



Oxfordshire Plan 2050 Team

OXFORDSHIRE PLAN 2050

Health Impact Assessment for Reg 18 (b)



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WSP

The Forum
Barnfield Road
Exeter, Devon
EX1 1QR

Phone: +44 1392 229 700

Fax: +44 1392 229 701

WSP.com



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1 INTRODUCTION

1.1 BACKGROUND

- 1.1.1. The four district authorities of West Oxfordshire, Cherwell, South Oxfordshire and Vale of White Horse along with Oxford City Council, and with the support of Oxfordshire County Council, have undertaken a commitment to produce a joint statutory spatial plan (JSSP), known as the Oxfordshire Plan 2050. The Oxfordshire Plan 2050 will provide an integrated strategic planning framework and evidence base to support sustainable growth across the County to 2050.
- 1.1.2. In order to reflect the strong and growing evidence base that suggests that the built environment, transport and housing have a profound impact on health, the Oxfordshire Growth Board are seeking to embed healthy place shaping principles within the heart of the Oxfordshire Plan 2050.
- 1.1.3. The Oxfordshire Plan 2050 Team intend to test the Oxfordshire Plan 2050 against these healthy place shaping principles and have tasked WSP to undertake a Health Impact Assessment (HIA) of the Oxfordshire Plan 2050. The HIA will assess the Oxfordshire Plan 2050 against a set of relevant health determinants, and where necessary provide recommendations and mitigations to ensure that opportunities to improve health are maximised and adverse health impacts are either reduced or eliminated.

1.2 THE HIA PROCESS

- 1.2.1. The purpose of a HIA is to identify and assess both the beneficial and detrimental effects of a plan, and to make recommendations to enhance the potential benefits while minimising the potential detrimental effects and reduce health inequalities where possible.
- 1.2.2. Established best practice¹ for HIA applied within the UK sets out several criteria, including the establishment of an HIA steering group. This is considered a requirement for the development of a focussed, relevant and transparent assessment.
- 1.2.3. The HIA process includes, but is not limited to:
 - Screening: selecting plans for assessment.
 - Scoping: identifying potential health issues and the extent of the study including establishing a Steering Group and agreeing the Terms of Reference.
 - Assessment: rapid or in-depth appraisal of potential health impacts using available evidence, usually from various sources, and, where relevant identifying the option(s) likely to achieve optimal health gain.
 - Recommendations: framing, and reporting, of conclusion and recommendations to remove/mitigate negative impacts upon health and enhance positive effects/ gains.

¹ A Review Package for Health Impact Assessment Reports of Development Projects, Mette Winge Fredsgaard, Ben Cave, Alan Bond, Ben Cave Associates Ltd, Leeds, UK, 2009

- Management: monitoring and evaluating processes and outcomes of the HIA and providing feedback to influence continuing review of the project.

1.3 PROGRESS TO DATE

- 1.3.1. Screening for potential health impacts was undertaken in February 2020. This identified vulnerable groups and key determinants of health and the potential effect of the JSSP. This helped to set the context of the HIA Scoping Report.
- 1.3.2. Scoping was undertaken in March 2020. The HIA Scoping Report defined the area of influence for the HIA, identified the potentially affected communities, the key health issues and developed the strategy for undertaking the required data collection. Specific tasks completed at this stage included:
 - Open dialogue with the HIA Steering Group to identify and agree which health determinants will be used in the assessment.
 - High level desk top studies of existing health information, gap analysis and literature review.
- 1.3.3. The Local Plan is currently at the Regulation 18 (b) stage. This part of the Plan outlines the spatial strategy options on which Oxfordshire are seeking views. These include five high level spatial options:
 - **Option 1:** Focus on opportunities at larger settlements and planned growth locations.
 - **Option 2:** Focus on Oxford-led growth.
 - **Option 3:** Focus on opportunities in sustainable transport corridors & at strategic transport hubs.
 - **Option 4:** Focus on strengthening business locations.
 - **Option 5:** Focus on supporting rural communities.
- 1.3.4. This report will assess the potential health impacts that each of the five options above could have on the key determinants of health identified during the scoping stage, and identify where any vulnerable groups could be more likely to experience a disproportionate effect as a result of a particular option.

