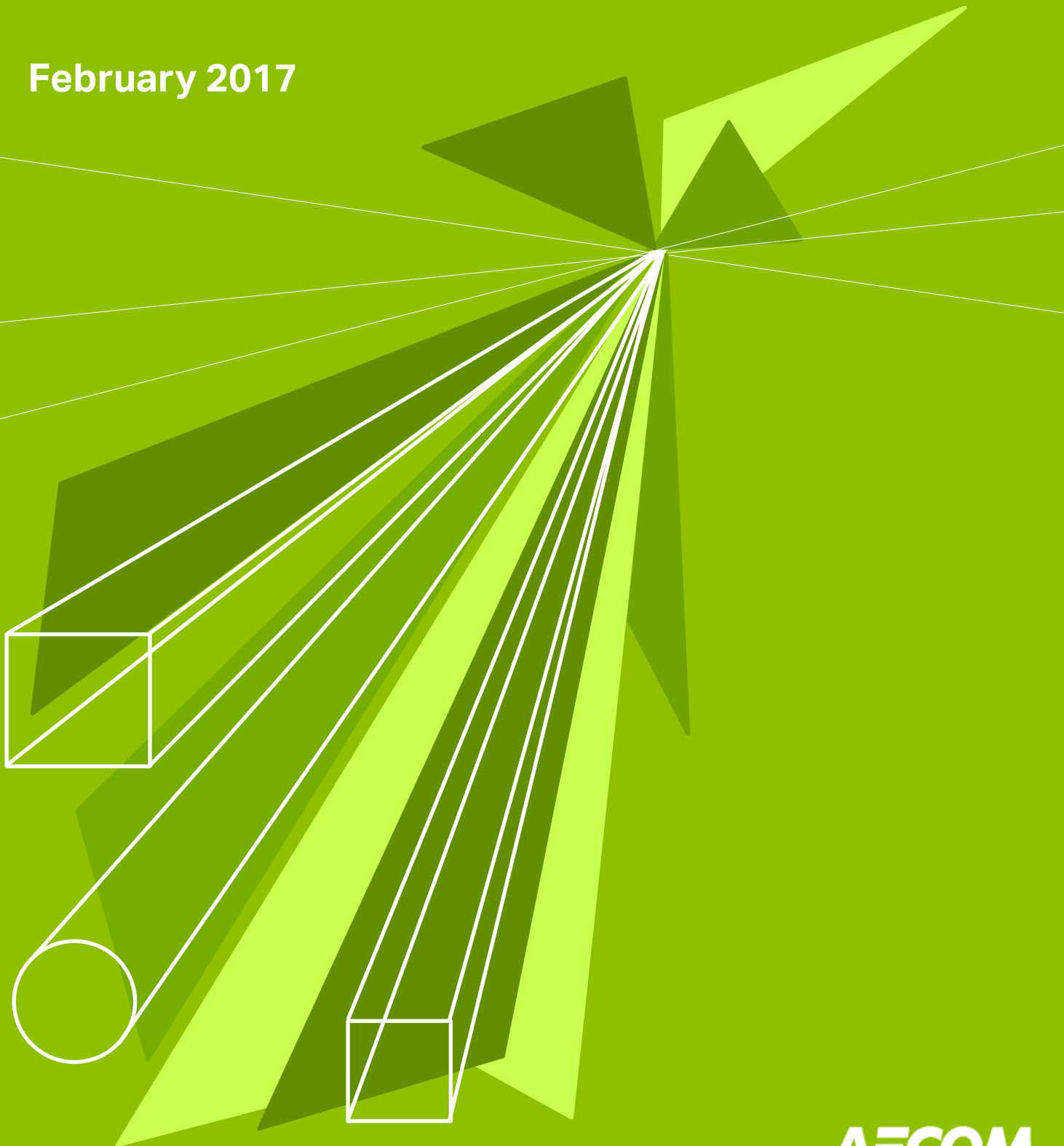


# South West Hertfordshire Growth and Transport Plan

## Economic Impacts of Public Realm and Transport Investment

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# 1. Introduction

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Urban design applies a multi-disciplinary design process in order to create places that work for people in urban areas.<sup>1</sup> As the majority of transport in towns and cities occurs in the public spaces between buildings, there is often overlap between urban realm and transport schemes within urban areas.

This paper introduces some key concepts in developing business cases for urban realm improvements, with particular reference to urban schemes involving significant transport improvements. It presents advice on developing a business case for a transport-focussed urban realm scheme, and discusses potential impacts of such schemes at example locations within South West Hertfordshire. This evidence can be considered within the context of emerging projects and schemes being developed for the Growth and Transport Plan which look to not only address key challenges focused on transport, but also seek to maximise other potential benefits and opportunities associated with transport interventions which could bring about an improvement in urban realm and could in turn deliver benefits to people's lives.

Following this introduction, [Section 2](#) of this paper sets out the most important elements of a successful public realm improvement business case, with reference to anonymised example schemes from across the UK.

Finally, [Section 3](#) of this paper outlines potential benefits and constraints of public realm improvements at example locations within South West Hertfordshire.

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<sup>1</sup> For a summary of definitions of urban design see <http://www.udg.org.uk/about/what-is-urban-design>

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## 2. Urban Realm Interventions and Economic Outcomes

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There is no fixed definition of how to produce a business case for investment in the urban/public realm, which can make projects in this area very difficult to develop and assess. However, a business case should be able to show:

- **Why** the investment is required - define what the problem is that the intervention is addressing;
- **What** benefits the investment will deliver – point to specific outputs and wider outcomes; and
- **How** these benefits will come about or be realised – detail the interactions that will lead from scheme outputs to wider outcomes.

In theory, urban realm investments could have objectives in a number of areas including active transport, crime reduction, or improvements to the environment. It is important to link the strategic and economic cases with a reasonable logic that shows how a project or scheme will meet its objectives in practice and how the anticipated outputs will deliver benefits described in the economic case.

### 2.1 The Strategic Case

Urban realm improvements with a transport focus might include provision of new public transport interchanges, new pedestrian and cycling routes, wayfinding, or accessibility improvements.

Current government guidance recommends development of a business case using the five-case model (HM Treasury Green Book, 2011). The five-case model involves justifying investment looking at the strategic, economic, financial, commercial and management cases. The strategic case for a transport scheme is often focussed on reducing travel time and improving connectivity. Therefore, transport schemes often rely heavily on quantifying and monetising travel time savings as part of the economic case.

The strategic case for an urban realm scheme may be more complex than for many transport schemes and requires particular attention to develop a successful scheme. Urban realm schemes seek to improve streets and public spaces in order to meet a number of strategic objectives. The strategic aims of a public realm scheme might include:

- Supporting urban regeneration;
- Improving public health through increased active use of an area;
- Building identity and community cohesion;
- Supporting wider regeneration efforts or economic growth by making an area more attractive for businesses and residents;
- Reducing the impact of noise and poor air quality on residents; and
- Improving public transport networks and interchange.

