employment and turnover are assembled from PAYE and VAT returns (or from Annual Business Survey or Business Register of Employment Survey returns if the firm is included in the sample). These data arrive with different lags and are recorded in the BSD when new information arrives (rather than being allocated to the year to which the data relates). This can mean that some records are up to two years out of date, and some caution is urged by ONS in using the BSD in evaluating policy interventions over short time horizons.
- **Geographical identifiers:** HMRC has withdrawn permissions to provide the postcodes associated with individual enterprises and their branch sites. However, the smallest geographical identifier available is now the Output Area, which can be used to aggregate levels of activity for different groups of firms for small areas. An Output Area is a small spatial unit used for the construction of census statistics and cover between 110 and 139 households in almost 80 percent of cases.

4.3.2 Annual Business Survey

The Annual Business Survey is a large-scale business survey completed annually by the ONS capturing evidence on approximately 62,000 firms. Individual firm level data is available via the ONS SRS facility. The survey is used for a variety of purposes including providing key national accounting measures and calibrating other surveys (such as investigations into changes in the capital stock). The ABS provides more detailed information on firm performance than available through the BSD, including measures of GVA that can be used to construct a more effective measure of productivity (GVA per worker). Responses to the survey at a firm level can also be accessed through the Secure Research Service and could potentially be used to provide further longitudinal data on the economic impacts of the LUF.

Some issues regarding the longitudinal consistency of the data need to be considered:

- **Large firms:** The ABS is a mandatory census survey of all firms with 250 or more employees. As such, longitudinal measures are available on a consistent basis for all large firms.
- **SMEs:** The ABS is a random probability sample survey of SMEs (completion of the survey is mandatory so there should be limited issues with non-response bias). SMEs are typically surveyed in two consecutive years and then drop out of the sample for the ABS (and will not be resampled for at least two years). This may limit the volume of longitudinal data available to feed into the analysis for SMEs. As such, it is recommended that the quality of samples that can be constructed is revisited once the spatial distribution of LUF projects is known in full.
- **Micro-businesses:** ‘Osmotherly’ rules apply for businesses with 1 to 9 employees: any micro-business sampled for the ABS will not be resampled for at least three years so that limited longitudinal data will be available for the smallest firms.
- **Northern Ireland:** It should be noted that the ABS does not cover Northern Ireland. Therefore analysis using the ABS will have to be limited to the sample of projects in Great Britain,

It is also feasible to link the responses from BSD and ABS (and the Annual Survey for Hours and Earnings) if required for the evaluation, using the Entref as a linking variable. This approach has been used for an impact evaluation of the Gender Pay Gap and for several studies for BEIS.

4.4 Effects on land and property markets

Many LUF projects involve interventions in local land and property markets. There are a range of administrative datasets that could be exploited to support an assessment of the impacts of the LUF, although it can be anticipated that there will be some gaps – principally in relation to objective measures of the quality of the built environment, housing completions, and planning applications (which could provide a leading measure of the extent to which LUF has helped stimulate local construction activity).

Residential property markets

4.4.1 Planning permissions, housing starts and completions

LUF projects may directly or indirectly stimulate housebuilding activity (although based on the portfolio review set out in the preceding section, stimulating residential development activity was not a central element of a significant number of projects). Two sources of information on permissions and residential housing starts and completions were identified:

- **Local authority returns:** DLUHC collects annual data on residential planning permissions, housing starts, and completions. This information is compiled from returns provided by LAs and other administrative and survey data provided by Homes England, the Greater London Authority and DLUHC. Information on the progress of construction on specific sites is collected through a survey of developers, and only covers larger development sites. Records are provided at the local authority level and at lower levels of granularity for larger developments. Information on the nature of residential development is recorded - for example, whether homes are classed as affordable, or whose construction is funded by a government scheme. However, as this information is only available at an aggregated level across LAs, and is only available in England, and it could not be used to support an evaluation of LUF.
- **Council tax stock of properties:** The VOA publishes annual official statistics on the number of domestic properties with a council tax band in England. This includes estimates of the net increase in the stock of domestic properties. However, this data source is considered as an estimate, and is less robust than the statistics collected in the local authority returns. The Council Tax figures include changes unrelated to new buildings, such as properties switching use (moving between the business rates list and the council tax list), meaning the estimates can be inaccurate. Therefore, this data source should not be used for the evaluation of the LUF.
- **Glenigan:** It is understood that DLUHC has a contractual agreement with Glenigan, a private data processor, which collates planning applications submitted to UK LAs since 2006. This data provides site postcodes and the number of homes expected to be built. Consultations suggested that there are some inconsistencies between the data and other sources (e.g. LA returns data) - for example, in the number of actual homes constructed at different sites and types of permissions secured. These inconsistencies are thought to be minor and are a product of Glenigan's validation processes. It is also expected that the evaluator would need to construct the dataset manually or with the support of a data provider because records are stored in a format that is not immediately suitable for analysis. Nevertheless, this provides one means through which the housing market impacts of LUF could potentially be explored (though clearly, planning permissions only provide a leading indicator of development activity).
- **Barbour-ABI:** This dataset provides similar data to that described for Glenigan (scraping of local council planning notices). This dataset has been used by the ONS. The Barbour-ABI dataset is understood to have similar strengths and weaknesses to the Glenigan data, and therefore to evaluate the effect of the LUF on house building either Glenigan or Barbour-ABI could be used.

4.4.2 Land Registry

Data on house prices are more straightforward to obtain. The Land Registry provides transaction level data (in close to real time) on the final agreed prices of houses sold in the UK, alongside the key attributes of the property (e.g. the type of dwelling). This data has been used to evaluate the effects of numerous spatial programmes as well as in hedonic pricing studies seeking to value intangible assets (e.g. canals, parks) by exploring how far their value is capitalised into house prices. The data provides the address of transaction and is publicly available, and no major issues are envisaged in exploiting this information for the purposes of an evaluation of the LUF.

It should be noted that the data only covers England and Wales (so could not be used to assess the effects of interventions in Scotland and Northern Ireland). However, it is possible to obtain local data on prices paid in Scotland from the Scottish Government, and from Land and Property Services in Northern Ireland (though this may involve the cost of an annual license).

Additionally, it should be noted that prices paid datasets only capture information on the prices of properties that have been sold. This type of data can only be used to draw generalisations about changes in the underlying value of residential land and property if transactions are representative of the broader building stock in the area. Given the focus of some LUF projects on estate renewal and the likelihood that some projects will (at least to some degree) benefit residents of social housing stock, house price data may not fully capture the benefits of LUF investments (with implications for the scope to apply hedonic pricing methods as part of a VFM assessment, as highlighted in Section 6).

4.4.3 Proprietary datasets

In addition to the Land Registry datasets, it is also possible to access residential house price data from data providers including Zoopla and Rightmove. These companies collect and will provide information on the sale price of properties (which is the same information as in the Land Registry). However, it can also include additional information about the property that is not included in the Land Registry dataset, such as number of rooms and floor area. However, these datasets will require a cost to access, the additional data fields provided would need to be of significant value to justify these data sources above the Land Registry.

Commercial and industrial property markets

4.4.4 Commercial and industrial floorspace and rents

Many LUF projects involve direct investments in commercial and industrial property markets by supporting site preparation or direct investments in refurbishment of existing commercial buildings or new builds. An evaluation will need to examine how far these projects increased the supply of commercial and industrial floorspace in the relevant areas. Additionally, information on commercial rents can potentially be used to infer the productivity impacts associated with LUF projects (see Section 6 for further discussion).

There are two potential options for obtaining longitudinal data on the supply of floorspace and rents:

- **Commercial rating values:** The Valuation Office Agency (VOA) publish central ratings lists, which are updated when properties are developed and at regular intervals for the purposes of setting business rates. Rating lists include an estimate of the rent the property could have generated on a specific date and their gross internal area. Data is available for England and Wales, but not Scotland and Northern Ireland. This dataset could provide longitudinal records of the supply of floor-space and rents. However, while information on the gross internal area is updated as new premises become available, data on rateable value is only updated with each revaluation (with records currently publicly through available through the VOA portal for the 2005, 2010 and 2017 revaluations), which means analysis can only focus on long term changes between these periods. The next revaluation will take place in 2023 – and it is likely that an evaluation examining the effects of the LUF on rateable values will only be feasible in the longer term when the following revaluation takes place (the timing of which is unknown, though revaluations have historically taken place at five to seven year intervals – implying such an analysis may only be feasible around 2030).
- **Proprietary data platforms:** A range of data providers compile commercial real estate information from a range of different sources – for example, LA planning permission websites. One such platform is called Costar, which tracks over 500,000 commercial properties in the UK. It keeps records on a range of information, including annual records of planning applications, commercial building starts and completions, available floor space, and rental and sale values. It is understood that the platforms do not readily provide information in a format that is useful for an evaluation and completion of data fields

is prioritised by user needs (implying that the data may not include all commercial properties or have complete records for listed properties). There are also costs attached to obtaining this information.

4.4.5 Quality of the built environment

LUF projects might be expected to contribute to the renewal and improvement in the condition of the built environment and the public realm. There are few objective indicators available that could measure this directly or provide proxy measures:

- **English Housing Survey:** The annual English Housing Survey includes a physical survey of properties that could be used to examine changes in the quality and condition of the residential building stock brought about by LUF. The physical survey supports an assessment of how many properties meet 'decent homes' standards (how far housing meets statutory minimum standards for housing, as well as aspects such as thermal comfort, state of repair, and facilities and services). While access to the underlying microdata is available through the UK Data Service, the sample sizes involved (6,200 annually) are likely insufficient to support the small area analysis required for an evaluation of the LUF, and the dataset only covers England.
- **National Land Use Database:** Historically, the National Land Use Database captured details of previously developed and derelict land parcels (maintained by predecessors to DLUHC) that might be employed to understand how far LUF has support the renewal of the urban environment. However, this series was discontinued in 2013.
- **Brownfield Land Register:** The Town and Country Planning Regulations 2017 requires local authorities to maintain a public register of brownfield land parcels that are suitable for residential development. The dataset would only cover local authorities in England. The dataset may be of limited use for an evaluation of LUF as it only records sites that have been allocated in local development plans, have planning permission, are considered by the planning authority to be appropriate for residential use, and are available for residential development. As such changes in the register may only weakly capture changes in the quality of the built of environment. Additionally, while local authorities are expected to update the register annually, a review of published registers indicates that this may not have taken place (e.g. Tower Hamlets appear not have updated their published register since 2017).

A review of the literature indicates that there is a variety of experimental research being undertaken employing machine learning algorithms to classify satellite images and assess the quality of the built environment. However, this research has primarily focused on developing measures of environmental quality (e.g. based on coverage of tree canopies or vegetation density), although some researchers have more recently begun to develop indices of urban decay¹² based on Google Street View images of San Francisco with algorithms to identify potholes, graffiti, garbage, tents, barred or broken windows, dilapidated facades, weeds, and utility markings. It is recommended that DLUHC closely monitors developments in this area, as it could offer an effective route to establishing longitudinal data at the street level that could support effective evaluations of programmes aiming to support urban renewal.

¹² See Stanford University Human Centred Artificial Intelligence (2022) Detecting signs of urban decay.

For the purposes of an evaluation of LUF, however, it is anticipated that there will be a need to focus on subjective indicators reported in community surveys (unless image classification methods progress substantially in the near term).