2 SUMMARY OF BASELINE

2.1 SUMMARY OF BASLINE

2.1.1. The baseline studies undertaken in the HIA Scoping Report highlighted the following current health issues within the study area:

POPULATION DEMOGRAPHICS

- Within the study area, there is a rapidly growing and ageing population, with a large percentage of the population within the age range 65+ years old;
- Contrary to the county average, Oxford City has a disproportionate number of people aged between 20-24 years, indicative of its large student population;
- Oxfordshire's population has a lower proportion of people describing themselves as belonging to a minority ethnic group, with a smaller percentage of Black and Minority Ethnic population within the study area than at the regional and national level; and
- Within the study area, ex-offenders lack the support they require to rehabilitate and integrate back into the community.

ECONOMY AND EMPLOYMENT

- Although Oxfordshire has a highly qualified and skilled workforce, it is still unable to meet the demands for skilled positions. This is compounded by low unemployment and inactivity rates, make it challenging for Oxfordshire's employers to recruit suitably qualified staff;
- Despite high levels of employment and qualifications, there are small pockets of the population in the county who are long-term unemployed;
- Average earnings in Oxfordshire are higher than the national average, however, in some districts, such as Cherwell, these fall well below the national average; and
- With the exception of Oxford City, all districts in Oxfordshire have a higher gender pay gap than the national average.

SKILLS AND LEARNING

- There is evidence of inequalities in education within the county, with disparities across the county with regards to Attainment 8; and
- Areas of long-term unemployment in the county are concentrated in particular localities, often where school performance is also struggling.

HOUSING

- Housing affordability in the county is low, with Oxford being the least affordable place outside of London to buy a home in the country;
- Despite an overall drop in fuel poverty in the county, levels of fuel poverty in Oxford have remained significantly worse than the national average since 2017; and
- Homelessness is particularly acute within the County, with the loss of private rented accommodation being the primary cause.

TRANSPORT AND ACCESS

- Outside of Oxford City, Oxfordshire appears rural but still has pockets of densely populated communities;

- There are limited transport options outside of Oxford City, which means there is a high reliance upon private vehicles, which may impact on residents' access to jobs and education, training and employability services;
- A greater number of people are commuting into the county than out of the county; and
- Poor east-west connectivity means that rural single-carriageways often become congested.

HEALTH PROFILE

- A high number of carers in the county are aged over 65, some of which have their own health needs;
- Over half of carers stated that the caring had caused 'some' or 'a lot' of financial difficulties;
- There are some disparities in life expectancies across the five local authorities;
- The percentage of adults classified as overweight or obese in Cherwell exceeds the national and regional averages;
- The percentage of physically active children in South Oxfordshire is lower than the regional and national averages;
- According to Age UK's Loneliness Maps², a high number of the over 65s are at high or very high risk of loneliness;
- Hospital admissions due to alcohol consumption for both adults and under 18s is significantly higher than the national average in both Cherwell and Oxford City;
- Oxfordshire has higher levels of residents living with cancer, dementia, cardiovascular disease, depression and osteoporosis than the national average; and
- Depression and anxiety among social care users in Oxfordshire is higher than the national average.

DEPRIVATION

- Though, overall levels of deprivation in Oxfordshire are low, it is present in isolated pockets of the population;
- There are higher levels of deprivation associated with the barriers to housing domain, highlighting the need for more affordable housing; and
- There are a number of lower super output areas³ (LSOAs) in both Oxford City and Cherwell where income deprivation is affecting children and older people.

COMMUNITY SAFETY

- Between 2016-17 and 2017-18, there was an increase in both crime rates and in the severity of crime in each of Oxfordshire's districts; and
- The number of people killed or seriously injured on the roads in Oxfordshire is higher than the national average, significantly so in West Oxfordshire.

² Age UK, Loneliness Maps, 2016 [online] available at: <http://data.ageuk.org.uk/loneliness-maps/england-2016/>

³ Lower Super Output Areas (LSOA) are a geographic hierarchy designed to improve the reporting of small area statistics in England and Wales. These are comprised of a mean population of 1,500 and a minimum threshold population of 1,000.