It is also possible that public realm improvements can have indirect economic benefits by reducing costs or delivering efficiencies. For example, urban realm that more effectively

promotes healthy lifestyles or 'designs-out' crime will have positive indirect benefits on reducing health and policing costs but these can be difficult to measure. Benefits in these secondary areas may support the economy by encouraging more consumption and labour supply in a particular area. However, the effects of this induced investment are not well proven.

The fact that they may not add to net economic output does not necessarily mean that such policies should not be pursued for local social or economic objectives. In many areas, urban realm improvements need to be part of a package of co-ordinated investments to have any impact.

As improvements to the public realm are made for a number of reasons, such schemes are often brought forward as part of larger transport infrastructure, commercial and residential development, or urban regeneration schemes. Funding for a public realm scheme may come from the Local Enterprise Partnership, Department for Transport, or developer contributions, and the strategic case will need to make connections to the wider objectives of the scheme sponsors.

## 2.2 The Economic Case

### 2.2.1 Economic Appraisal for Transport Business Cases

Economic cases following the Department for Transport's WebTAG guidance seek to translate a range of scheme outputs into monetary values, so that they can be compared quantitatively. Some of these outputs may affect business productivity. Stated preference survey methods are used to place a value on time spent travelling for business, and this value is applied to the change in travel time brought about by the scheme.

The economic case may also appraise impacts on businesses in terms of agglomeration, access to labour and non-productive time spent travelling. These impacts are termed "wider impacts" in WebTAG guidance.<sup>2</sup>

However, the economic case also includes the monetised value of welfare impacts which are not directly related to business productivity, such as reduction in travel time for commuting or leisure journeys. These values are again based on stated preference surveys, and are intended to reflect the amount an average user would be willing to pay in order to spend less of their non-working time travelling.

### 2.2.2 Impacts on Land Value

Improvements to the urban realm can make an area more attractive. Urban realm improvement schemes are often delivered as part of regeneration schemes that provide a package of improvements including better transport and higher density housing. In this context, improved urban realm can increase demand for land in the scheme area and support better business performance.

However, independent evidence<sup>3</sup> on isolating the impact of public realm schemes on businesses is patchy at best. Public realm improvements in commercial areas might boost overall business activity but will not necessarily increase jobs or firm profits in the long

<sup>2</sup> WebTAG Unit A2.1 <https://www.gov.uk/government/publications/webtag-tag-unit-a2-1-wider-impacts>

<sup>3</sup> Sources for this section: What Works Centre for Local Economic Growth (Nov 2014), Department for Transport, WebTAG (2016) RTPI Various (2013, 2014, 2015)

[Evaluation of the New Deal for Communities Programme](#), (2005-2011), Centre for Regional Economic and Social Research, Sheffield Hallam University

[Evaluation of the Single Regeneration Budget](#), University of Cambridge

term as firms have to absorb the additional rental costs, and these increases might also displace existing businesses. Furthermore, public realm interventions may help create more attractive places to live, but this can lead to higher housing costs and displace existing residents.

There is a body of research which attempts to quantify the impacts of external factors, including quality of public realm, on land value.<sup>4</sup> Much of this research makes use of “hedonic price regression”. This involves isolating the relative importance of individual characteristics in determining land value, such as proximity to schools, quality of the built environment and crime rates. Improved amenity through urban realm improvements which has followed best practice planning and good urban design principles, can increase land values within the area receiving intervention, showing that urban realm improvement can increase demand and therefore land value locally. However, amenity is one characteristic among many that may affect land value. Factors such as accessibility to schools and commercial centres may have more weight than local neighbourhood centres for example.

Each of the ‘wider impacts’ on business considered by WebTAG can also lead to demand for the intensification of land-use. Because of market failure related to the finite supply of land, redevelopment regeneration policies that fundamentally increase the efficiency of land-use can also deliver economic benefits, but only to the extent that underlying demand exists within that area.

Public realm schemes can increase land values in an area as it becomes more attractive to live or do business there. Hedonic appraisal methods are used within real estate management to estimate future changes in land value, and through this, quantify the increase in demand for land in improved areas. Increases in land value can be used as a measure of the attractiveness of that area, and therefore the success of a public realm scheme.

Any project or scheme that leads to land use changes can also lead to some individuals losing out even if net benefits outweigh individual losses. The benefits of land value increase may disadvantage residents who are not land-owners, and can be difficult for public bodies to capture in order to reduce public investment. The distributional effects of public realm improvement and regeneration should be assessed and considered early on.

The remainder of this section presents three anonymised examples based on real schemes which indicate the elements of a successful business case. Example 1 presents the case for a scheme including public transport interchange along with improved public realm. Example 2 presents the case for a public realm scheme focussed on improved walking and cycling access. Example 3 is a less successful scheme founded upon a weaker business case, and highlights the importance of developing a detailed and rational strategic case for public realm schemes.

## 2.3 Example 1 – Public Transport Interchange

### 2.3.1 Scheme Description

In this example, a new bus and rail interchange is provided in a town of approximately 35,000 residents in the London commuter belt. The scheme is comprised of:

- Circa £1m investment in the urban realm between bus and rail stations and the nearby town centre as a series of linked investments;

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<sup>4</sup> RTPI, 2016 [http://www.rtpi.org.uk/media/1685379/rtpi\\_working\\_paper\\_-\\_investing\\_in\\_planning\\_february\\_2016.pdf](http://www.rtpi.org.uk/media/1685379/rtpi_working_paper_-_investing_in_planning_february_2016.pdf)

- Relocation of bus stops into the town centre from a remote, edge of town centre bus station adjacent to the railway station;
- New, smaller bus interchange at the railway station which enables redevelopment of part of the site into more valuable usage; and
- Reduction in square meterage dedicated to car parking enabling urban realm improvements for pedestrians transiting between the bus and rail station and the town centre.

### 2.3.2 Strategic Case

The scheme allows more efficient use of land by increasing housing density in a highly accessible location.

Rationalisation of bus services using the new interchange improves public transport capacity and connectivity in an already accessible location, providing the transport infrastructure required for high density development.

Access to central London jobs is improved as more people live within walking distance of the station.

These objectives are defined clearly in the strategic case, and clear connections are drawn to local and national policy objectives.

### 2.3.3 Economic Case

The scheme is closely related to urban redevelopment, and developer contributions are secured via a Section 106 agreement or Community Infrastructure Levy which significantly reduce the public funding requirements.

Physical activity in the local population is expected to increase as people take advantage of the improved walking and cycling routes, and also walk more while using public transport. These impacts are assessed and monetised using World Health Organisation's Health Economic Assessment Tool (HEAT)<sup>5</sup>. The scheme provides improved routes for pedestrians and vehicles, leading to a monetisable improvement in road safety. Road safety improvements can be another key driver supporting public realm interventions.

Some increase is expected in bus and rail ridership, reducing demand for private car travel on routes well-served by public transport. The impact of the scheme on travel times is assessed across all modes, including changes to bus service patterns enabled by the new interchange. However, this is unlikely to lead to large benefits unless the scheme includes significant changes to bus services.