4.5 Effects on town centre vitality

LUF projects (particularly those focused on strengthening the visitor economy) are expected to stimulate the vitality of town centre locations. While the impacts of these types of initiatives would be captured in the performance of local retail, hospitality, and other service sector firms, an evaluation of the LUF could also potentially explore direct measures of the health of town centres. This will require use of datasets that are not conventionally used in evaluation studies but gained prominence during the COVID-19 pandemic as researchers sought to identify real-time measures of the outcomes of initiatives¹³.

The following table provides an overview of possible sources that could complement more traditional measures of local firm performance. This includes data on footfall (the volume of individuals visiting local retail outlets), mobility (movements into and out of areas benefitting from LUF investments), and consumer spending (based on credit card transaction data). These data sources cover the UK. It should be noted that access to these proprietary datasets often involves significant costs (though it may be possible to achieve economies of scale if used across multiple evaluations or other uses).

Table 4.2: Data on Mobility, Footfall and Consumer Spending

Source	Overview
Mobility – counts of people present in a MSOA at a given date/time¹⁴	
O2 Motion Mobility data based on phone location logging	Destination only people count data are also available from this source at the Middle Layer Super Output Area spatial level (mean population around 8,200, 6,791 areas in England) and would be relevant to an evaluation of the LUF. This provides details of the age, gender, visit start time, and journey purpose (resident, worker, visitor). It is understood that this information would come with significant charges (around £40,000 for a three-month period with monthly updates).
EE Mobility data based on phone location logging	Near real time (within day) refreshed data, and largely equivalent to O2 Mobility Data (with comparable charges).
Google and Apple community mobility reports	Provides data on visits to different categories of places (retail and recreation, groceries and pharmacies, parks, transit stations, workplaces, and residential). Visits are compared to a baseline value for that day of the week, based on the median value for the corresponding day of the week during the five-week period from 3 January to 6 February 2020. While this data was provided publicly during the COVID-19 pandemic (at relatively high levels of geographical aggregation), updates have ceased during 2022, and this information may not be valuable for an evaluation of LUF.
Footfall	
Retail Traffic Index (RTI)	Monitors footfall entering 4,500 non-food retail outlets plus the number of purchase transactions on each day associated with shop visits (30 min refresh rate). While data for individual count points can be obtained, it is only available for participating retail outlets (which change over time). The number of count points is reasonably small and there is a risk that insufficient observations could be assembled for the purposes of an evaluation. However, this may merit further review once the full set of locations of LUF

¹³ See Centre for Economic Performance (2022) Recovering from the first COVID-19 lockdown: Economic impacts of the UK's Eat Out to Help Out scheme, which used daily Google mobility data and daily data on job posts on Indeed.

¹⁴ Origin and Destination data is available from these sources in addition to counts of people in an MSOA

Source	Overview
<p>Springboard daily footfall data</p> <p>Local Data Company</p>	<p>projects are known (as count points may be clustered in areas benefitting from the programme).</p> <p>Provides daily footfall data. The publicly available data aggregates to broad town types (central London, regional cities, and market towns) with more granular data available through a paid subscription. Updated daily. The RTI is understood to have a higher spatial resolution than the Springboard data as it has a greater number of monitoring points across the UK.</p> <p>Provides real time data on footfall and business unit occupancy for high streets and retail parks across the UK. The granular data required for an evaluation of the LUF would need a paid subscription.</p>
Consumer spending	
<p>Verisk (MasterCard spin-off)</p> <p>Fable banking and credit card data</p>	<p>Small area (LSOA) level tracking of consumer spending by location and category for credit card transactions. Updated monthly or quarterly depending on data type. Costs are significant - £60,000 per quarter for expenditure data based on the biller's address and circa £100,000 for a bespoke expenditure location dataset by merchant category plus £30,000 for each monthly update or £60,000 for each quarterly update.</p> <p>Provides consumer transaction data from 2016 onwards by location and merchant type. The data is updated in real time. There is a large cost associated with private companies accessing this data, but this cost is significantly reduced when public organisations request access (this dataset is currently used by BEIS).</p>

4.5.2 Cultural value

The LUF also funds investments in cultural and heritage assets that may increase their value to users and non-users that would not be captured in the metrics above. Establishing these values typically requires bespoke research (i.e. willingness to pay or contingent valuation studies) – which would need to be undertaken before and after the investments were made (to capture the increase in value resulting from the investment). These are discussed further in Section 6, although it would be considered potentially disproportionate to undertake these kinds of studies given the size of the investments that have been made.

4.6 Effects on households

Finally, the LUF is expected to have two types of effects on households. Firstly, projects are expected to promote economic wellbeing amongst resident populations (e.g. reducing unemployment, increasing wages, etc). There is a wide range of secondary evidence based on administrative data that could be used to explore these types of effects as part of an evaluation of LUF. LUF projects are also expected to promote a range of beneficial social outcomes. However, while relevant datasets are available, these are typically collected through surveys with relatively small sample sizes (though as highlighted in Section 6, a focus on the prices of residential land may provide some proxy measures).

Some of the data sources presented below are ONS data sources, which are available at an individual firm or respondent level through the ONS SRS. These data sources have been used to estimate the effects of Government interventions on businesses in multiple studies for Government Departments such as the BEIS and DCMS.

Economic outcomes

4.6.1 Annual Survey of Hours and Earnings

The Annual Survey of Household Earnings (ASHE) collects information on the levels, distribution and make-up of earnings and hours paid for employees within different industries, occupations, and regions in the UK. It is a one percent sample of employee jobs taken from HMRC PAYE records (in January of each

year) which amounts to approximately 180,000 annual job records. The sample includes a longitudinal component allowing the tracking of individuals over time, with 70 to 80 percent of respondents retained in the sample year on year. Although the survey is based on a simple random sample, the volumes of observations are likely to prove sufficient to support an evaluation of the effects of LUF on the wages of residents¹⁵. Individual level data is available via the ONS SRS facility.

4.6.2 Claimant count

Unemployment at a small area level can be approximated using experimental claimant count statistics available through the National Online Manpower Information System (NOMIS). This combines the number of Jobseekers Allowance (JSA) claimants with Universal Credit claimants looking for work (the introduction of Universal Credit created substantial disruption to time series of unemployment data as new claimants transferred to the new system). Statistics are produced at a Lower Super Output Area on a monthly basis and could be straightforwardly exploited in an evaluation. However, unlike preceding series on JSA claimants, these data no longer capture length of claim (meaning that it is not possible to establish effects on long-term unemployment which may be of specific interest, including for VFM analysis). This data is not available in Northern Ireland at the same level of geographic granularity, and therefore analysis of the claimant count may need to be limited to projects in Great Britain. The data is not longitudinal (it does not track the individuals over time), and household relocations may impact upon the estimates of unemployment outcomes.¹⁶

4.6.3 Annual Population Survey

The Annual Population Survey (APS) is a quarterly survey of the workforce in the UK used to establish key labour market measures. The survey samples 350,000 individuals per annum (with everyone sampled for four consecutive quarters), covering the UK. Individual level data is available via the ONS SRS facility. The APS collects information on additional labour market outcomes that would be useful for an evaluation of LUF, including metrics of labour market participation and measures of life satisfaction (which could be used to explore the effects of the programme on wellbeing as described below). While sample sizes are sufficiently large to permit analysis across the project portfolio¹⁷, it should be noted that as the survey is not longitudinal and does not track the same individuals over time (unlike other administrative datasets) it will not be possible to control for individual level characteristics. Therefore, household relocations may impact upon any estimates of the impact of LUF. However, the number of households relocating is usually relatively small (usually below five percent of all households each year), therefore the effect household relocations have on estimates is likely to be limited.

Population growth and sorting effects

4.6.4 Census of population

The effects of LUF projects on population growth (and possible effects on the composition of the resident population via sorting effects) can only be realistically examined using data from the Census of Population

¹⁵ On the assumption that these observations are evenly distributed across LSOAs, this equates to just over 5 observations per LSOA per annum (180,000 / 35,672). Aggregating this across the 170 projects funding would equate to around 850 observations per annum for residents within a reasonable distance of LUF projects funded in Round 1 (i.e. 170 x 5). Assuming a timeframe of 2021 to 2028 for an analysis (7 years), this would equate to 6,000 observations over the period (850 x 7). While this is likely to be overstated due to overlapping nature of some LUF projects, additional projects funded through Round 2 will increase sample sizes.

¹⁶ The impact of household relocations could be relevant here as changes in the prices for housing / rental process (which are anticipated in the Theory of Change) may drive unemployed individuals out of an area

¹⁷ Using the same calculation process as above, it may be possible to gather 12,681 observations for LUF funded projects.

(which provides statistics at an Output Area level across the UK). The most recent Census was undertaken in 2021 and the next Census is expected to take place in 2031, meaning that it would only be possible to examine 'long' changes in demographic change as part of long-term evaluation of the programme. It should also be noted that the 2021 Census was undertaken during the COVID-19 pandemic, and owing to the unique circumstances, baseline results could potentially be distorted in ways that may not be uniform across locations¹⁸.

Social outcomes

4.6.5 Wellbeing

LUF projects (in various ways) are expected to raise the quality of life or wellbeing of residents of targeted communities. This is challenging to measure objectively, although the last ten years has seen an expansion in interest in ways of measuring quality of life using measures of 'subjective wellbeing' establishing using survey questionnaires. In the UK, the most widely accepted approach is the ONS Life Satisfaction questionnaire which captures four dimensions of wellbeing – life satisfaction, worthwhile, happiness and anxiety. This questionnaire is integrated into numerous social surveys and the data collected could provide longitudinal data on wellbeing that could be exploited for the purposes of an evaluation of LUF projects.

The two principal datasets that are worth exploring for the purposes of an evaluation include:

- **Annual Population Survey** – as described above. This large scale survey is likely to provide sufficient sample sizes for analysis, although as the survey does not track the same individuals over time there are some analytical limitations (i.e. it is not possible to control for individual level characteristics).
- **Understanding society** – Understanding Society is an annual longitudinal survey of around 40,000 individuals in the UK with the underlying microdata accessible via the UK Data Service or the ONS Secure Research Service. The longitudinal structure of the survey addresses some of the analytical limitations of the APS, although its comparatively small sample is likely to introduce issues with statistical precision (i.e. based on an assumption that observations are evenly distributed across LSOAs, it may only be possible to construct a sample of around 200 individuals living within a reasonable distance of Round 1 projects per annum). This is at the lower threshold of what might be considered minimum requirements, and it is recommended that the scope to use this data is reviewed once the full portfolio of LUF projects is known.

4.6.6 Perceptions of place

LUF projects are also intended to produce important outcomes in relation to perceptions of place (and civic pride). A review of the available evidence indicates that these outcomes may be highly challenging to establish:

- **Understanding Society** – Wave 12 of Understanding Society included some questions in relation to individuals' perceptions of their neighbourhood. However, these related principally to their sense of

¹⁸ A review of the literature indicates that while there has been formal speculation regarding the effects of COVID-19 on the quality of the 2021 Census results, there was no analysis at the time of writing regarding its effects on the results.

belonging and issues of social cohesion, rather than issues of civic pride that LUF projects are intended to address.

- **DCMS Community Life** – this annual DCMS survey also explores issues in relation to individuals' perceptions of their neighbourhood. However, these questions also focus principally on civic participation and do not capture perceptions of the built environment or pride in place. This data source only covers England. Additionally, the sample sizes associated with the survey are insufficiently large to support the types of statistical analysis needed for a robust evaluation of LUF.