2.2 VULNERABLE GROUPS

2.2.1. The baseline study presented in the HIA Scoping Report has highlighted the following vulnerable groups:

- Gender (specifically Maternity and ante-natal)
- Ethnicity and race
- Age – Infants (0-5)
- Age - Children (6-10)
- Age - Young People (11-17)
- Age – Adults (18-74)
- Age – Older People (75+)
- Disability
- Long-term health conditions (including addiction)
- Unemployed/Workless/Low paid and/or insecure employment
- Refugee/Asylum Seekers
- Homeless (No fixed abode)
- Military and Veterans
- Criminal Justice System (ex-offenders and families)
- Gypsy and Travellers

2.3 KEY DETERMINANTS OF HEALTH

2.3.1. The HIA Scoping Report identified the following key determinants of health to be assessed by a HIA of the Oxfordshire Plan 2050:

- Housing and Homelessness
- Travel and Transport
- Access to Services, including;
 - Employment,
 - Healthy food,
 - Greenspace,
 - Sports and recreation, and
 - Arts and culture
- Economy and economic growth
- Skills and education
- Community severance and social isolation
- Physical Activity
- Air quality
- Flood risk and climate resilience
- Green infrastructure, nature, townscape and tranquillity, including;
 - Natural capital

3 SPATIAL OPTIONS

- 3.1.1. Each of the five proposed spatial options identify how new housing, employment and other development could be distributed across the county, as well as seeking opportunities for environmental enhancement and infrastructure improvements.
- 3.1.2. At this stage in the Plan preparation process, individual spatial strategy options are not being identified. It is unlikely that just one of the five spatial options will be taken forward in isolation, instead the Regulation 19 Plan will comprise of a blend of components from more than one of the spatial options presented at the Regulation 18 (b) stage.
- 3.1.3. The five proposed spatial options have been described in further detail below.

3.2 OPTION 1: FOCUS ON OPPORTUNITIES AT LARGER SETTLEMENTS AND PLANNED GROWTH LOCATIONS

- 3.2.1. This option would distribute the bulk of growth up until 2050 to those locations that have accommodated the majority of the allocations from the previous Local Plans. These main settlements are located on the edges of the towns, Oxford and former MoD sites.
- 3.2.2. It would also include opportunities for urban renewal, intensification and brownfield redevelopment. This option does not include consideration of new as yet, unplanned, settlements.
- 3.2.3. The focus of this option would be upon strategic scale housing growth within existing market towns, Oxford city, MOD sites and planned garden communities. As a result, it would include consideration of growth proposals that would bring more development to locations already receiving a high level of growth and constitute an extension of the existing Local Plan strategies, adding to the pattern of existing and planned infrastructure investment.

3.3 OPTION 2: FOCUS ON OXFORD-LED GROWTH

- 3.3.1. This option covers urban intensification within the City of Oxford and new or extended urban extensions on the edge of the City. It includes consideration of growth proposals that are well-connected to the city or are potential extensions to planned growth sites on the city edge, related to growth in the current adopted Local Plans, and employment sites on the edge of the city that form an Oxford-focused cluster.
- 3.3.2. The focus of this option will be on Oxford city and its immediate locale, recognising the role that Oxford plays as a vital economic node, its function as the main service centre and key focal point for the county as a whole. New city focused growth would aim to support and strengthen Oxford's role as a global centre for knowledge and innovation and its role as a modest sized compact city, as well as one of the anchors of the Ox-Cam Arc.

3.4 OPTION 3: FOCUS ON OPPORTUNITIES IN SUSTAINABLE TRANSPORT CORRIDORS & AT STRATEGIC TRANSPORT HUBS

- 3.4.1. This option covers new growth based in the most sustainable transport corridors, where frequent bus services operate, and rail stations act as transport hubs. This includes new rail stations being planned through strategies such as the Oxfordshire Rail Corridor Study. This option aligns with the emerging Local Transport Connectivity Plan, being prepared by Oxfordshire County Council.

- 3.4.2. It includes consideration of growth proposals that sit within the main public transport corridors, both rail and bus, linking the rural parts of Oxfordshire with towns and key employment locations and the city itself where the highest density of public transport corridors is focused. It also takes account of existing and planned key transport hubs.
- 3.4.3. This option does include consideration of new settlements. Development may be generated from transport investment that improves the sustainability of particular locations.