## 2.4 Example 2 – Pedestrian Access

### 2.4.1 Scheme Description

In this example, pedestrian infrastructure improvements in a London commuter belt town improve access between the rail station and the town centre, which are separated by a river. A bridge connects the rail station directly to the town centre but is not easily visible, and those unfamiliar with the route are likely to take the longer and less attractive route adjacent to a large heavily trafficked gyratory which encircles the town centre. The scheme includes a circa £10m package of active mode and other investments across the town centre:

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<sup>5</sup> <http://www.heatwalkingcycling.org/>

- Construction of a new, more easily identifiable bridge-shortcut route into the town centre enables pedestrians to avoid following the main road and gyratory route into town and improves connectivity for pedestrians between the rail station and town centre;
- Some reduction in road space to prioritise active and public transport modes and further facilitate non-car journeys into the town centre; and
- Public realm improvements including better signage and wayfinding; landscaping changes to increase visibility, security, and prominence of pedestrian routes.

### 2.4.2 Strategic Case

This scheme is developed in response to a strategic policy switch away from expensive and undeliverable road enhancement schemes. The impact of each scheme element is assessed based on the impacts and outcomes it is logically expected to have.

Increased footfall on pedestrian routes will support businesses along the route, providing more passing trade. Pedestrian routes will be well used into the evening, increasing security through passive surveillance. Security is improved through better lighting and by designing out areas with poor visibility that could encourage crime. Levels of walking and cycling will increase town-wide and smarter choices campaign will exploit the new bridge as a showpiece for a wider campaign to increase levels of active travel.

Demand for low-value land on the town centre side of the bridge will increase, making redevelopment of a number of specifically identified sites viable.

A workplace parking levy is also considered in the town alongside a town centre-wide parking strategy, and the new bridge will provide a prominent example of positive change in policy and investment that could be funded from the parking levy.

Use of the new bridge will be encouraged through better wayfinding, increased capacity for pedestrians and cycles, and making the most of the growth in popularity of the rail station.

The scheme will also contribute to reducing motor traffic in the town centre and separate a key pedestrian route from a major road, reducing the exposure of pedestrians to particulate harmful emissions.

Many of these benefits are difficult to quantify, but the logic is strong and the scheme is well defined.

### 2.4.3 Economic Case

It is difficult to make a quantitative economic case for this scheme as current appraisal methods focus on public transport and highways improvements. However, the increase in walking and cycling trips resulting from the new bridge could be estimated and benefits resulting from increased physical activity calculated using HEAT.

For people who have very low levels of physical activity, even a small amount of additional activity could reduce the risk of a number of severe health conditions. The monetised benefits at a population level associated with reduced mortality can be very significant, and have provided justification for investment in public realm and active travel schemes such as Royal College Street, LB Camden.<sup>6</sup>

<sup>6</sup> Cycle infrastructure project to improve the public realm and increase the safety. Use of HEAT in scheme appraisal is discussed in: <http://content.tfl.gov.uk/valuing-the-health-benefits-of-transport-schemes.pdf>



## 2.5 Example 3 – Town Centre-Wide Improvements

### 2.5.1 Scheme Description

In this example, a circa £30m investment is proposed in a medium sized town which underwent extensive town centre redevelopment in the 1960s. The town centre comprises two large shopping centres. Since the 1960s, the urban realm has experienced a downturn with some buildings falling into decline and the area becoming less attractive to travel through or spend time in.

The scheme comprises re-landscaping of town centre streets using high quality materials and improved street furniture, and the introduction of coherent way-finding signage. The objective is to make the town centre area more attractive to businesses and consumers.

### 2.5.2 Strategic Case

The current problem is not clearly identified. The town believes it will 'lose out' from investment to 'competing' towns without 'better' public realm. However, there is no evidence provided for why the town would lose out, and no definition provided for what 'better' public realm should look like.

It is difficult to identify how the desired public realm investments would have effects on the local economy over and above broader regeneration investment. There is no clear rationale presented for how the investments would add value or improve any secondary areas such as connectivity, redevelopment, health or crime. This example highlights the importance of a strong strategic case which links to multiple cross-cutting policy goals at different levels.

### 2.5.3 Economic Case

Many assumptions were applied to try to produce a positive economic case, and insufficient attention is paid to developing the strategic case for the scheme. Ultimately, the impact of a general refresh is very difficult to quantify. A clearer statement of the scheme objectives, and outputs aligned with these, would enable a wider range of benefits to be realised. There should be an assessment, even if qualitative, of the logic for the investment.

## 2.6 Reflection on Scheme Examples

### 2.6.1 The benefits of more efficient land use

Certain public realm interventions can increase land value by reducing negative externalities or providing wider economic benefits to an area. In Example 2 above, increased footfall via an existing pedestrian bridge was proposed to boost land values for depressed commercial land town-side of the bridge through increased footfall. This benefit would need to be weighed against loss of footfall for businesses on alternative routes, to prove the benefit is net-additional. However, as the alternative route is less suitable for pedestrians and follows a main road via a gyratory system, it is logically acceptable that this would be a genuine net connectivity benefit.

Other types of scheme have the potential to increase land values and attract new development investment by removing the negative externalities caused by vehicular traffic. This might be the case for pedestrianisation where on-road parking or vehicle access is not immediately essential to business.

Part of the rationale for Example 1 was that increased active transport use would reduce the need for car parking. It was recognised that some current parking provision, a relatively inefficient land use, could be put to more valuable use. As a further example, TfL is currently turning many highway gyratories in London<sup>7</sup> into two-way working systems, creating more pleasant urban environments while also freeing up segments of former carriageway land for other uses.

Other mooted policies such as tunnelling roads and providing flyovers have a very obvious and direct effect on freeing up land and removing the negative externalities of severance and blight caused by major roads.

Such policies of course need to be weighed against any negative impact they might have on other users of the built environment, such as car users who may face increased traffic. Investments in active transport, for example, that encourage walking or cycling by providing dedicated lanes or spaces at the expense of motor vehicles may not necessarily lead to increased traffic if motor vehicle traffic is reduced by people switching modes, but these effects should be carefully analysed.

Capturing value is often one of the hardest components of these cases, and becomes more of a challenge the higher the cost of the scheme. These are often not investments where the beneficiaries can feasibly or easily be made to pay for the cost of the interventions. For example, interventions that improve the environment or reduce crime will have personal benefits to individuals but will also reduce costs of health provision and tackling crime. Savings in these sectors cannot easily be recouped by the investing organisations.

Urban realm investments or land-value improving investments, such as the removal of gyratory systems in London, are also likely to deliver private windfalls to landowners in the vicinity of the investment created by increases in land values. These may deliver long term exchequer benefits via stamp duty or business rates, but cannot be captured in full at the individual level. Innovative mechanisms like the Crossrail Levy<sup>8</sup> in London on businesses expecting to benefit from increased footfall are good examples of attempts to capture and ring-fence these kind of benefits.