As such, it is anticipated that there will be no reasonable means of establishing the effect of LUF on perceptions of place without commissioning a bespoke large scale primary survey to capture this evidence. Such a survey would need to generate sufficiently large samples of individuals at sites benefitting from the programme and counterfactual sites, with a pre-programme and regular follow-up waves to capture relative change over time. The survey could involve some substantial costs (although 'push to web' methodologies could drive potential efficiencies).

These requirements could lead to some challenges (e.g. if substantial progress is made on Round 1 projects, then this could limit the opportunity to collect baseline values). Additionally, it could be argued that measures of the welfare gains associated with greater pride in place will be indirectly captured via house prices and/or wellbeing. At the same time, perceptions of place will be a central outcome not just for the Levelling Up Fund, but for other comparable initiatives such as the Towns Fund and the Shared Prosperity Fund. In this respect - and given the likely economies of scale, there may be opportunities to pool evaluation resources to deliver a larger scale primary survey meet DLUHC's evaluation needs across its portfolio of projects (noting that a procurement for a similar survey to support the evaluation of the Shared Prosperity Fund was launched as this report was being finalised).

4.6.7 Travel behaviour, health, and other outcomes

Finally, LUF projects funded under 'improving quality of life for residents' are expected to produce a wide variety of intermediate outcomes (such as improved health, changes in travel behaviour, etc). There are numerous datasets that might be used to capture these outcomes (e.g. DfT National Travel Survey, Active Lives Survey). However, as the number of projects for which these outcomes are expected to be relevant are small, it is unlikely to be feasible to exploit these datasets to provide an assessment of the impacts of LUF projects.

5 Impact evaluation options

This section provides an appraisal of the options available for undertaking an impact evaluation of the Levelling Up Fund. This section provides an examination of the available econometric methods for assessing the impacts of the Levelling Up Fund, with a focus on rigorous quantitative approaches. Consideration is given to both issues regarding selecting an appropriate comparison group of areas and the types of analytical approach that might be applied. Consideration is also given to the possible complementary role of project level evaluations as part of a broader evaluation.

5.1 Definition of the counterfactual

For the purposes of the following analysis, it is assumed that the aim of an impact evaluation of the Levelling Up Fund would be to provide an assessment of its incremental effects (i.e. the additional contribution to positive economic or social change that would not have occurred in the absence of the policy). This implies that an evaluation will need to (a) establish what may have occurred in the absence of the LUF and (b) isolate the influence of the Levelling Up Fund from other past and future programmes aiming to deliver similar types of results.

It should be noted that owing the presence of multiple parallel funding programmes, it is possible that some LAs whose applications for LUF are declined are able to fund their proposals through alternative means. As it is assumed that the focus of an impact evaluation will be on the incremental impact of the LUF (as opposed to an aggregate assessment of regeneration funding), this would lower the level of additionality associated with the Scheme (as it implies that the outcomes of LUF projects would have been achieved in the absence of the programme¹⁹). There may also be merit in investigating these types of issue (i.e. in relation to the strategic added value of the LUF) as part of a process evaluation of the LUF

5.2 Key issues

The design of an impact evaluation will need to address the following key issues:

- **Establishing a comparison area:** To understand the net effects of the LUF, it will be necessary to understand what may have occurred in its absence. This cannot be observed directly but can be estimated by selecting an appropriate group of firms or residents that did not benefit from the programme (a comparison group). This involves some challenges as this group can only be assumed to provide a reasonable representation of what may have occurred anyway if they can be considered equivalent to those that did benefit from the programme (prior to its launch). Care needs to be taken in selecting an appropriate comparison group to provide confidence in findings (see Section 5.3).
- **No defined beneficiary population:** An evaluation of LUF is made more complex as it largely involves investments in capital infrastructure which have no well-defined beneficiary population. As highlighted in the preceding section, it is necessary to assume that the benefits of LUF projects will be geographically concentrated – i.e. firms or residents located in proximity to the project can be expected to benefit to a greater degree than those located further away. Appropriate analytical methods are required to investigate these effects (as described in Section 5.4).

¹⁹ Strictly, if this issue is prevalent then the impact of LUF may in practice relate to the impacts of marginal projects funded through other schemes that would not have been funded otherwise owing to budget constraints.

- **Displacement and crowding out:** LUF projects can be expected to result in offsetting effects via displacement in product markets or via placing upward pressure on local wages, rents, or the prices of other inputs. Offsetting effects may also occur due to firms relocating to areas benefitting from LUF projects (with the potential for negative effects on the areas where they were originally based). As far as practicable, an impact evaluation should also seek identify the presence and scale of these offsetting effects (also explored in Section 5.4).
- **Historic and parallel programmes:** Comparisons between areas benefitting from LUF and other areas could also be distorted by historic or parallel programmes. If comparison areas can obtain alternative funding for regeneration projects, they may also see improvements in local economic and social outcomes leading to an understatement of the effect of LUF. Alternatively, if areas benefitting from LUF are better able to secure future funding for regeneration then comparisons may overstate the net impacts of the programme. Additionally, historic investments in the areas concerned are also likely to have influence over future performance. Controlling for these parallel investments will be critical in obtaining reasonable findings (as described in Section 5.5).
- **Sorting effects:** Finally (as highlighted in chapter 2), LUF projects may produce 'sorting effects' in which households are encouraged to relocate to the areas benefitting from the programme, or economic benefits may ultimately accrue to residents of other areas (e.g. if new jobs created are filled by commuters). This creates some challenges in trying to establish how far existing populations have benefitted from LUF projects. The impact evaluation will need to explore these issues and a series of potential tests are proposed in Section 5.6).

5.3 Counterfactual selection

This section examines how a potential comparison group of firms, households, or areas might be established for the purposes of an evaluation of LUF.

5.3.1 Selection bias and reverse causality

As noted, a credible quantitative impact evaluation of the LUF will require comparisons between areas that did and did not benefit from the programme. However, there is a risk that systematic differences between the two groups of areas may lead to biased findings. These risks potentially stem from:

- **Differences between areas that have and have not applied for LUF funding:** LUF funding is awarded through a competitive process in which local authorities (or other bodies) prepare project proposals identifying the need for the capital investment project and details of how it will be delivered. Submission of an application is at the discretion of the local authority. There may be systematic differences between local authorities that do and do not apply for LUF funding that could be correlated with the outcomes of interest for an evaluation. For example, local authorities not submitting proposals may perceive levels of local need, and the probability of securing funding, to be low. It is also possible that there are significant differences in the capabilities of individual local authorities that are linked to underlying characteristics of their areas. As such, comparing areas that obtained LUF funding to areas within local authorities that did not submit proposals are highly likely to produced biased findings.
- **Selection of the location of LUF projects:** Local authorities also select the specific locations of projects from a choice set of all possible locations within its boundaries. This implies that the proposed locations for projects have been prioritised over other locations, which may reflect a wide range of unobserved characteristics of the location that are correlated with the growth prospects and other social outcomes of interest. For example, locations may have been chosen in some cases because the area

is expected to grow in the future (or because the area has experienced rapid relative decline). In both cases, comparisons with areas that have not formed the focus of LUF proposals are likely overstate (or understate) the effects of LUF funding.

- **Assessment and approval process:** The above issues can be addressed to some extent by drawing a counterfactual set of locations from the population of declined proposals submitted by local authorities. These locations can be assumed to share a range of observable and unobservable features in common with locations associated with funded projects (and are likely to provide a more robust comparison group than any other sample of areas drawn from across the UK).

However, proposals were subject to an assessment and award process in which proposals were scored against their relative merits. This could also produce observed and unobserved differences between areas benefitting from funded projects and those associated with declined proposals that could bias results. For example, if declined projects were more likely to be associated with an expectation that the areas concerned would see economic growth without public assistance then comparisons between the two groups would understate the impact of LUF. The following sections provide additional analysis exploring the extent of these risks and how they might be mitigated.

5.3.2 Analysis of successful and unsuccessful proposals

As noted, the LUF was a competitive process. For Round 1, proposals that passed an initial eligibility check were subject to an assessment process (with eligibility criteria including whether the project could commence within the financial year, whether project costs were within the available budgets (£20m or £50m for transport projects, and whether the project had the approval of the authority responsible for delivery). The assessment process involved scoring proposals against four equally weighted criteria, resulting in a final score of 0 to 100. Details of the scoring criteria are provided in the table below.

Table 5.1: LUF assessment categories

Scoring criteria	Description
Characteristics of place	Evidence of need for regeneration, improved connectivity, or growth.
Strategic fit	Endorsement of the local MP, engagement with stakeholders, case for investment, and alignment with local strategic context.
Delivery	Strength of the financial, commercial and management case.
Economic case	Value for money assessment based on the relationship between financial costs and benefits.

Summarised from operational documents supplied by DLUHC

Following quality assurance and moderation, these scores fed through into:

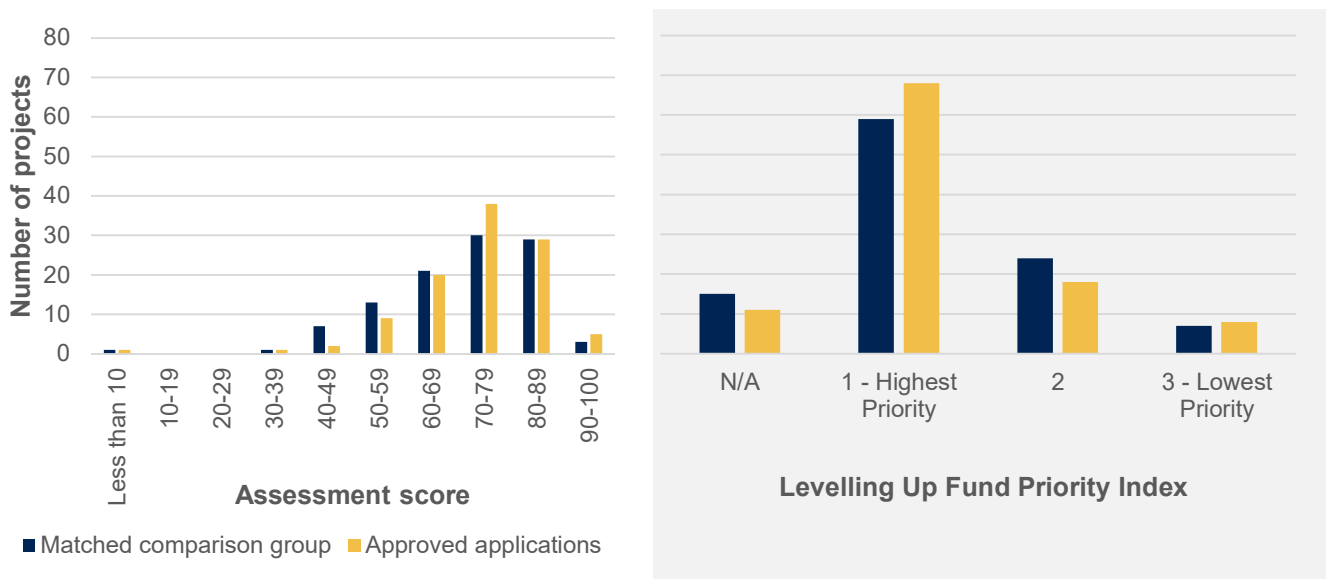
- **Shortlisting process:** Of 305 applications received, 170 were shortlisted for the final stage of the selection process. While this was influenced by the score awarded in the selection process, a portfolio approach was adopted to ensure that there were sufficient volumes of proposals from different regions and across different project types.
- **Ministerial selection process:** Ministers made the final decision on funding awards from the shortlisted proposals. Alongside the scoring, consideration was given to the distribution of projects across different themes, geographical spread, spread across areas in need, and spending by other

Government programmes in the area²⁰. As a result, the score alone cannot be used to predict whether a project was awarded funding.