3.5 OPTION 4: FOCUS ON STRENGTHENING BUSINESS LOCATIONS

- 3.5.1. This option centres on the network of business parks that covers Oxfordshire, and particularly those identified as priority economic assets in the OXLEP Local Industrial Strategy as key locations within Oxfordshire's 'innovation ecosystem'.
- 3.5.2. This option includes consideration of growth proposals that would extend business parks or create new ones, with housing and residential areas alongside, co-located with these economic hubs, to reduce the need to travel and to create more sustainable locations.
- 3.5.3. This option would also include the intensification of economic activities at the business parks, building on current economic strengths in key sectors such as life sciences and advanced engineering, as new economic innovations are applied, and buildings need to be repurposed to support new economic activities and create more jobs.
- 3.5.4. The option will focus new growth where it would help to support and strengthen Oxfordshire's key economic assets and take account of key economic assets identified in the OXLEP Local Industrial Strategy that are not yet built out. This option could include the creation of new settlements, where new business sites are proposed as part of a comprehensive, mixed use development proposal.

3.6 OPTION 5: FOCUS ON SUPPORTING RURAL COMMUNITIES

- 3.6.1. This option covers rural Oxfordshire and focuses on the villages and areas between the villages. It includes consideration of growth proposals beyond the areas supported through the current adopted Local Plans. It will focus on those areas that might bring new investment and strengthen patronage in rural areas which will support rural services and improve access to them.
- 3.6.2. It could include new investment in the rural economy, new village clusters, as well as taking account of strong cross-boundary relationship with major settlements outside Oxfordshire, such as Swindon. This option does include consideration of extending existing and allocated Garden Villages and establishing new settlements.
- 3.6.3. The scope for this option is to consider growth in rural settings away from the main service centres and top tier settlements that will accommodate the current Local Plan led growth up to the mid-2030s and a redirection of development to more rural parts of the county that have limited access to the public transport network and key services and facilities.

4 ASSESSMENT OF OPTIONS

4.1 OPTION 1

ASSESSMENT SUMMARY

- 4.1.1. The assessment identified the following vulnerable groups that could be affected by Option 1:
- Gender (specifically maternity and ante-natal);
 - Infants (0-5 years);
 - Young People (11-17);
 - Adults (18-74);
 - Older People (75+);
 - Disability;
 - Long-term health conditions (including addiction);
 - Unemployed/Workless/Low paid and/or insecure employment;
 - Homeless (No fixed abode); and
 - Gypsy and Travellers.
- 4.1.2. In general, Option 1 has the potential to result in disproportionate effects. As it could deliver a number of health benefits, but only for those residing within the existing larger settlements and planned areas for growth. Outside of these areas there is potential for social isolation, an increased need to travel, and community severance. These issues are most likely to be felt by adults (18-74); older people (75+); women (maternity and ante-natal); those with disabilities; and those who are unemployed or currently in low paid and/or insecure employment.
- 4.1.3. Option 1 presents positive health impacts for those residing within existing large settlements and planned areas for growth. Delivery of affordable housing in areas most in need could help to reduce the number of people living in poor quality housing, reduce levels of homelessness and help more people get onto the property ladder. Availability of housing and housing quality can have a huge impact on both physical and mental wellbeing and acts as a springboard for building a better quality of life.
- 4.1.4. Urban regeneration will help to provide more social infrastructure within Oxfordshire's larger settlements and planned growth areas. Applying the '20-minute neighbourhoods' concept will allow more residents to access key services, such as learning opportunities and jobs. Extended walking and cycling provision and potential provision of leisure and recreation facilities, could help more residents undertake physical activities and health pursuits.
- 4.1.5. The option aims to provide employment developments, which could provide opportunities for residents to jobs and support economic growth. Urban renewal and supply of affordable housing in these locations may result in positive effects for those who are unemployed, workless or are currently in low paid and/or insecure employment. This will, however, depend upon whether the jobs are appropriate for those living in the housing provided.