### 2.6.2 Good urban design

Good urban design that creates 'attractive' places can create value by increasing the demand from individuals to visit, work or live in these places. This is evidenced in hedonic studies<sup>9</sup> which show increased demand for land in attractive places over less attractive places.

However, the extent to which these schemes actually deliver benefit to the economy is questionable, other than through increasing land values. This is because they do not tend to have tangible impacts on how the economy functions. In particular, they do not deliver any defined wider benefits. That is, 'attractive' places in and of themselves do not necessarily increase connectivity between businesses or individuals, do not necessarily make the labour market more efficient, and do not necessarily boost competition between firms.

For these reasons, the extent to which increases in demand are net-beneficial is debatable, as they will often be drawing in demand from less attractive locations at their expense. At a

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<sup>7</sup> TfL, 2014, <https://consultations.tfl.gov.uk/roads/elephant-and-castle/>

<sup>8</sup> Greater London Authority, 2012,

[https://www.london.gov.uk/sites/default/files/crossrail\\_funding\\_spg\\_updated\\_march\\_2016v2.pdf](https://www.london.gov.uk/sites/default/files/crossrail_funding_spg_updated_march_2016v2.pdf)

<sup>9</sup> RTPI, 2016 [http://www.rtpi.org.uk/media/1685379/rtpi\\_working\\_paper\\_-\\_investing\\_in\\_planning\\_february\\_2016.pdf](http://www.rtpi.org.uk/media/1685379/rtpi_working_paper_-_investing_in_planning_february_2016.pdf)

local level, the need to compete for demand from other places may be sufficient as policy justification.

It is sometimes hypothesised that these kinds of schemes might deliver wider indirect benefits such as reducing crime or improving health by encouraging people to use urban spaces, although there is limited evidence for this effect at present. They may encourage consumption or labour market activity by encouraging people to spend time in the urban environment, although this is also hard to quantify.

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## 3. Scheme Concepts for South West Hertfordshire

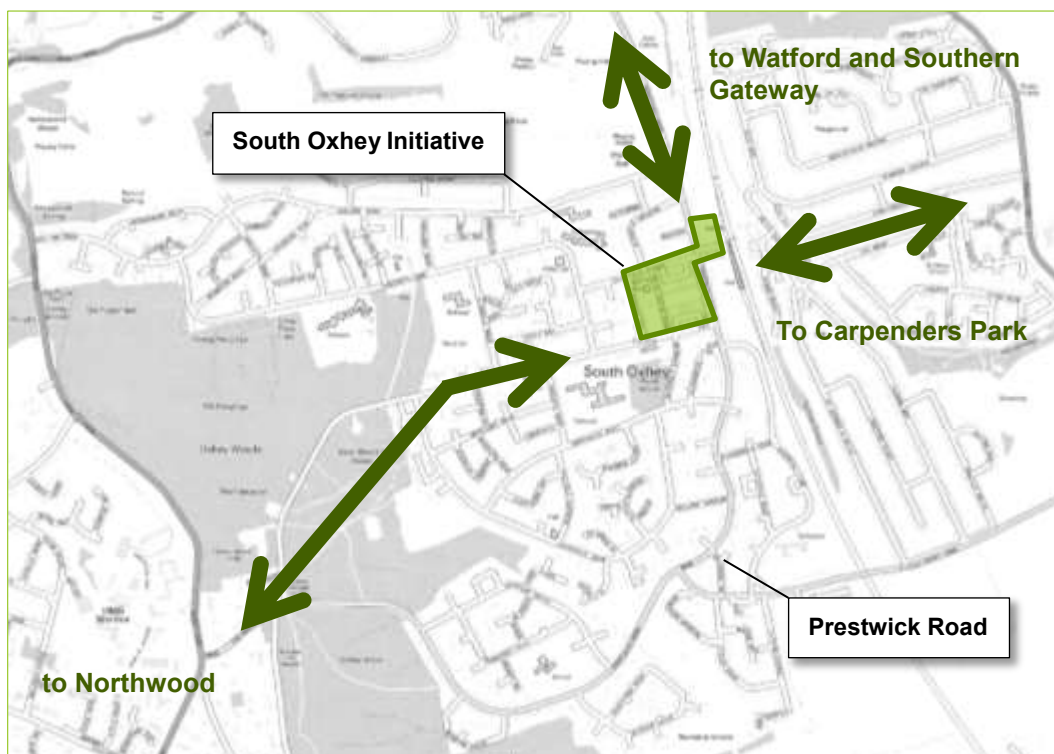
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This section of the paper outlines potential benefits and constraints of urban realm improvements at example locations within South West Hertfordshire. These locations are not necessarily the focus of attention within the Growth and Transport Plan, but have been selected in order to provide local examples of some of the issues and concepts discussed earlier in this paper.

### 3.1 South Oxhey and the South Oxhey Initiative

The area of South Oxhey immediately to the west of Carpenders Park station, in Three Rivers District, is subject to a major £172m redevelopment scheme, the South Oxhey Initiative<sup>10</sup>. The regeneration will include more than 500 homes in a mix of private sale, shared ownership and affordable housing, as well as 55,000 sq ft of retail space and enhanced public realm.

**Figure 1 South Oxhey Context**



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The aims of the regeneration scheme are to:

- Renew the economic vitality of the South Oxhey and reduce the proportion of potential total retail spend spent outside of the area;
- Create and safeguard employment in retail and construction; and
- Create public spaces that support social cohesion and support community health and wellbeing.

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<sup>10</sup> Three Rivers Council <http://www.threerivers.gov.uk/news/work-starts-on-172m-regeneration-scheme-in-south-oxhey>

The scheme will cover the existing centre of South Oxhey, replacing the existing residential and retail units with higher density development close to Carpenders Park London Overground station.