The analysis above suggests two possible means of establishing a comparison group:

- **Declined bids that made the short-list:** One approach would be to restrict the comparison group to proposals that reached the shortlist but were declined. There were no systematic differences between approved and declined bids in terms of their underlying ‘quality’ against the criteria applied in the assessment. These proposals are also more likely to have shared similar unobserved characteristics in common with declined bids. However, clearly this group of applications are less likely to share similar levels of ‘need’ as approximated by the Levelling Up Fund Priority Index.
- **Matched comparison group:** An alternative approach would be to use statistical matching methods to identify declined applications that shared both similar assessment scores and Levelling Up Fund Priority Index scores. To test this proposal, a simple Propensity Score Matching algorithm was applied to determine how far it would be possible to balance samples using such an approach (using nearest neighbour matching without replacement). This produced a slightly larger comparison group of 105 declined proposals with a very similar distribution of both assessment scores and Levelling Up Fund Priority Index scores (as illustrated in the following figure). However, this approach includes applications that did not make the shortlist in the comparison group (so could potentially be distorted if the unobserved preferences of Ministers are correlated with the long-run performance of the area).

Figure 5.1: Distribution of assessment scores and priority index – approved LUF projects vs matched comparison group



Source: DLUHC monitoring information, Ipsos UK analysis

It is recommended that both approaches to constructing a comparison group are adopted in the evaluation of the Levelling Up Fund. Sample sizes are likely to prove sufficient in both cases. While there were only 65 applications that were shortlisted but declined as Part of Round 1, this would be expected to rise following subsequent rounds (and bearing in mind that unsuccessful applications can also be broken down

²⁰ See DLUHC (2022) Levelling Up Round 2: Technical Note

into multiple projects). While some declined these applications may become funded projects following repeat submissions, stakeholders indicated that there was substantial excess demand for funding in Round 2, meaning there is also likely to be many high quality but declined submissions.

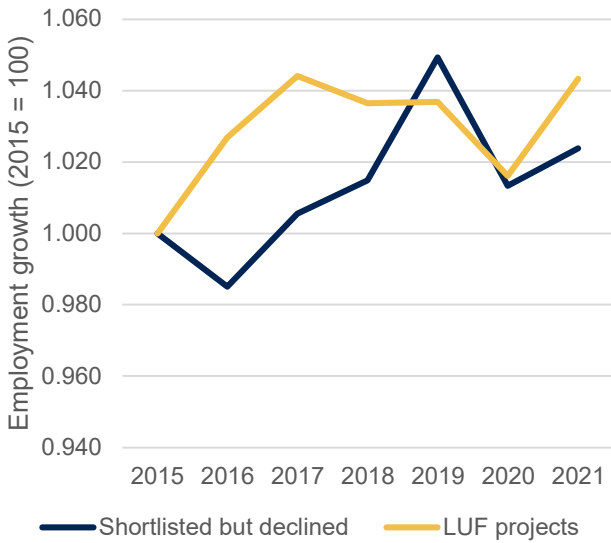
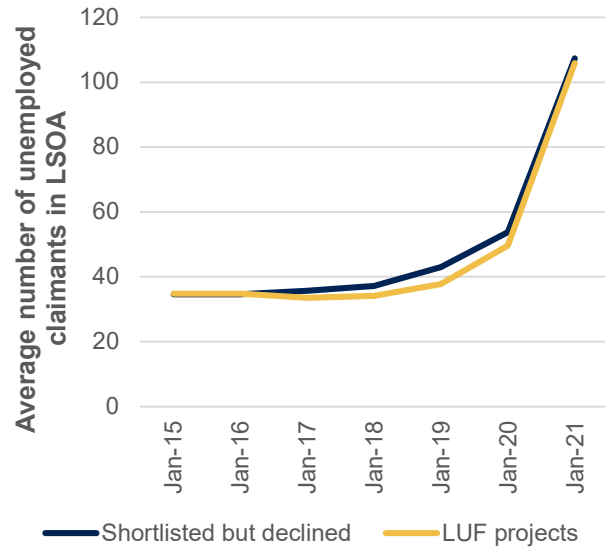
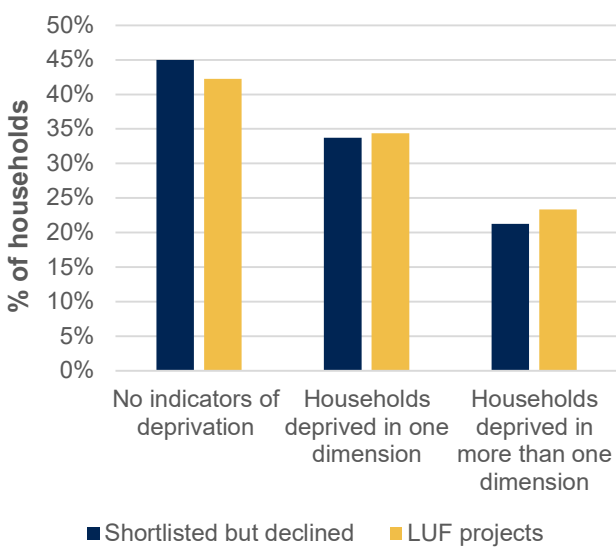
5.3.3 Analysis of socio-economic characteristics

Further analysis of the socio-economic characteristics of locations associated LUF funded projects and those associated with proposals that were shortlisted but declined was completed to probe the comparability of the two groups of areas. This was achieved by examining LSOA level trends in employment (from the Business Register of Employment Survey), unemployment (claimant count), and levels of deprivation (as measured in the 2021 Census). This analysis showed:

- **Population:** The two groups of areas shared similar resident populations in 2021, with an average of 1,800 residents in the LSOAs associated with project proposals (whether awarded funding or not).
- **Deprivation:** There were some indications that a higher share of households experienced deprivation in areas benefitting from LUF projects (the first chart in the panel below). However, these differences were marginal and did not strongly indicate that the two groups of areas might not be considered comparable.
- **Unemployment:** The two groups of areas also saw similar patterns in the number of unemployed claimants between 2015 and 2020, with claimant numbers rising slowly over the period prior to a significant rise in 2021 (most likely driven by the economic shock of the COVID-19 pandemic). As the chart below illustrates, unemployment levels were rising slightly faster in the proposed comparison areas prior to the COVID-19 pandemic (although both areas experienced similar shocks in 2021).
- **Employment:** There was less comparability in the employment trajectories of areas benefitting from LUF projects and the proposed comparison group. Total employment levels were generally 25 to 30 percent lower in areas benefitting from LUF relative to the comparison group over the period, indicating that LUF funding has generally been directed at areas of lower economic density. Additionally, trajectories of employment growth differed substantially over the 2015 to 2021 period.

This analysis indicates that improvements to the comparability of the proposed treatment and comparison groups could potentially be achieved by controlling for economic density, industrial structure, and pre-programme trends in employment. This could be achieved by including these as additional matching variables prior to regression analyses (or including them as control variables).

Figure 5.2: Household deprivation (2021), unemployment levels (2015 to 2021) and employment levels (2015 to 2021) – areas benefitting from Round 1 LUF projects and shortlisted but declined areas



5.4 Analytical approaches

This section provides an overview of the recommended econometric methods to be used to estimate the impacts of LUF projects. The nature of LUF projects (i.e. capital investments placed in particular locations) places some significant constraints on the range of options available, with a distance-decay modelling approach suggested.

5.4.1 Distance-decay models

As highlighted above, an evaluation will need to be sensitive to the issue that LUF projects do not have clearly defined beneficiary populations of firms or residents. However, it might be assumed that residents and firms located closer to the project should be expected to benefit to a greater degree than those located at long distances (and as flagged in Section 3, the impacts of LUF projects might be expected to be relatively localised). These ideas can be translated into econometric methods using a ‘distance-decay’

methodology that borrows from several studies examining the spatial impacts of policies and programmes, including an analysis of relocation of public sector functions motivated by the Lyons Review²¹, and a study assessing the local economic development impacts of investments in land and property funded through the Single Regeneration Budget²².

This approach can be operationalised by creating a variable that captures the strength of exposure of each area to LUF projects. This would be achieved by:

- **Measure of exposure:** It is possible to define a measure of exposure to LUF projects (for each postcode, Output Area, or LSOA) in terms of the number of LUF projects that are completed within a certain distance (e.g. 0 to 1km, 1km to 2km, etc – as illustrated in the following figure). Including these measures in regression models²³ that compare the relative trajectories of areas proximate to funded projects and declined proposals has several benefits:
 - Impacts are inferred from both comparisons between areas closer to and further from LUF projects as well as comparisons between funded areas and the comparison group.
 - This allows effects to vary by distance from the project – e.g. the impacts of LUF projects on areas within 1km of the project may differ from its effects at 4-5km. This allows direct investigation of local displacement and crowding effects (e.g. if effects on job creation are positive at 1km but negative at 4-5km, then this implies that there has been some displacement of economic activity from areas more distant from the project).
- **Threats to robustness:** As highlighted above, there is a risk that these comparisons could be biased because the locations of LUF projects were not randomly chosen – if they were chosen because they were expected to grow, then comparisons to other areas may overstate impacts. This issue is partly addressed by the choice of counterfactual areas (as highlighted above). However, there are further adjustments that could be made to econometric models to account for unobserved factors that could bias findings:
 - Restricting samples to firms, residents, or areas located within 5km of the project sample. This step will limit the extent to which findings are potentially biased between differences between areas close to LUF projects and those that are further away (which may experience different trends in the outcomes of interest).
 - This assumption on the spatial extent of impacts may prove overly restrictive for some types of projects (e.g. particularly those focused on enhancing transport connectivity at subregional or regional levels). It is recommended that this assumption is subject to both sensitivity testing

²¹ Relocation of Public Sector Workers: Evaluating a Place-based Policy,' Giulia Faggio (2014), Spatial Economics Research Centre