OPTION 1 ASSESSMENT

4.1.6. Table 4.1 below presents the assessment for Option 1.

Table 4.1 – Option 1 Assessment

Determinant of Health	Assessment
Housing and Homeless	<p>Oxfordshire is the 5th most expensive county in England, with the average house price being £405,000, £109,000 more expensive than the national average⁴. Homelessness is particularly acute within the County, with the loss of private rented accommodation and housing affordability being the primary causes.</p> <p>Housing affects the health of working-age people, including through the affordability of local housing, rising rates of homelessness, the quality and availability of supported or sheltered housing. This option will ensure that housing will be delivered in areas of Oxfordshire where housing is most in need and help more people secure housing. This could have positive effects for working aged adults (18-74) and those who are homeless.</p> <p>Conversely, this option may result in disproportionate effects on those residents who reside outside of the County's larger settlements and planned growth locations. Individuals and groups could become stranded and cut off from opportunities, local services and facilities, making them vulnerable to social exclusion. This would particularly pertinent to older people (75+), women (maternity and ante-natal), disability and the unemployed, workless as well as Gypsy and Traveller vulnerable groups.</p>
Travel and Transport	<p>Transport is a key mechanism in reducing social isolation and increasing connectivity, which has a positive impact on mental health and wellbeing. Development will be focussed around existing infrastructure, which will benefit those living or wishing to move to the County's larger settlements and planned growth locations.</p> <p>There are limited transport options outside of existing main settlements in Oxfordshire, which means there is a high reliance upon private vehicles, which may impact on residents' access to jobs and education, training and employability services, resulting in an adverse effect on isolated populations. This is likely to be exacerbated if development is focussed on larger settlements, which will disproportionately affect older people (75+), women (maternity and ante-natal), disability and the unemployed and workless vulnerable groups.</p>

⁴ HM Land Registry, UK House Index, 2020

Determinant of Health	Assessment
<p>Access to services</p>	<p>The option aims to provide opportunities for urban renewal, which could result in employment and housing developments as well as supporting social infrastructure. This may provide greater access to services for those residing within Oxfordshire's larger settlements. This will particularly benefit adults (18-74); older People (75+); maternity and ante-natal; those with disabilities; and those who are unemployed or currently in low paid and/or insecure employment.</p> <p>According to the Indices of Multiple Deprivation 2019⁵, 85 out of 407 lower super output areas (LSOAs) in Oxfordshire are ranked within the most deprived 10% nationally with regards to the geographical access to services sub-domain. This option could, therefore, result in distinct inequality in the spatial distribution of benefits provided by living in urban areas, leading to greater levels of social isolation for those living more rurally. This will particularly impact both older people (75+) as almost a quarter (23%) of people aged 85+ live in areas of Oxfordshire ranked in the 10% most deprived on access to services⁶. Poor access to services and social isolation, will also negatively affect Gypsy and Traveller vulnerable groups.</p>
<p>Economy and economic growth</p>	<p>The option aims to provide a number of employment developments, which could provide opportunities for residents to find jobs and support economic growth. Despite high levels of employment and qualifications, there are small but stubborn pockets of long-term unemployment, predominantly located in Oxford City and Cherwell. Urban renewal and supply of affordable housing in these locations may result in positive effects for those who are unemployed, workless or are currently in low paid and/or insecure employment. This will, however, depend upon whether the job opportunities are appropriate for those living in the housing provided.</p> <p>Conversely, this option may result in disproportionate effects on those residents who reside outside of the County's larger settlements and planned growth locations, as it may become harder for them to reach employment. Limited labour pools in rural areas may also be exacerbated by remote locations and poor accessibility, increasing the likelihood of hard-to-fill and skill shortage vacancies in rural areas. This is likely to have the greatest impact on adults (18-74) and those who are unemployed or currently in low paid and/or insecure employment.</p>

⁵ Ministry of Housing, Communities & Local Government, Indices of Multiple Deprivation, 2019