**Figure 2 South Oxhey Marketplace – Existing**

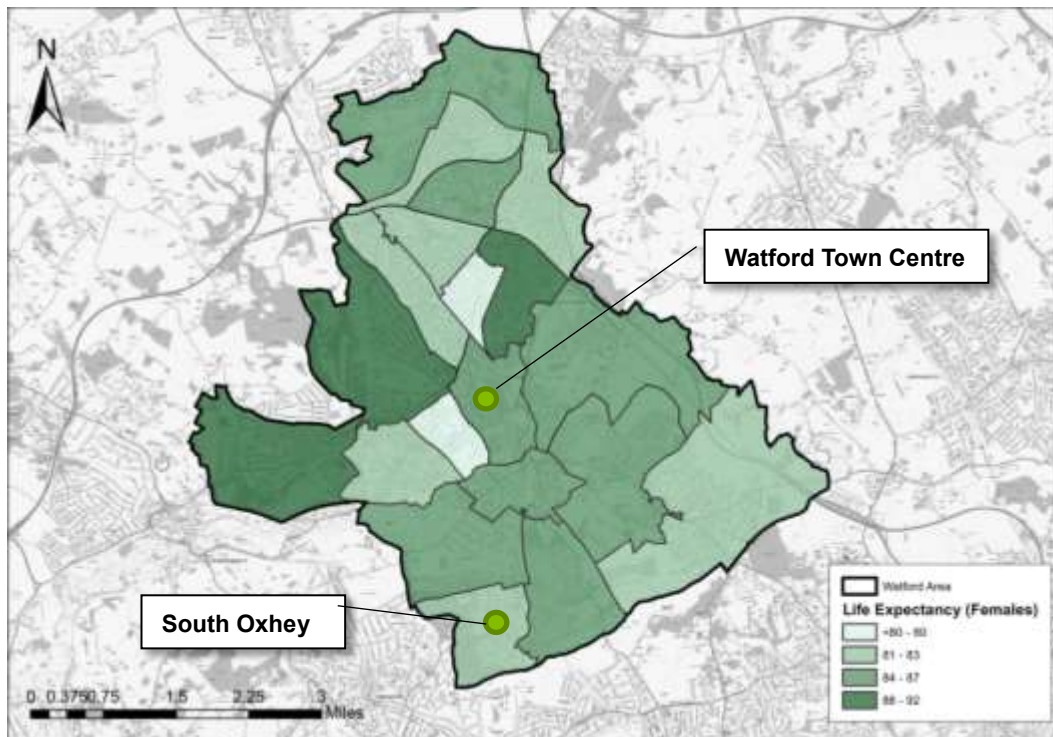


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South Oxhey, as part of the Northwick constituency, has above average levels of unemployment (12% compared to 8% nationally). Life expectancy is low compared to surrounding areas, as show in Figure 3 and Source: Census 2011 Contains OS data © Crown copyright and database right 2017

Figure 4.

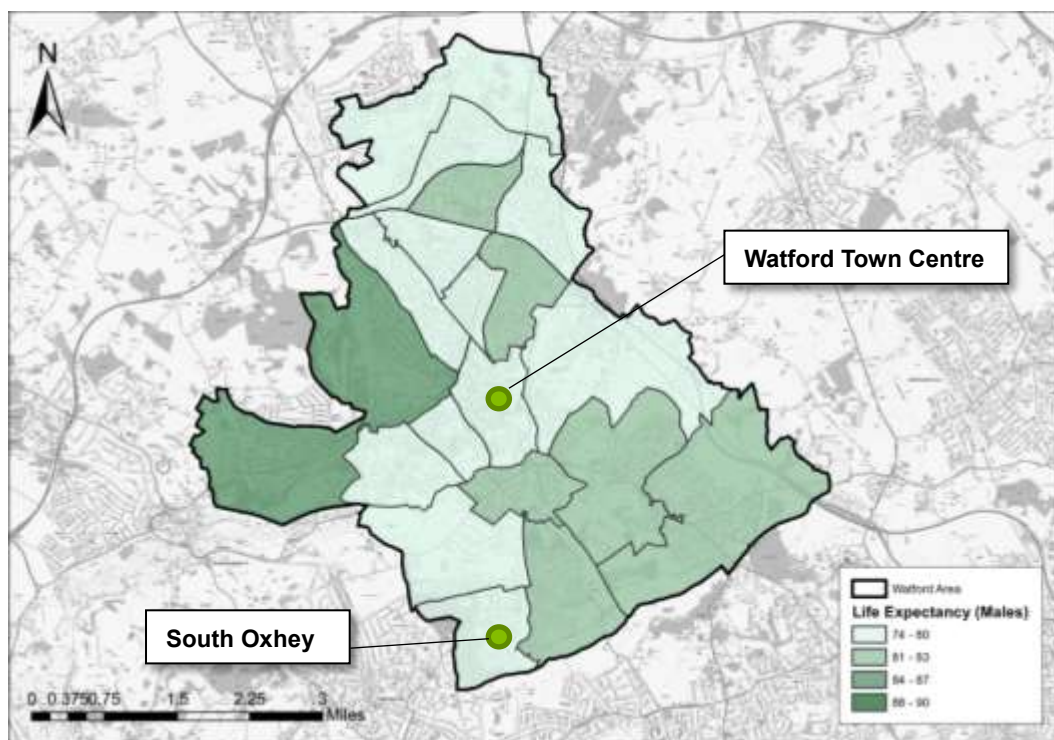
**Figure 3 Life expectancy in Watford (Females)**



Source: Census 2011 Contains OS data © Crown copyright and database right 2017



**Figure 4 Life expectancy in Watford (Males)**



Source: Census 2011 Contains OS data © Crown copyright and database right 2017

South Oxhey has good access to Carpenders Park Rail Station on the London Overground between London Euston and Watford Junction (DC Line) (the two areas are separated by the railway). Average travel times from this station are 13 minutes to Watford Junction and 34 minutes to Euston.

### 3.1.1 Scheme Concept

The South Oxhey Initiative represents a major investment in the area, and an opportunity to build on the revitalisation of the neighbourhood centre by improving transport connectivity and public realm on corridors connecting South Oxhey to surrounding neighbourhoods. Life expectancy in South Oxhey is also lower than in surrounding areas, with a stark contrast to Carpenders Park on the eastern side of the railway line.

Change requiring people to move their home or place of work is a key opportunity for influencing travel mode choice. Increasing physical activity, for example through active travel, is strongly correlated to reduced mortality through chronic illness.

The scheme concept proposed here is to develop a multimodal corridor connecting Oxhey Park to Northwood via South Oxhey along Prestwick Road, Eastbury Road and Watford Road. A segregated walking and cycling route is already provided along part of Prestwick Road. The scheme proposes a high quality walking and cycling route connecting the London Overground Line at Carpenders Park to the Metropolitan Line at Northwood. This route would be radial to the public transport routes into and out of London.

Improvements in public realm will also include improved information at bus stops, and wayfinding signage indicating routes and journey time for walking and cycling.

### 3.1.2 Strategic Case

The South Oxhey Initiative seeks to revitalise South Oxhey as a neighbourhood centre and make the most of its good transport connections. A key element of the scheme is the

creation of public spaces which support the needs and desires of the local community. The strategic case for further investment in public realm through the proposed active travel corridor should be built on local policy and responses to public consultation on the regeneration scheme.

Additional investment in a high quality active travel corridor would build upon the positive momentum and potential for change generated by the South Oxhey Initiative redevelopment scheme. The new walking and cycling connection would improve access to the new neighbourhood centre of South Oxhey, as well as Carpenders Park station and surrounding areas including Oxhey, Eastbury and Northwood.

Together with an effectively targeted smarter choices campaign, this is expected to result in a modal shift towards walking and cycling, and an increase in physical activity among the local population. In this way, the transport and public realm improvements are aligned with broader efforts to increase life expectancy and reduce the burden on health services. In particular, the scheme would provide a safe route for pupils to access schools in South Oxhey on foot, by bike and by scooter. Reduced motor traffic will improve road safety in this area, in particular around school sites.