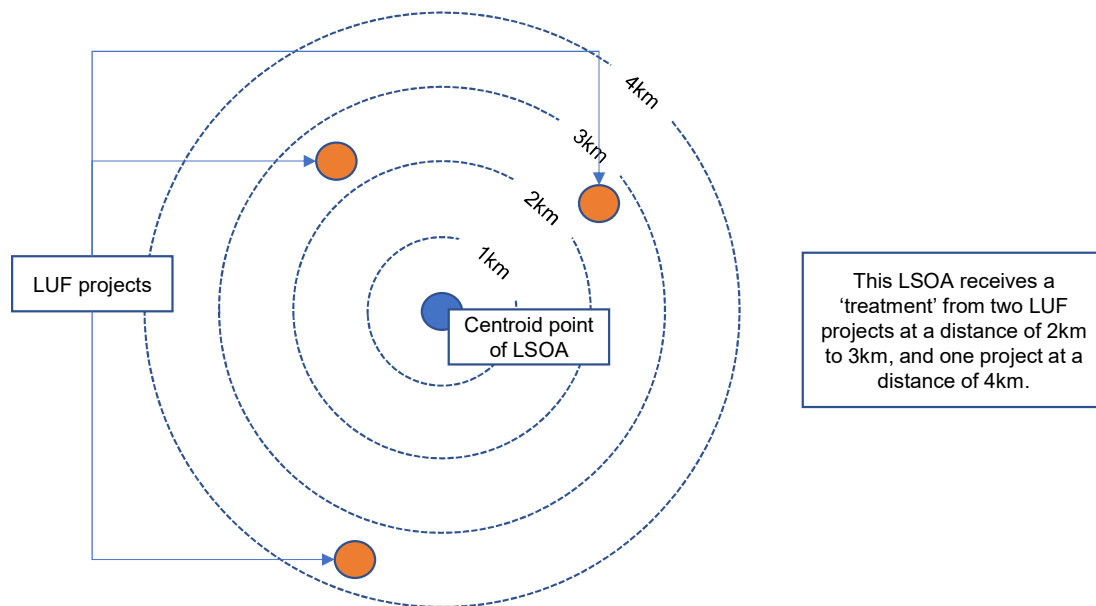
²² The Local Economic Impacts of Regeneration Projects: Evidence from UK's Single Regeneration Budget, Stephen Gibbons, Henry Overman, Matti Sarvimaki, August 2017

²³ The regression would take the form: $y_{it} = \alpha + \sum_{j=1}^J \beta_j T_{jt} + X_{it}\gamma + \alpha^i + \alpha^t + \varepsilon_{it}$. In this model, y is the outcome of interest in area i in period t (mapping onto the outcomes defined in the preceding section). T is a binary indicator taking the value of 1 after the completion of the project if area i lies inside distance band j, and 0 otherwise. X is a vector of time varying controls and the model is specified with unobserved area level effects and unobserved time specific shocks affecting all areas. It could also be possible to augment the binary indicator of project completion with a measure of project spend to provide additional sensitivity to variations in the scale of projects - although this could face some challenges as monitoring is configured at the level of overall projects (and discrete components of those projects may have different locations), and some way of monitoring spending on discrete project elements would need to be found.

extending the scope of analysis to larger regions, as well allowing the spatial extent of impacts to vary for different categories of intervention. Additionally, it should be noted that the DfT has commissioned an extensive review of the local economic impacts of road enhancements (the EPIRE project) which is explicitly examining the spatial extent of the economic impacts associated with road investments (using both a distance-decay approach and an approach based on the effect of new road upgrades on accessibility measures)²⁴. The results of this study can potentially inform decisions around analysis in this area.

- Allowing for unobserved area level and time specific shocks in econometric models using a fixed effects approach. This will ensure that findings are robust to any time invariant unobserved differences between areas as well as unobserved ‘shocks’ affecting all areas.
- **Implementing thematic and regional analysis:** Implementation of ‘thematic’ and ‘regional’ analyses would be achieved by restricting samples of projects included in the analysis to the relevant themes or regions. However, as part of these analyses, it would be necessary to treat other LUF projects as ‘parallel’ interventions and control for their influence over the outcomes observed in a similar manner to that described under Section 5.5.

Figure 5.3: Distance-decay models – visual representation



5.4.2 Rejected approaches

Several alternative evaluation approaches were considered, but were judged infeasible due to the architecture of the fund:

- **Regression Discontinuity Design:** The most robust evaluations of grant programmes typically focus on comparing ‘marginal’ applications - i.e. those that ‘just made it’ and those that ‘just missed out.’ This exploits the likelihood that any differences in the characteristics of these two groups of projects are likely to be random in nature (producing conditions that approximate those associated with a randomised control trial). This approach is widely used in the evaluation of innovation funding programmes where

²⁴ See: DfT (2018) Economic Performance Impacts of Road Enhancements; Scoping Study for a methodological overview.

funding is often allocated exclusively on the basis of the score awarded to proposals. However, this would not be possible in the case of LUF as there is no 'minimum scoring' threshold.

- **Spatial RDD:** A similar approach can sometimes be applied by focusing on areas just inside and just outside the target areas for spatially targeted programmes (and has been used to assess the impacts of the Local Enterprise Growth Initiative). However, as LUF projects do not target a defined programme area such an approach could not be applied in this context.
- **Pipeline design:** Finally, in some scenarios, it is possible to generate robust findings by comparing areas benefitting from funding earlier to areas benefitting from funding later (a pipeline design or phased counterfactual). This is generally made feasible when programmes are rolled out to successive areas over a long period of time (and has been applied in the evaluation of numerous capital investment programmes, including an evaluation of major investments in the strategic road network). The LUF has some features that could enable the application of this approach - i.e. the funding will be awarded over a series of rounds (though with some uncertainty regarding the number of rounds and the time that will elapse between rounds). However, it is assumed that the impacts of LUF projects will be visible from their completion. It is understood that while projects may commence at different points in time, they will all be required to spend their funding commitments by the end of 2024/25. As such, this is not a viable approach in this context.
- **Accessibility modelling:** For road connectivity projects, there are also approaches available that infer effects based on changes in accessibility brought about (for example) by improvements to the road network²⁵. As noted above, the DfT has commissioned a large-scale study examining a portfolio of almost 200 National Highways and Local Major Schemes using this type of methodology (the EPIRE study). Such an approach could potentially be adopted as part of an evaluation of LUF for these types of projects - though given the small number funded as part of Round 1, there may be merits in pooling these projects with related portfolios (e.g. schemes funded under the Road Investment Strategy 2).

5.5 Controlling for historic and parallel programmes

As mentioned above, the presence of existing or historic publicly funded interventions could distort the findings of any impact evaluation approach. Therefore, it will be important for the methodology to account for these programmes. It will be important to establish whether these alternative programmes are providing funding in the exact location that the LUF is supporting, or whether the funding (even if in the same local authority) is directed at another location within the area. It is important to establish the type of intervention (for example upgrading a building, improving transport links etc.) and the data available for each of the interventions to understand how these interventions can be accounted for in the impact evaluation methodology.

The table below presents a list of historical and parallel programmes, a description of the intervention and the programme MI that an evaluation of the LUF would need to support an impact evaluation. The available data for each programme will need to be explored by an evaluation team in the initial stages of the impact evaluation (including details constructed as part of parallel evaluation activity).

In some cases, it may not be possible construct detailed spatial data on spending in relation to parallel or historic programmes. In these cases, it may be possible to imperfectly control for these effects of these

²⁵ See Gibbons (2017) New Road Infrastructure: The Effects on Firms

spending by drawing on data compiled by DLUHC in relation to spending at the local authority level. This dataset (supplied as part of the scoping study) provides details of committed budgets for the CCF, COF, Future High Streets Fund, Towns Fund, Getting Building Fund, Local Growth Fund, the Community Renewal Fund and the Shared Prosperity Fund. Using local authority level controls would account for the possible influence of broader parallel regeneration spending (though this would implicitly assume that this spending is distributed evenly across areas and should only be used where it is not possible to construct more detailed data). Additionally, more projects and schemes may be funded in future years and it will be important to monitor developments to ensure it is possible to factor their effects into any econometric analysis.

Table 5.2: Historical and parallel programmes

Programme	Intervention type	Programme aims	Programme MI required for LUF evaluation
Coastal Communities Fund	Place based investment	Provides funding for a range of projects in coastal areas targeting job creation and economic regeneration	Data on interventions at geographic level (town / city), spend and type of intervention
Community Ownership Fund	Place based investment	Supports community groups to take ownership of assets which are at risk of being lost to the community	Data on the assets being renovated (spend, location)
Future High Streets Fund	Place based investment and regulatory changes	Provides funding to renew and reshape town centres and high streets	Data on locations that have received funding for improvements Data on locations which have changed purpose (residential / commercial)
Towns Fund	Place based investment and regulatory changes	Fund investing in towns to help deliver economic growth	Data on interventions at geographic level (postcode), spend and type of project Data on locations which have changed purpose (residential / commercial)
Getting Building Fund	Place based investment	Fund to deliver jobs, skills and infrastructure in the UK by funding shovel-ready infrastructure projects	Data on interventions at geographic level (postcodes), spend and type of intervention
Local Growth Fund	Place based investment	Funding for projects which benefit the local area and economy	Data on interventions at geographic level (postcodes), spend and type of intervention
EU ERDF / ESF	Place based interventions, although funding spread across	European Union funding targeting regional and social development projects in deprived areas of the UK – continuing until 2023	Data on interventions at geographic level, spend and type of intervention This may be challenging to access due to historical

Programme	Intervention type	Programme aims	Programme MI required for LUF evaluation
	regions (not location specific)		and regional nature of the intervention
Community Renewal Fund	Place based intervention, although funding spread across regions (not location specific)	Providing funding for local investment to improve economic and social outcomes	Data on interventions at geographic level, spend and type of intervention This may be challenging due to more regional nature of intervention
Shared Prosperity Fund	Place based intervention, although funding spread across regions (not location specific)	Providing funding to improve economic and social outcomes	Data on interventions at geographic level, spend and type of intervention This may be challenging due to more regional nature of intervention
National Lottery Heritage Fund (Heritage Fund)	Place based investment	A £300 million per year scheme to create lasting change for places across the UK, linked to heritage (potentially civic, including museums, libraries and transport history locations) assets	Data on interventions at geographic level (postcodes), spend and type of intervention
DCMS Create Growth	Business based investment	A programme to support creative businesses in six areas of England. The programme will provide over £17 million in funding to creative businesses.	Data on businesses supported, value of support, location of business
Major Roads Investments	Infrastructure based investment	Provides funding to improve the country's busiest and most economically important local authority 'A' roads	Data on stretches of road upgraded and spend on each stretch of road
Active Travel Funds	Place based investment	Provides funding to local authorities to deliver a variety of active travel schemes	Location data on infrastructure investments made and spend
City Regions Sustainable Transport Settlements	Infrastructure investment	A £5.7 billion investment in local transport networks. It provides consolidated, long-term capital funding to 8 city regions across England	Data on transport links upgraded and spend, type of infrastructure invested in
Bus Service Improvement Plans (BSIP)	Regulatory / strategic investment	Funding to help local areas improve bus services, so that routes and services are not planned purely on a commercial basis. Provides £1 billion of funding.	Data on bus routes altered as a result of intervention
Youth Investment Fund	Place based investment	Provides funding to create, expand and improve local youth facilities and their services, in order to drive positive outcomes for young people	Data on interventions at geographic level (postcodes), spend and type of intervention

Programme	Intervention type	Programme aims	Programme MI required for LUF evaluation
Public Health England interventions	Community based investments (people / services)	Multiple interventions to support engagement with health services and improve quality of life	Data on spend by location (lowest geographic level available)

5.6 Dealing with sorting effects

As highlighted above, there is a complex relationship between outcomes at an area level and the degree to which the intended communities ultimately benefit from LUF projects. An impact evaluation would ideally explore these issues by comparing the findings of different results or by restricting analysis to specific subgroups of the population. The following analyses are recommended to investigate these issues:

- **Relationship between employment and unemployment impacts:** As highlighted above, there is a risk that jobs created by LUF projects do not benefit residents of the areas concerned. This issue can potentially be explored by comparing the effects of the programme on employment to its effects on unemployment. For example, if the programme appears to create additional jobs but does lead to reductions in unemployment, then this would suggest that new jobs are primarily filled by commuters or households that have relocated to the areas concerned.
- **Spatially stable firms and households:** Further insights can also be obtained by comparing the overall effects of LUF on an area to its effects on firms or residents that were located in the areas concerned prior to the launch of the programme. If LUF appears to raise levels of economic activity, wages or productivity in the areas concerned, but has limited effects on incumbents, then it may be reasonable to infer that the programmes' effects have principally been driven by relocation of economic activity or households. This can be achieved by restricting samples used in analysis to these spatially stable units (though likely only feasible when using administrative datasets with large sample sizes, such as the Business Structure Database or the Annual Survey of Hours and Earnings).²⁶
- **Relocations:** Finally, if there is evidence that the impacts of LUF have been driven by relocations of firms or workers then it may also be instructive to undertake further to descriptive analysis to establish where these firms or workers originated. Of particular interest will be how far the programme appeared to displace activity from other high productivity areas or from other priority areas for the LUF.