⁶ Oxfordshire Health and Wellbeing Joint Strategic Needs Assessment, 2020

Determinant of Health	Assessment
<p>Skills and education</p>	<p>The Oxfordshire Skills Strategy⁷ highlights that there is a limited supply of skilled workers, which when compounded by low unemployment and inactivity rates, makes it particularly difficult for Oxfordshire's employers. The opportunities that the option presents to provide a high concentration of jobs, could help to alleviate the skills gap. Social infrastructure associated with urban renewal could also result in the provision of educational facilities, enabling greater access to education and potential for upskilling.</p> <p>This option is likely to benefit young people (11-17), adults (18-74) and those who are unemployed or currently in low paid and/or insecure employment, however it will only benefit those who reside in the county's main settlements and planned growth locations.</p> <p>For those living outside of these areas, this option may result in disproportionate effects, as it may become harder for them to reach employment and educational facilities. Limited labour pools in rural areas may also be exacerbated by remote location and poor accessibility, increasing the likelihood of hard-to-fill and skill shortage vacancies in rural areas. This is likely to have the greatest impact on adults (18-74) and those who are unemployed or currently in low paid and/or insecure employment.</p>
<p>Community severance and social isolation</p>	<p>Social isolation can lead to loneliness which has the potential to undermine well-being impacting negatively on people's quality of life. Loneliness can have a huge impact on the wellbeing of many people particularly older people, those with disabilities and new and expectant mothers. It can often result in unhappiness, lowering of self-confidence and ability to reach out for help.</p> <p>According to Age UK⁸, 74 LSOAs in the county are deemed to be of very high risk (highest risk quantile nationally), and 70 are deemed to be of high risk of loneliness for the over 65s. A high number of these LSOAs are located in rural areas, where there are fewer facilities and services.</p> <p>This option has the potential to exacerbate existing community severance and isolation issues within Oxfordshire, as services will be delivered in areas where key services are already provided. This is likely to negatively affect older people (75+), maternity and ante-natal and disabled vulnerable groups.</p>

⁷ OxLEP, Oxfordshire Skill Strategy, [online] available at: <https://www.oxfordshirelep.com/sites/default/files/uploads/OxLEP%20Skills%20Strategy.pdf>

⁸

Determinant of Health	Assessment
	<p>Conversely, vulnerable groups such as infants (0-5), adults (18-74) older people (75+), maternity and ante-natal, the disabled and the unemployed, that are living within these larger settlements and planned growth areas may benefit from increase access to facilities, which could reduce levels of community severance and social isolation.</p>
<p>Physical activity</p>	<p>There is potential that urban renewal could result in additional social infrastructure (including leisure and recreation facilities) that could provide opportunities for physical activity. The option will seek opportunities for extended walking and cycling provision including connections to regional routes, which could further encourage physical activity and active pursuits, as well as enable more active commutes. Access to walking and cycling infrastructure also provides opportunities for physical activities to those who might otherwise have financial barriers to participating in other activities. However, these will only benefit those living and working within these larger settlements and planned growth areas.</p> <p>Participation in physical activity is lower in older people (75+), more deprived groups, unemployed or workless groups, routine and manual workers, and disabled people. This trend could be exacerbated in rural areas if leisure and recreational facilities are only located within the main settlements and planned growth areas.</p> <p>Further expansion of settlements at the urban fringe could result in the loss of greenspace and access to the wider countryside which could inhibit people's ability to undertake physical activity through outdoor pursuits. The expansion of settlements could also cause the loss of land currently used for informal recreational activities.</p>
<p>Air quality</p>	<p>The development of new housing within Option 1 without the support of additional sustainable transport infrastructure is likely to result in a higher number of private vehicle use potentially resulting in an adverse impact on local air quality, particularly as private vehicle ownership in the county already exceeds the national average.</p> <p>By concentrating development in the existing larger settlements, there will still be a reliance upon the private vehicle by people living outside of these areas, particularly in the most rural parts of the county, which could contribute to the worsening of air quality in certain rural locations. Areas of existing poor air quality as evidenced by Air Quality Management Areas (AQMA), including Oxford, Banbury, Bicester, Chipping Norton, Abingdon, Witney and Wallingford, may continue to suffer as those living more rural would still be reliant on private vehicles to access service and facilities in larger settlements.</p>