Improved information and wayfinding measures would also support a shift towards public transport, walking and cycling. Although outside of the Greater London area, reference is made to TfL's *Improving the Health of Londoners Transport Action Plan*<sup>11</sup> for guidance on how street design can impact health and wellbeing.

Opportunity for health improvements, improved connectivity of non-car users, and land value uplift may increase investment in the built environment, but care should be taken to ensure that the scheme has the support of the existing local community.

### **3.1.3 Economic Case**

The health impacts of forecast increases in physical activity form the core of the economic case, and are assessed using the HEAT tool. However, while the scheme improves multi-modal connectivity, it is unlikely to provide a significant reduction in travel time to enough users for it to be justified on the value of travel time savings. For this reason, it is important that the transport and public realm elements of the scheme are mutually supportive and the strategic case is strong.

## **3.2 Bushey High Road**

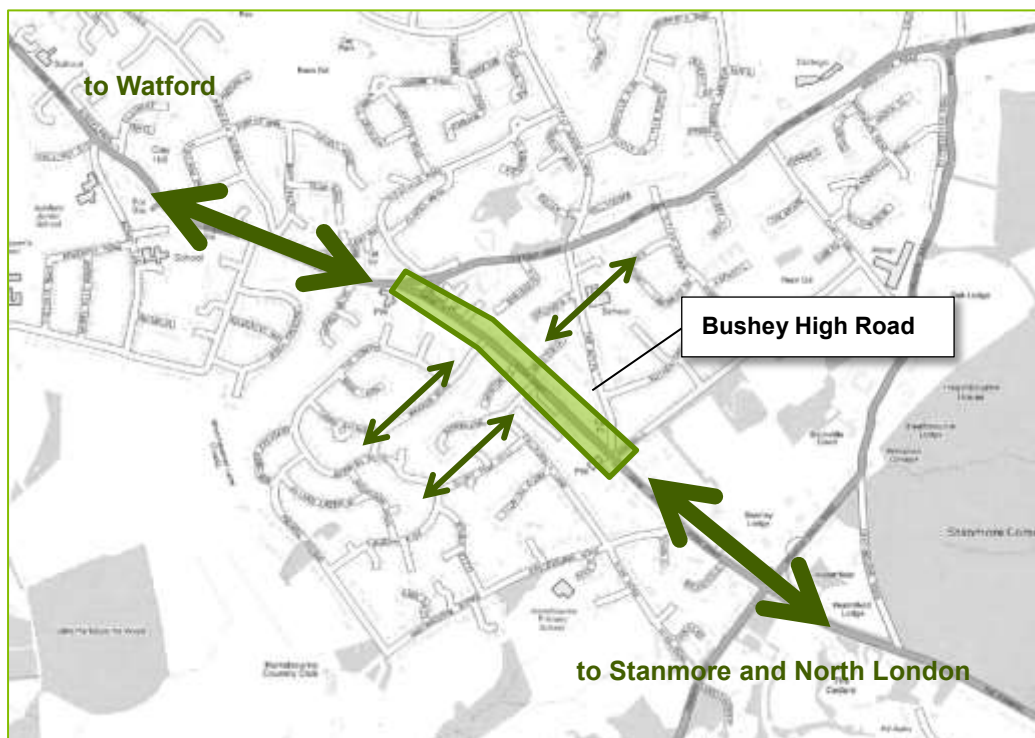
This third scheme concept involves public realm improvements to the neighbourhood centre on High Road in Bushey, with the scope of the urban realm scheme extending from the junction with Windmill Lane northwards to Elstree Road.

High Road forms part of the main highway corridor connecting Watford with Stanmore and wider north London, passing beneath the rail lines at Bushey Arches. Bushey Arches is well recognised major key pinch point and is heavily congested. High Road is also heavily trafficked, with implications for health and social wellbeing in the local area. Congestion also limits the attractiveness of the area for economic development, and there is a wider issue regarding access to Watford from areas across a belt of northern London including Stanmore, Barnet and Enfield.

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<sup>11</sup> Available at: <http://content.tfl.gov.uk/improving-the-health-of-londoners-transport-action-plan.pdf>

**Figure 5 Bushey High Road Context**



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While High Road forms part of a key highway route into Watford, providing additional highway capacity along this route is likely to be very difficult as it is densely developed along its length and Bushey Arches is one of only a few access points under the London Overground line into Watford town centre.

Watford is an increasing importer of labour from outside its area with job density increasing to 1.4 jobs for every 16-64 year resident by 2014. This suggests that Watford is becoming more dependent on the surrounding areas for the supply of its labour as it becomes more of an economic node.<sup>12</sup> Without further highway capacity improvements, congestion may reach a point where future development within Bushey relies on improved public transport connections to be attractive to developers.

**Figure 6 Bushey High Road: Commercial section**



<sup>12</sup> Based on ONS population and employment estimates.



### 3.2.1 Scheme Concept

Public realm improvements are proposed to ensure that the neighbourhood centre remains attractive against competition from nearby superstores, maintain employment in local businesses and maintain community function of the neighbourhood centre. High Road is unlikely to be the focus of a major regeneration scheme similar to the South Oxhey Initiative. Among other factors, Bushey does not have a rail or underground station, and is therefore less attractive for high density redevelopment.

### 3.2.2 Strategic Case

The strategic case for this scheme rests on the assumption that capacity and reliability of the transport network places a constraint on economic development in Bushey, and its impacts on health and wellbeing are not acceptable.

The network operates at capacity under existing conditions based on high car use, and land use presents a major barrier to highway capacity improvement. It is unlikely that a strategic case based on journey time reduction could be built for a major shift towards public transport use, without more radical and politically sensitive and less acceptable restraints on private vehicle use.

However, there is a need to achieve a modal shift towards public transport and active travel along this route, and this may be achieved by improving bus journey times, frequency and service quality, as well as walking and cycling routes. A strategic case could be made for a combination of measures aiming to maintain the attractiveness of Bushey, and the High Road neighbourhood centre in particular by encouraging modal shift, and improving public realm as part of wider investment in walking and cycling routes.

Therefore, any public realm improvements at High Road would need to be justified as supporting wider policies that make space efficient transport modes such as public transport, walking and cycling more attractive than private car use.

Within such a policy context, public realm improvement at Bushey High Road could reallocate space within the highway boundary for walking and cycling, and provide cycle parking next to the retail units. As in South Oxhey, wayfinding signage could be used to direct cyclists onto quieter routes and indicate destinations within walking distance.

A notable step change would be required in bus service provision. Bus shelters providing real time information and protection from weather conditions can encourage use. Ultimately, bus priority may be required along the corridor in order to improve journey time and reliability.