5.7 Project level impact evaluations

As highlighted above, a robust quantitative impact evaluation is only likely to prove feasible or by pooling projects of similar types. However, project impact evaluations could be in principle be undertaken alongside a programme level evaluation. This section provides a high-level overview of what would be required to provide a robust impact evaluation of individual projects and gives some consideration to possible implementation challenges.

²⁶ This analysis can be undertaken at an Output Area level, which is the most granular geographic level that BSD and ASHE data is available at. Output Areas are a small geographical unit usually comprising of between 40 and 250 households. The analysis of firm relocations would not detect firm relocations within an Output Area.

5.7.1 Potential evaluation designs

The following table describes potential impact evaluation designs for the four classes of intervention. It is important to note that robust impact evaluation is likely to require extensive primary research with the relevant target communities in most cases.

Table 5.3: Potential project level impact evaluation designs by type of intervention

Intervention type	Overview of project level evaluation options
Unlocking land for commercial, industrial, or residential development	<p>These types of projects typically involve the provision of business accommodation for relatively small numbers of businesses, meaning that impact evaluations at the project level offer limited opportunities for quasi-experimental analysis. A theory-based approach may be more appropriate in these cases, involving:</p> <ul style="list-style-type: none"> (a) detailed qualitative research with developers and property agents to understand the local property market impacts of the projects (b) analysis of secondary evidence regarding details of the firms that have occupied the units provided (including where they relocated from and details of levels of economic activity being housed) (c) further qualitative research with occupants to understand their motivations for establishing a location in the relevant areas and what may have transpired in the absence of the accommodation. <p>Although traditional quasi-experimental methods may not be appropriate in these cases, the synthetic control group method could provide some means of providing econometric evidence on the impacts of individual projects. This approach would compare the LSOAs in the vicinity of the project (e.g. within 5km) to a weighted average of other LSOAs (excluding LSOAs benefitting from other LUF projects). The weights would be selected to minimise differences in socio-economic trends prior to the delivery of the project. As such, the area benefitting of LUF is compared to a ‘synthetic’ control group made up only of areas sharing similar economic features and trends.</p> <p>The method has been applied to assess the impacts of individual regeneration projects in a small number of cases (most notably, in an assessment of the impacts of the Tech City initiative). Such analysis could potentially be driven by the data sources described in Section 4, although only in cases where administrative data provides comprehensive data at the LSOA level. This means that while it would be possible to examine economic outcomes (such as employment and unemployment), other outcomes that are established through existing surveys would be more challenging to explore.</p>
Enhancing regional or subregional connectivity	<p>A project level evaluation of transport connectivity projects would (in principle) need to demonstrate:</p> <ul style="list-style-type: none"> (a) that the connectivity improvement produced the intended improvements in journey times or speeds (b) the downstream impacts of the road enhancement on the local economy. <p>While standard methodologies are available for the former of these two aspects (e.g. as per POPE studies undertaken in relation to National Highways Scheme), robustly establishing the impacts of the project on the local is more challenging and theory-based approaches may be needed in the case of individual transport improvement schemes.</p>

Intervention type	Overview of project level evaluation options
	<p>Implementing such an evaluation could require surveys of both local businesses and residents to understand how their travel and other behaviour have changed in response to the enhancement, alongside analysis of the available secondary data and depth interviews with key local employers. Extensive guidance on the potential design of these types of evaluations have been provided both in DfT’s Monitoring and Evaluation Framework for local authority Major Schemes as well as in a DfT published scoping study on evaluation methods for assessing the Economic Performance Improvements of Road Enhancements (EPIRE).</p> <p>The synthetic control group method approach outlined above would also be potentially relevant in these cases.</p>
<p>Strengthening the local visitor economy</p>	<p>For cultural projects (e.g. in new or improved visitor attractions), it will be important that evaluations determine (a) the cultural or heritage value of the investments made, and (b) explore broader effects on the local visitor economy. This type of evaluation will likely require extensive primary (i.e. survey) research with a variety of relevant communities:</p> <ul style="list-style-type: none"> ▪ Visitor surveys: Surveys of visitors to the cultural institutions involved will be needed to establish (a) their willingness to pay for the cultural or heritage assets concerned and/or (b) the distance travelled to the cultural institution (enabling application of the Klawson travel cost method for valuing intangible assets). These surveys will only enable establish the value of the institution to users of the assets, potentially omitting important benefits for non-users (e.g. option or existence values). Where cultural institutions are upgraded (rather than new), there would also be a need to repeat these surveys before and after the completion of the project (so an estimate of how far the value of the institution has been enriched can be derived). ▪ Community surveys: A fuller assessment would require a broader survey of the relevant communities, to collect information on similar items for non-users of cultural facilities. <p>There would also be the potential to complement such research with the application of the synthetic control methods described above to provide broader evidence on the net effects of the project on the local visitor economy.</p>
<p>Improving quality of life for residents</p>	<p>Robust impact evaluations of these types of projects are potentially feasible by undertaking baseline (i.e. pre-project) and follow-up surveys of (a) the target communities for the interventions (e.g. residents within 1-2km of the relevant community assets) and (b) residents of similar areas within the same local authority more distant from the relevant assets. These could also be complemented with additional qualitative and quantitative research amongst users of the facility to specific insights into the effects of the assets made available (using a theory-based approaches). Some types of projects may also offer opportunities to explore alternative data sources (e.g. for Active Travel interventions it may be necessary to install cycle counters across the intervention and control areas to determine the net effect of the project on modal shift outcomes).</p>

5.7.2 Implementation challenges

Project level evaluations of the nature described are likely to involve a number of implementation challenges:

- **Engagement, support, and co-operation of the LA:** Clearly, implementing project level evaluations of the nature described above will require extensive engagement, support and co-operation of the local authorities delivering the projects being evaluated. For example, an evaluator will need to work collaboratively with the local authority to develop theories of change for the project and may need to access information (e.g. user level data) that is not captured within the standard monitoring framework for LUF projects.

It is anticipated that local authorities may require incentives and/or be legally obliged (via the Grant Offer Letter) to commission an evaluation or participate in a centrally directed evaluation process. There is no strong a-priori view regarding which approach is likely to prove more effective. In the former case, it may be more challenging to preserve consistency and ensure adherence to quality standards, though local authorities may have a higher level of engagement in the research and evaluation process.

- **Central oversight:** Given the requirements for project evaluations (e.g. extensive primary research) and associated skill requirements (e.g. in econometrics), it is anticipated that either local authorities would need to commission external contractors to deliver evaluations (or DLUHC could commission a central evaluation contractor to complete project level evaluations). However, it is anticipated that some level of central oversight will be needed to ensure that (a) monitoring and evaluation plans adhere to required quality standards and (b) these plans are implemented in practice. Transport projects funded by DfT are required to prepare monitoring and evaluation plans as part of the business case process and this requirement could potentially be extended across the LUF portfolio (though it is noted that evaluation obligations have been dropped for Round 2 LUF projects).
- **Proportionality:** It should be noted that in most cases, a robust impact evaluation of individual projects will often require extensive (and potentially costly) primary research. These potential costs should be considered when deciding to pursue detailed impact evaluations of individual projects.
- **Need for baseline evidence:** More robust evaluation designs will require baseline data (e.g. community surveys prior to the implementation of the project). This implies that impact evaluations may not be feasible for many Round 1 LUF projects (as the opportunity to gather baseline data has passed), and any future projects funded would need to be closely monitored to ensure this evidence is gathered before capital works begin.

6 Economic evaluation

This section considers how an economic evaluation of the Levelling Up Fund might be completed. This focuses principally on how a cost-benefit analysis could be approached (in line with the guidance provided by the HM Treasury Green Book). The focus of this section is on cost-benefit analysis at the national level – while latest revision to the Green Book requires that consideration is given to ‘place based’ impacts, these impacts will be established by the impact evaluation.

6.1 Costs

The resource costs of LUF projects are likely to comprise three elements:

- **Administrative costs:** Administrative costs incurred by DLUHC, DfT and DCMS in the delivery of the programme, and costs incurred by local authorities in the preparation of the bids. It is anticipated that central administrative costs will be captured in monitoring data, although some research will be needed with local authorities to understand their costs in engaging with the programme (including staff time required to deliver projects). In this latter case, it will be necessary to understand the level of additionality associated with costs incurred – e.g. while some local authorities may have commissioned feasibility or other studies, these costs may have been incurred in advance of the launch of the programme or otherwise incurred regardless of the programme. This information will need to be collected through primary research with the local authorities.
- **Project delivery costs:** The public sector resources absorbed in the delivery of the project. These are captured in monitoring information.
- **Private sector costs:** LUF projects may involve match funding and/or induce private sector investments that also contribute to the outcomes observed. Some of these costs will be implicitly accounted for in the assessment of benefits (e.g. increases in productivity and/or rents will reflect rates of return earned by the private sector net of investment costs). However, there may be some costs associated with projects that are responsible for externality benefits that are not implicitly reflected in streams of future benefits (such as contributions to the costs of social overhead capital secured via Section 106 agreements). These additional costs should be accounted for in an analysis, though may be difficult to measure via existing monitoring information. While monitoring information is expected to capture ‘other private funding’ in aggregate, it may be necessary to use project case studies (as described in Section 7) to break these costs down further to isolate the specific costs of interest.

6.2 Economic benefits

An impact evaluation of LUF is likely to provide a variety of evidence of the economic impacts of the programme at the local level (e.g. in terms of employment growth, productivity, unemployment, and wages). However, in line with the HM Treasury Green Book, it should be assumed that the ‘demand side’ effects of the programme are likely to be neutralised by offsetting effects elsewhere in the economy (displacement).

For example, while businesses located in areas benefitting from LUF may expand as a result of the programme, this is likely to come at the expense of loss of market share for competing firms (who may be located locally or elsewhere in the UK). Additionally, the relocation of economic activity is expected to be an important driver of local impacts (and much of the job creation impacts of the projects funded would have been realised in other locations). Even if firms expand without directly displacing the activities of

domestic competitors, increased demand for workers and other inputs can be expected to have placed additional pressure on prices, resulting in reductions in output and employment elsewhere (crowding out).

As such – and in line with the principles of the HM Treasury Green Book - only the effects of the programme in terms of raising productivity should be considered to qualify as economic benefits at the national level (i.e. supply-side effects).

6.2.1 Firm-level productivity gains

The analyses described in Section 5 will provide estimates of the causal effects of the programme on the average labour productivity of firms located in areas benefitting from LUF projects. While these results can be multiplied by average employment in those firms to provide an estimate of the overall gain in economic output (GVA) resulting from productivity gains brought about the programme, there are numerous complexities that will need to be handled:

Product and factor market displacement

The overall productivity effect can be understood as a combination of a 'within firm' effect where individual businesses become more efficient and a 'between firms' effect where more productive businesses claim market share and factor inputs at the expense of less of productive firms in the same or other industries²⁷. These latter effects involve a reallocation of resources between firms (displacement effects). This creates some challenges for the analysis:

- Within firm effects can be treated relatively unproblematically as an increase in aggregate supply and as a net benefit under existing and emerging HM Treasury Green Book guidelines.
- Between firm effects are more problematic as while the process involves an improvement in the productive capacity of the economy, there is a need to account for the offsetting loss of output amongst those firms that have lost market share.

The focus of the proposed analysis on area level effects of varying distances from LUF projects will capture net effects at the local level. However, there is also a possibility of displacement effects at the national level. As such, applying the estimated productivity gains to the total number of workers employed in the area is likely to overstate the total GVA impact of the programme, as it would not allow for the corresponding loss of output in other locations. As such, it is suggested that it would be appropriately conservative to focus the CBA on 'within firm' effects alone – i.e. estimating the total GVA impact by assuming the gain in productivity only applies to workers employed in the area before the LUF programme was launched (rather than any new jobs brought to the area).

Sorting effects

The above analysis assumes a constant local population of firms. However, local productivity effects will also be a function of sorting effects - i.e. the entry of more productive firms (via relocations or the creation of new businesses) and exit of less productive firms (via relocations or firm failures). These processes will raise productivity at the local level but effects will be neutral at the national level. This implies that the productivity effect should be estimated based on the impacts of the programmes on firms that do not change location (i.e. spatially stable firms – a group of firms that can be relatively straightforwardly isolated

²⁷ See An evaluation of the impact upon productivity of ending resale price maintenance on books, Centre for Competition Policy at University of East Anglia, Office for Fair Trading, February 2008.

using the firm location data provided with the Business Structure Database, as discussed in Sections 4 and 5).

6.2.2 Productivity gains inferred from rents (i.e. land value uplift)

Productivity effects can alternatively be inferred indirectly from changes in the rental value of commercial space, and land values. The amount businesses are willing to pay to move to new premises would be expected to be equal to the benefit they expect to gain from access to facilities offered by the property. If enhanced connectivity leads to higher commercial rents, this should provide an indirect measure of the increased profitability that can be obtained by firms by relocating to the property. In this respect, an increase in rateable value (the VOA's estimate of the rental value of the property) can be viewed as a measure of the expected productivity gain expected by a new tenant (in line with DLUHC's appraisal guidance). Scope to apply this approach is potentially constrained in the shorter term by the frequency of revaluations (as flagged in Section 4).

6.2.3 Hysteresis effects

The theory of change set out in Section 2 suggests that the programme has the potential to produce further economic benefits by preventing possible effects where – in the absence of the programme – economic activity migrates from low to high connectivity areas. This process could cause problems of selective outmigration of skilled labour, and problems of long-term unemployment (or underemployment) of those individuals unable migrate to more buoyant areas (hysteresis effects). This permanent (or semi-permanent) loss of productive capacity represents an aggregate supply effect that is admissible as a benefit under the guidelines of the HM Treasury Green Book (and is broadly equivalent to the treatment of labour supply impacts in the Wider Economic Benefits module of TAG, for example).

While it is possible to assess the effects of LUF on overall unemployment levels, data is no longer available on the duration of claims and will not be possible to discriminate between short- and long-term episodes of unemployment. This implies that the value of any such impacts may be difficult to estimate precisely and some assumptions may need to be applied to results:

- **Ratio of short to long term claimants:** It may be necessary to assume that LUF projects draw individuals out of short- and long-term unemployment at similar rates. Applying historic ratios of short to long term unemployed claimants in the areas concerned to the total reduction in unemployment could provide an approximation of the programme's effects on long-term unemployment.
- **Monetisation:** These economic impacts can be understood in terms of the value of output produced by workers that would have been rendered unemployed in the absence of the programme. This can be approximated on the basis of the annual earnings for comparable workers (available through the ONS Annual Survey of Hours and Earnings), though without information on the skills and occupational background of those workers benefitting from these effects, an assumption will need to be adopted regarding their likely productivity. The presumption is that low skill and low paid workers will be most likely to be affected, and it may be appropriate to draw a value from the lower end of the wage distribution.

6.3 Social welfare gains

The approach outlined above will provide estimates of the economic benefits of the LUF. However, this will not capture improvements in quality of life brought about by many of the projects funded through the programme. Two (alternative) approaches to estimating these benefits are set out below – the first focusing

on market-based measures (i.e. how far the benefits of projects have been capitalised into house prices), the second focusing on subjective measures of wellbeing.

6.3.1 Hedonic pricing methods

The improvements in welfare for residents arising from LUF projects for residents will in many cases be intangible. However, if the LUF projects deliver their intended improvements to the quality of the built environment and community assets, this is likely to increase the attractiveness of areas to prospective buyers. This increase in attractiveness is likely to be reflected in house prices. As such, the increase in house prices attributable to the programme can potentially be interpreted as an estimate of the present value of the welfare gains arising from the investments placed through the programme. As highlighted above, it will be possible to generate robust estimates of the effects of the programme on house prices, which can be used to estimate the total value of welfare gains to residents (e.g. by aggregating average effects over the number of residential dwellings in the area).

However, there are analytical challenges associated with this approach as its validity depends largely on how far changes in house prices can be interpreted as a representative measure of the welfare gains involved. The effect of the programme on house prices reflects the valuation of the marginal buyer (rather than the broader population of residents). As such, changes in house prices may not always provide a reasonable guide to the welfare gains accruing to residents. Firstly, changes in house prices may understate the value of the programme where it has made investments that are valued by residents but less so by incoming buyers (one example might be investments in community facilities that are predominantly used by tenants of social housing). Alternatively, the change in house prices may overstate the value of the programme if the investments made through LUF are beneficial to a small group of households with specific preferences (e.g. investments in cultural facilities may be of specific interest or value to some, but not all, households). As such, some caution is suggested in applying hedonic pricing methods as part of CBA of LUF.

6.3.2 Wellbeing valuation

Wellbeing valuation (WV) derives robust value estimates in line with welfare economic theory on valuation and now features as part of several guidelines such as the HM Treasury Green Book guidance, the OECD guidelines on measuring wellbeing and the Australian Cost Benefit Analysis Guidelines (Fujiwara and Campbell, 2011; Green Book, 2011; OECD 2013, 2014; New South Wales Treasury, 2017). The wellbeing valuation approach uses self-reported measures of wellbeing (subjective wellbeing) to measure an individual's welfare. The main measure used is life satisfaction which provides a broad assessment of one's life and which has been validated in cognitive testing and which is the core measure of wellbeing used in academic research (Dolan and Fujiwara 2016; Layard 2009).

The WV approach has a two-step process:

- Using the methods described in Section 5, it is possible to estimate the impact of LUF projects on life satisfaction (an estimate of the extent to which people's lives are improved as a result of LUF).
- Apply these estimates to secondary studies that have examined the impact of income on life satisfaction. These studies estimate how much life satisfaction improves due to an increase in income and can be used to derive an estimate of the amount of money that would have exactly the same impact on life satisfaction as LUF projects.

These approaches would be used to estimate the wellbeing effect on the entire population of the LUF project areas, capturing the average effect of the LUF on wellbeing in the treatment area, rather than the effect on direct beneficiaries (for example individuals that use a particular transport link). This approach reflects the Theory of Change presented in Section 2, as there are multiple mechanisms which deliver changes in wellbeing, not just direct use of the capital investment.

These approaches are considered experimental and would need to address some complexities related to the potential double-counting of benefits from the economic and wellbeing analysis. The wellbeing analysis has the potential to capture *all* of the impacts of the programme (both positive and negative) since all impacts have implications for people's wellbeing (including effects driven by economic impacts). Some of the possible issues include:

- **Double counting:** If workers capture a share of any productivity gains through higher wages then this could reasonably be expected to raise subjective well-being. As such, estimates of the value of the well-being effects of the programme are likely to double count the benefits of the programme.
- **Displacement:** There are also problems driven by the possibility that the programme displaces economic activity from lower connectivity areas (or from firms within the area). While this may raise the welfare of residents in areas benefitting from LUF projects subsidies, there would likely be a corresponding negative effect on welfare amongst those residents (which cannot necessarily be measured).

While the former issue can be dealt with by controlling for changes in wages in the wellbeing analysis, addressing issues relating to displacement can only be handled at a local level. However, broader externalities will be very challenging to address in an analysis, and again, some caution will be needed in presenting such findings as part of a CBA.

6.4 Local BCRs and distributional weights

The Levelling Up Fund is a spatially targeted programme. The revised Green Book makes additional provision for 'place based' analyses where programmes aim to benefit specific regions or subregions of the UK. As such, there may be an interest in using the results of the impact evaluation to develop 'place based' BCRs alongside a CBA at the national level. Analysis at the local level imposes fewer constraints on what is considered admissible as a 'benefit', specifically:

- **Employment impacts:** While the GVA associated with employment impacts would not be included as part of a CBA at the national level, it is legitimate to include these effects as part of a place-based analysis. The impact evaluation methodology will provide estimates of the employment impacts associated with the Levelling Up Fund that account for issues of local displacement, substitution, and multiplier effects and can be used to develop an estimate of the total annual GVA associated with these jobs (e.g. by using average labour productivity measures for the relevant subregions).

However, it will also be important to adjust estimates of employment impacts for issues of leakage (which would occur if new employment positions were filled largely by non-residents of the areas benefitting from the programme). This will be difficult to assess with precision as there is no predefined 'target area' for LUF. Nevertheless, an estimate of the potential scale of 'leakage' can potentially be derived from comparisons between the total effects of the programme on jobs created (within 5km of funded projects) and total reductions in unemployment. As flagged in Section 5, this will provide an indication of how far the impacts of the programme have benefitted non-residents.

It is also important to note that any econometric approach will only be able to provide estimates of impacts that are net of displacement effects and other spillovers that are local to each project. As flagged elsewhere in this report, it is possible that projects may displace activity from other areas being targeted by the LUF. Some insight into the extent of these issues can potentially be derived via descriptive analysis of relocations as described in Section 5.

- **Productivity gains:** In addition, while at the national level it would be important to exclude productivity gains arising from the relocation of firms into the target area, these could legitimately be included in a place-based analysis.
- **Other social welfare gains:** Finally, other social welfare gains for residents (as estimated from changes in land values or via subjective wellbeing methods) would also be included in a local analysis.

The LUF may also have distributional effects by raising the incomes of lower income households. As the marginal utility associated with additional income might be assumed to be higher for those on lower incomes than those on higher incomes, it may be appropriate to apply 'distributional weights' to results of the impact evaluation. This will require the impact evaluation (where using data on households, such as in relation to wages) to break down findings by household income. The weights recommended in the Green Book can then be applied to estimate the additional welfare gains associated with distributional effects.