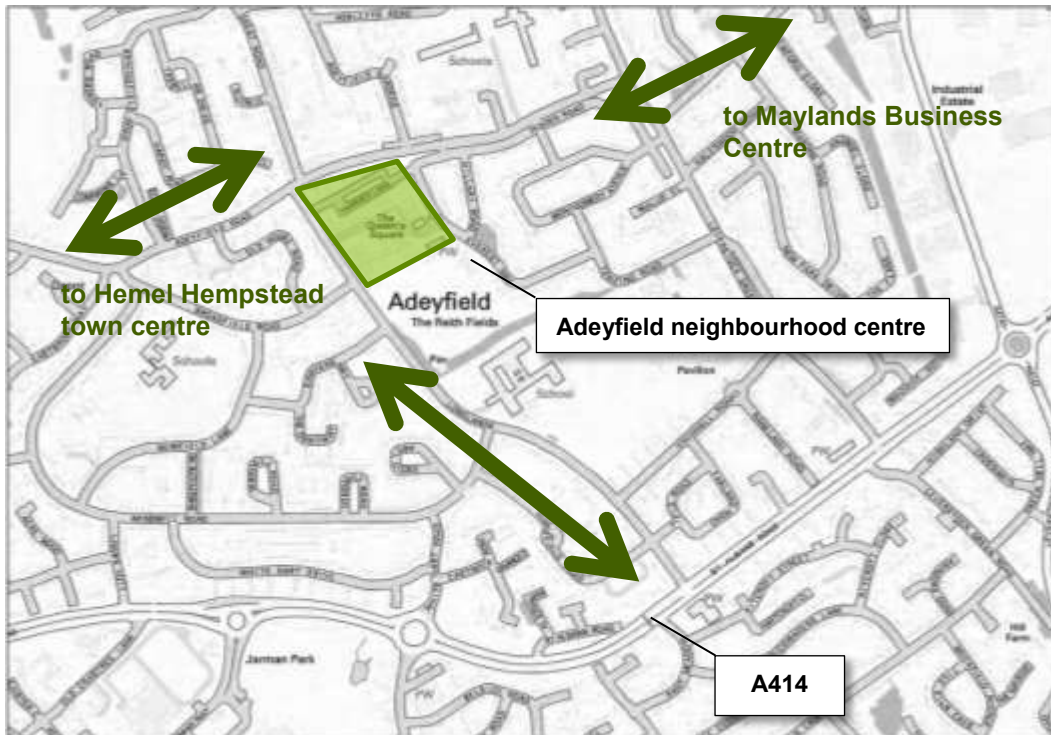
### 3.2.3 Economic Case

For this example it is assumed that the economic case for a wider scheme to manage travel demand in Watford and encourage modal shift is made successfully in economic terms, with an emphasis on assessing to what extent further high value commercial development may be dependent on measures to reduce congestion on routes into Watford. However, other areas of the strategic case are more difficult to monetise and the absence of private developer investment means that costs cannot be offset against S106 or CIL contributions.

### 3.3 Adeyfield – Hemel Hempstead

Adeyfield is a neighbourhood located in the east of Hemel Hempstead between the employment centres of Maylands Business Centre and Hemel Hempstead Town Centre.

Figure 7 Adeyfield Context



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Retail units are arranged around a large ground level car park. The wider area is characterised by suburban semi-detached houses, many of which have off-road parking. The percentage of journeys made as the driver of a private vehicle within Hemel Hempstead is very high, and the built environment reflects and reinforces this trend. Retail units in Adeyfield compete with larger supermarkets around the town, in particular at a large superstore to the south of the A414 (at Jarmans Park).