6.5 Non-measurable impacts

The above discussion presents an approach to measure and monetise most of the impacts that can be robustly measured in an impact evaluation of the LUF Round 1 projects. However, there are outcomes which have been identified in the Theory of Change which have not been included in this discussion, because the number of projects was assessed as being insufficient to robustly identify the impact. These outcomes are:

- Travel time
- Changes in health status
- Environmental impacts

For travel times and changes in health status outcomes, there are existing methodologies which can be used to provide monetary estimates of the impacts and for these to be included in a cost-benefit analysis. However, it should be noted that the effects of these outcomes could also be included in changes in wellbeing, and therefore caution would be needed if estimating the monetary effects of these impacts separately.

For the changes in environmental outcomes, it may be challenging to identify the ex-post impacts from existing data sources (air quality and carbon emissions, using data from DEFRA and BEIS) due to the small geographic scale of the interventions. This means that it is not feasible to include these in a cost-benefit analysis.

7 Conclusions and Recommendations

This final section sets out the conclusions of this review and the recommended approach to an impact evaluation of the LUF.

7.1 Feasibility of a quantitative impact evaluation

In terms of the key findings of this review:

- **Feasibility of a quantitative impact evaluation:** A relatively robust quantitative impact evaluation of the Levelling Up Fund is feasible. This could be achieved cost-effectively by:
 - **Evidence on outcomes:** Using existing sources of administrative and secondary data to establish how the relevant economic and social outcomes have changed in areas benefitting from the LUF following project completion. These data will provide:
 - Comprehensive evidence on the economic outcomes of the LUF,
 - Partial evidence on the social benefits of the LUF, and
 - Partial evidence on the effects of LUF in land and property markets and revitalising town centres.
 - **Comparison groups:** Inferring the impact of the LUF from comparisons with the neighbourhoods or areas associated with declined bids. Based on an analysis of Round 1 applications, it would be plausible to use both declined applications that were shortlisted and declined applications sharing similar assessment and Levelling Up Priority Index scores as a comparison group. This will require review following future funding rounds, though there is no prima facie reason to expect that this strategy will prove ineffective (owing to the high levels of excess demand for funding reported by stakeholders).
 - **Statistical matching:** There may be some differences in the underlying socio-economic characteristics of areas benefitting from funding and the proposed comparison groups (including trends in local economic growth). Statistical methods (such as Propensity Score Matching) may be helpful in improving the comparability of the two groups of area.
 - **Econometric methods:** There are well established spatial econometric methods to understand how impacts vary with distance from the locations benefitting from LUF funding. These methods will help establish the extent of any locally important offsetting effects resulting from the programme (such as displacement of economic activity from nearby areas).
 - **Sample restrictions:** It will also be important to understand how far the benefits of LUF funding have reached existing residents and communities (rather than households encouraged to move into the area or households living at long distances). This can be explored in part by restricting samples to individuals and firms that do not change their location.
 - **Controlling for other interventions:** Areas benefitting from LUF are also likely to have received investment from historic regeneration programmes (as well as parallel programmes, such as the Towns Fund). It will be important to control for these to avoid mistakenly attributing their impacts to the LUF. This can be achieved using econometric methods, though it will require information on the level of investment and locations associated with historic and current investments. While this can be obtained in detail for parallel programmes, it may be more challenging to obtain granular data for historic programmes (e.g. ERDF where information is only available at the local authority level).

- **Value for money analysis:** A cost-benefit analysis of the LUF could be completed using the results of the impact evaluation and there are a variety of plausible routes to valuing both the economic and social benefits of the programme. These include using (a) inferring economic benefits from the productivity gains associated with the programme either directly from changes in the efficiency of local firms or indirectly from the effect of the programme on commercial rents, and (b) inferring social benefits of the programme from effects on house prices or from changes in subjective wellbeing.
- **Potential cost:** This type of study could be implemented relatively cost effectively as it does not require the collection of additional primary data. It can be anticipated that the most labour-intensive aspect of an impact evaluation will be compiling a complete record of the projects funded and their locations. The location of each individual LUF subproject will need to be extracted manually from application forms and verified against monitoring records (to check that each project has been implemented as planned and there have been no fundamental changes in project objectives). Nevertheless, it is anticipated that a detailed study could be completed within an envelope of £150,000 to £250,000 (at 2022 prices and allowing for variation in prices across suppliers).
- **Timeframes:** The LUF is funding capital investments that will not be complete until 2024/25, and their benefits may not be apparent for some time after that. Pursuing an impact evaluation is not advised until 2027/28 (and as some impacts may not be visible for the long-term, a longer-term impact evaluation could potentially be considered in 2031/32).
- **Levels of evaluation:** In terms of different levels of evaluation:
 - **Programme level evaluation:** A programme level evaluation is feasible. This will require a focus on those objectives that are common across the LUF portfolio, implying a relatively narrow focus on local economic growth and quality of life outcomes.
 - **Thematic evaluation:** A programme level evaluation could be accompanied by a thematic evaluation focusing on individual types of intervention sharing similar objectives. This would provide additional insight into the relative effectiveness (and cost-effectiveness) of different types of projects. However, owing to the volume of projects funded and the associated implications for sample sizes, this would need to be configured at a relatively high level – focusing on investments in unlocking development, strengthening local service economies, and interventions to improve quality of life for residents.
 - **Geographical intervention:** Funded LUF projects have a high level of spatial dispersion and while it may be possible to explore the effects of the programme in individual regions (or types of area – e.g. low, medium, and high productivity LAs), analysis at lower geographical levels it is likely to be constrained by sample sizes.
 - **Project level evaluation:** Individual LUF projects are relatively small scale in nature and are expected to have relatively localised impacts. In most cases, the nature of LUF projects make them inappropriate for detailed quantitative impact evaluation at the level of individual projects. Additionally, given the scale of LUF projects, there may be questions regarding the proportionality of undertaking evaluations at this level.

7.2 Limitations and gaps

It should be noted that any quantitative evaluation is likely to face several limitations or gaps that will be challenging to address in an evaluation of LUF:

- **Coverage of outcomes:** While it will be possible to collect information on quality of life, there are some important potential social impacts that will not be possible to establish in an evaluation of LUF. Most significantly, there is no existing source of information that could be used to reliably establish the effects of the programme on the quality of the built environment (or residents' perceptions of this – i.e. civic pride outcomes). In principle, this could be addressed by commissioning a large-scale survey, though the costs of doing so would likely be prohibitive. This may not be wholly problematic, as these types of benefit are likely to be capitalised into house prices (which can be established with sufficient precision at a local level).
- **Detailed thematic analysis:** It will be difficult to establish the effects of some types of intervention owing to small sample sizes. Sample size constraints are likely to be problematic for interventions seeking to improve connectivity between areas and smaller groups of activities. This latter aspect is likely to prove a more significant issue for interventions aiming to improve the quality of life for residents, as they represent a diverse portfolio of projects sharing little in terms of common intermediate outcomes (e.g. active travel infrastructure and educational facilities will have very different outputs and immediate results). A detailed understanding of how and why these interventions work (or not) could be achieved by pooling these projects with similar projects funded through other programmes, an approach that could be beneficially considered as part of a parallel study.
- **Evaluability:** As noted, scope for detailed quantitative evaluation has been partly limited by the diversity of projects that were funded through the LUF. This stems from the relatively open nature of the fund which gave local authorities the flexibility to meet the aims of the programme through the mechanisms they saw as most relevant to their areas. The evaluability of future regeneration funds could potentially be improved by imposing tighter restrictions on the nature of projects that are eligible for funding. However, this should be set against the potential costs of reducing local flexibility to determine investment and regeneration priorities.

7.3 Process evaluation

LUF projects are only expected to produce impacts in the longer term. However, stakeholders highlighted that there is a need for evidence to feed into the Spending Review expected in 2023/24. Statistical methods of the nature described above are unlikely to produce any evidence of the local impacts of LUF projects at this stage (beyond perhaps effects on unemployment arising from construction impacts). However, there may be benefits in undertaking a review of projects to understand progress made and explore the likelihood that they will produce their intended effects in the future (i.e. a process evaluation).

It is beyond the scope of this study to specify a detailed design for a process evaluation of LUF, though the following sections outline possible options for individual project level evaluations that could be considered.

7.3.1 Aims and objectives

It is anticipated that a programme of project level evaluations could help provide an overview of the likelihood that the LUF portfolio can be expected to deliver their intended impacts. Project level evaluations would focus principally on understanding:

- Progress made with physical works
- Any deviations from original plans and the reasons for this, and

- Any evidence that can be obtained in relation to the likelihood that the project will deliver its intended outcomes (noting that this evidence will likely be speculative).

7.3.2 Sampling

The aim of a programme level evaluations will be to both provide (a) a representative view of the likely effectiveness of the portfolio investments placed through the LUF and (b) provide more detailed understanding of why and how projects delivered their intended results (or not). As such it is recommended that a stratified sample of individual projects is developed seeking to obtain a representative distribution across the following dimensions:

- **Project type** – based on the typologies of activities outlined in Section 2
- **Implementation success** – the degree to which the project has been (or is on track to) complete to timetable and budget and deliver its intended outputs (drawing on an analysis of monitoring information as described below).
- **Local context** – accounting for degree of urbanisation (e.g. major urban centres, suburban areas, towns, and rural contexts) as well as trends in the local economy (employment growth, changes in unemployment and economic activity rates) and its industrial structure.

In principle, there would be merit in giving elevated attention to projects involving particularly significant levels of spending and transformational objectives. However, based on the analysis of the project portfolio set out in Section 3, there are few (if any) projects that meet these criteria. As such, it is recommended that a standardised approach is taken across the case study sample.

7.3.3 Case study elements

The table below provides an outline of the components that could be included in each case study.

Table 7.1: Historical and parallel programmes

Element	Description
Theory of Change development	<p>It is recommended that each project level evaluation is underpinned by a bespoke ‘theory of change’ describing how its activities were expected to produce its intended outputs, outcomes, and impacts. This would involve adapting the high-level theoretical frameworks developed in Section 2 of the report to the specifics of each project. This would require:</p> <ul style="list-style-type: none"> ▪ Analysis of the application form which sets out (a) the rationale and/or need for the project, (b) details of the specific activities involved, (c) the intended results. ▪ Development of bespoke evaluation questions to be addressed, reflecting the specific aims of the project. <p>Initial consultations with local officers responsible with the development and delivery of the project to refine the framework for the evaluation, identify the stakeholders that may need to be consulted as part of the project, and understand the scope of any monitoring or evaluation activity being undertaken at the project level.</p>
Monitoring information	<p>Project level monitoring information will provide some guide to the progress of the project, including how far the project is on schedule, how far costs are in line with budgets, and whether the intended outputs are being delivered. Consultations with monitoring officers may also be helpful in developing an understanding any issues encountered by the project, how these have been resolved, and establish any emerging views on whether it is likely to deliver its intended outputs.</p>
Secondary data analysis	<p>Although the outcomes of the project are unlikely to be visible in the types of datasets described in Section 4, there may be value in incorporating some analysis of the local</p>

Element	Description
	context to (a) provide some validation of the underlying need for the project and (b) identify any aspects of local context that may have changed since approval for the project was granted (and could influence its results).
Depth research with key stakeholders	It will be important to capture the views of a variety of local stakeholders as part of each case study. While consultees will need to be adapted to the specifics of each case studies, these might include (a) the project delivery within the relevant local authority, (b) developers associated with the project, (c) local property agents, (d) representatives of local businesses, residents, or other target communities.

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