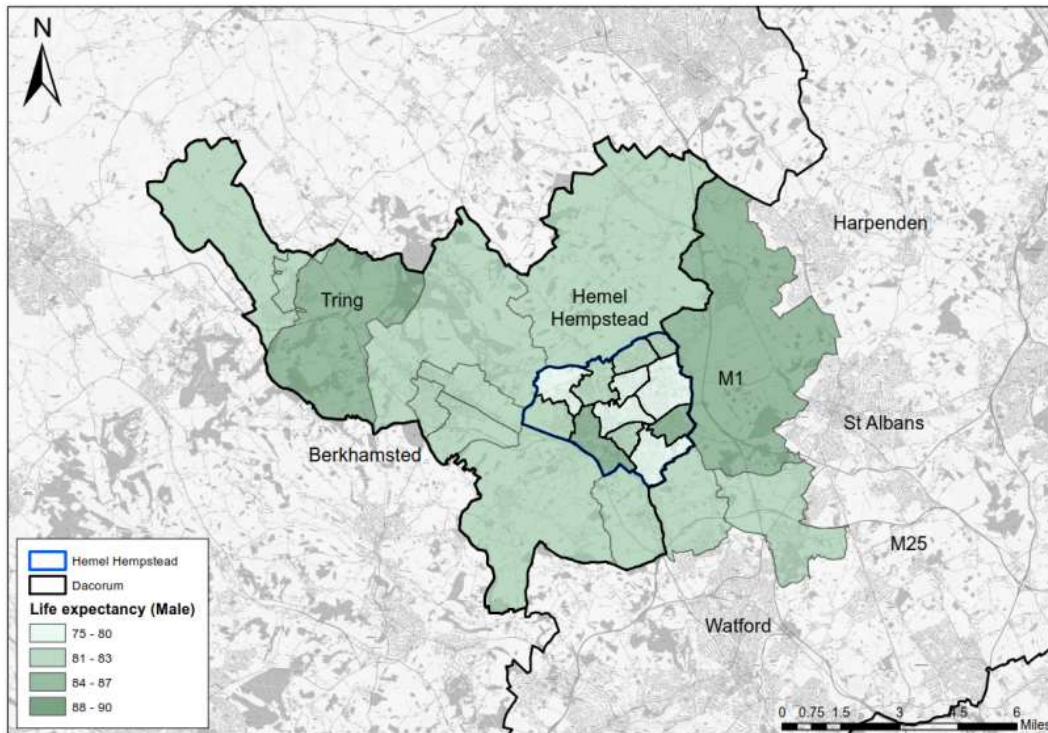
Figure 8 Adeyfield Neighbourhood Centre



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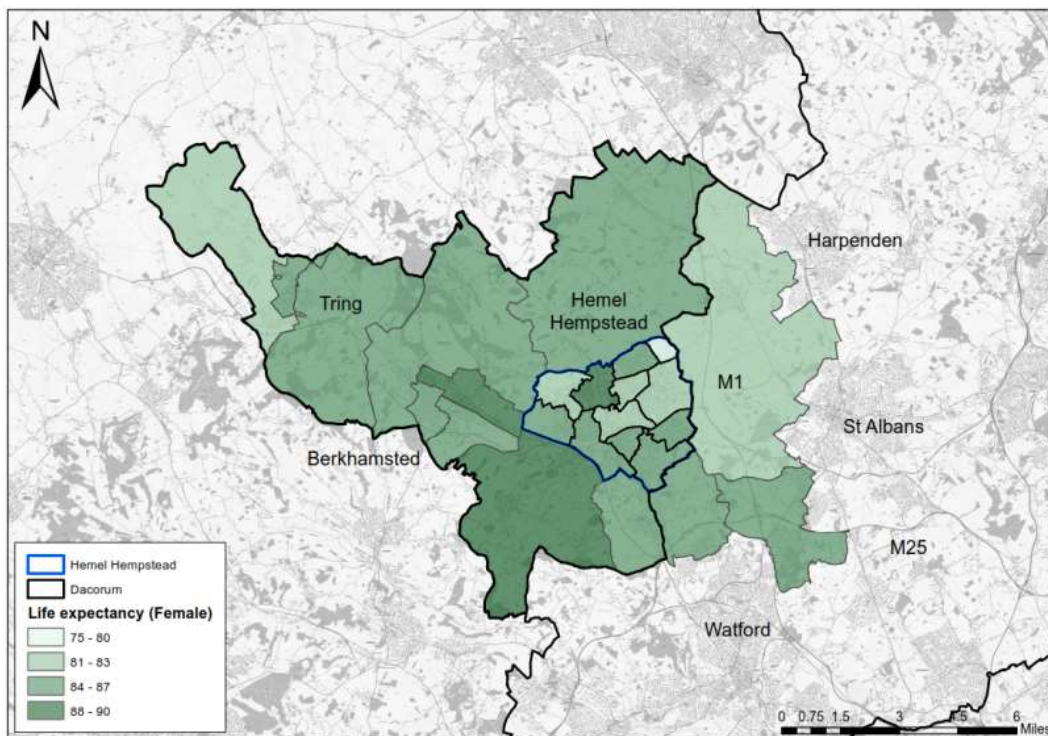
Similar to the South Oxhey case study, life expectancy is lower in Adeyfield compared with surrounding areas. The A414, running to the south of Adeyfield, is a major thoroughfare dissecting the town and regularly experiences congestion. The high proportion of short-distance trips made by car contributes to congestion within Hemel Hempstead.

**Figure 9 Life Expectancy in Hemel Hempstead (Male)**



Source: Census 2011 Contains OS data © Crown copyright and database right 2017

**Figure 10 Life Expectancy in Hemel Hempstead (Female)**



Source: Census 2011 Contains OS data © Crown copyright and database right 2017

Adeyfield's location means that most dwellings are within 30 minute walk or 10 minute cycle of both Hemel Hempstead town centre and the Maylands business park area, two key trip attractors. Hemel Hempstead railway station is approximately 2 miles to the south west, and is currently served by a half-hourly bus service. Currently access to the Adeyfield shopping centre is focused towards the car driver and observations suggest that limited visibility/direction is given for pedestrians and cyclists.



### 3.3.1 Scheme Concept

The scheme concept involves improvement of the public realm around Adeyfield neighbourhood centre as part of a developer-led regeneration scheme. The aims of the regeneration are to:

- Provide new homes and commercial units within reach of Maylands Business Centre, Hemel Hempstead Town Centre, and the rail station.
- Create public spaces that improve quality of life, enhance community health and physical wellbeing.
- Increase population within the catchment of local businesses to improve business.

The public realm scheme involves a reduction in the level of car parking provided at the neighbourhood centre. Pedestrian and cycling access is improved as part of wider project to establish an active travel corridor from Maylands, through Adeyfield and Hemel Hempstead Town Centre, to the rail station.

Regeneration of the centre of Adeyfield increases population density and along with large scale development in the wider area means that a bus service can be maintained providing access to the town centre and railway station at a 10 minute frequency during peak hours. The public realm improvements include wayfinding measures and improved waiting facilities with real time information.

### 3.3.2 Strategic Case

The strategic case for this scheme is closely aligned with the aims of the example regeneration project discussed in section 2. Similarly to South Oxhey, the aim is to encourage use of active travel and public transport. However, this scheme aims specifically to reduce the number of short distance trips made by car in order to reduce congestion accessing the Maylands area, Hemel Hempstead Town Centre, and destinations to the north and south of Hemel Hempstead accessible by rail.

In addition, the scheme aims to increase the mode share for walking and cycling within Adeyfield, and help to address the comparatively lower life expectancy in this area. The strategic case is underpinned by a study of commuting trip destinations from Adeyfield, and of travel patterns for shopping and leisure trips.

### 3.3.3 Economic Case

Roughly 43% of adults in England do not meet the recommended 150 minutes of exercise per week, as recommended by the NHS. According to the 'Dacorum Health Profile'<sup>13</sup> released in 2016, only 54% of adults are physically active, which is roughly 4 percent lower than the national average. On top of this, and as previously stated, the life expectancy for both men and women is below average in this particular area. This highlights the importance of schemes such as this, which focus on community wellbeing and engagement. The economics case for this scheme focuses on increasing physical activity by enhancing and encouraging footfall, cycling and use of public areas. Benefits are calculated using HEAT.

In addition to the above benefits, the local community can also expect to see an improvement in pedestrian safety and increased business investment.

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<sup>13</sup> <http://fingertipsreports.phe.org.uk/health-profiles/2016/e07000096.pdf>

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## 4. Conclusion

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This paper highlights the breadth of benefits which may be obtained from a scheme to improve urban realm. These include:

- Supporting urban regeneration;
- Improving public health through increased active use of an area;
- Building identity and community cohesion;
- Supporting wider regeneration efforts or economic growth by making an area more attractive for businesses and residents;
- Reducing the impact of noise and poor air quality on residents; and
- Improving public transport networks and interchange.

However, the anonymised examples discussed in section 2 of this paper as well as the conceptual intervention locations considered in section 3, also illustrate the necessity for urban realm improvements to be packaged along with changes to land use and transport networks in order to achieve more overarching, cross-cutting aims.

Therefore, when developing a business case for an urban realm scheme it is important to ensure that the strategic case is clearly argued and that there is a clear logic leading from scheme outputs, for example changes to landscaping and highway layout, to the anticipated outcomes on physical health, community cohesion, and the performance of transport systems.

In addition to a strong strategic case, there are a number of tools which may be used to build an economic case for the scheme, depending on the scheme type and the problem which it addresses. These include economic appraisal using transport modelling in line with WebTAG, and the World Health Organisation's Health Economic Assessment Tool, which can be used to help quantify and support the case for investment.

The paper reinforces the need for a package-led approach to developing transport intervention options as part of the Growth and Transport Plan. The approach to investigating underlying causes for challenges, and identifying the relationships between challenges, can lead to the development of packages of linked, complementary projects or schemes, particularly (although not exclusively) in cases where the case for investing in an individual project or scheme may be weak in isolation.

In the case of public realm, this paper has highlighted the potential difficulties in building a case for investment. It is not the objective of the Growth and Transport Plan to identify locations for regeneration, however where there may be a case for renewal in the streetscape, particularly in suburban locations where such investments tends not to be invested as a priority, it may be beneficial to identify other drivers for such investment.

This could include a road safety initiative, or through the package-led approach a suite of complementary projects or schemes such as a new cycleway or bus service enhancement, could help strengthen case for investing in public realm.