Determinant of Health	Assessment
	<p>The association between health effects and exposure to air pollutants is now well established, with distinct health risks associated with exposure to particulates available at a local level⁹. Older people (75+), infants (0-5) and those with long term health conditions, who are the most likely to be vulnerable to the effects of air pollution.</p> <p>The option aims to secure 20 neighbourhoods, extend walking and cycling provision and promote sustainable transport, which all have potential to increase access to facilities and reduce the reliance on private vehicles for journeys within existing settlements and planned growth areas.</p>
<p>Flood risk and climate resilience</p>	<p>Option 1 has the potential to lead to further housing, employment developments and infrastructure which all have the potential to increase risk of flooding through the introduction of hardstanding surfaces and impermeable structures and loss of rural fringes. This could potentially present an increased risk, or perception of risk, of impacts on all vulnerable groups.</p> <p>There are large areas at risk of flooding located in Oxford, Abingdon, Kidlington, Eynsham, which are key areas that could be developed as part of this option. The risk of flooding represents a negative impact upon both physical and mental health. In the immediate aftermath of flooding, people can suffer from injuries, infections, exposure to chemical hazards and disruption to health services. The longer-term impacts of flooding on health are less well understood and may arise from the damage to homes, loss of domestic utilities, having to move out until the home is habitable, and delayed return to normal activities of daily living.</p> <p>At this stage the potential impact due to risk from flooding upon human health is uncertain and would depend upon the type of development that comes forward, and the mitigation and adaptation measures applied.</p>
<p>Green infrastructure, nature, townscape and tranquillity, including natural capital</p>	<p>This option could result in further expansion of settlements at the urban fringe, eroding rural character and the relationship with the surrounding countryside. There is also the possibility of the erosion to the city townscape, due to pressure to increase heights of developments. This could result in the loss of greenspace (including informal landscaped areas), loss of tranquillity, loss of natural capital assets and reduced access to the wider countryside. This could in turn inhibit people's ability to undertake physical activity through outdoor pursuits. However, focussing on expanding already urban areas, could help to protect larger areas of Oxfordshire's rural countryside.</p>

⁹ 105 COMEAP 2010 The Mortality Effects of Long-Term Exposure to Particulate Air Pollution in the United Kingdom. A report prepared by the Committee on the Medical Effects of Air Pollutants. Available at: <http://www.comeap.org.uk/>



Determinant of Health	Assessment
	There are however opportunities for Option 1 to contribute positively to the townscape of these larger settlements through urban regeneration and the introduction of concepts such as '20-minute neighbourhoods'. This may provide a greater sense of place, which will result in health and well-being benefits.

4.2 OPTION 2

ASSESSMENT SUMMARY

- 4.2.1. The assessment identified the following vulnerable groups that could be affected by Option 2:
- Gender (specifically maternity and ante-natal);
 - Infants (0-5 years);
 - Young People (11-17);
 - Adults (18-74);
 - Older People (75+);
 - Disability;
 - Long-term health conditions (including addiction);
 - Unemployed/Workless/Low paid and/or insecure employment;
 - Homeless (No fixed abode); and
 - Gypsy and Travellers.
- 4.2.2. In general, Option 2 has the potential to result in disproportionate effects. It has potential to deliver a number of health benefits but only for those residing within Oxford and its immediate hinterland. Outside of these areas, there is potential for social isolation, an increased need to travel and community severance. These issues are most likely to be felt by adults (18-74); older people (75+); women (maternity and ante-natal); those with disabilities; those who are unemployed or currently in low paid and/or insecure employment, as well as Gypsy and Traveller groups.
- 4.2.3. This option will focus on capitalising on economic growth within the city and its immediate hinterland. This city focused approach aims to support and strengthen Oxford's role as a global centre for knowledge and innovation as well as being one of the key anchors of the Ox-Cam Arc. This is likely to result in a number of economic developments within the city, which could provide opportunities for residents to find jobs and support economic growth.
- 4.2.4. It recognises the role that Oxford plays as a vital economic node and its function as the main service centre in the county. It will therefore ensure that this option will create a well-established network of sustainable and active travel to connect to the city, which could provide greater access to services for those residing within Oxford and its immediate hinterland.
- 4.2.5. This option aims to focus on 'levelling up' within the city in order to deliver inclusive growth and address ingrained deprivation, leading to new approaches to regeneration and housing delivery. Urban intensification and supply of affordable housing in these locations may result in positive effects for those who are unemployed, workless or are currently in low paid and/or insecure employment. This will, however, depend upon whether available jobs are appropriate for those living in the housing provided.
- 4.2.6. Applying the '20-minute neighbourhoods' concept will allow more residents to access key services, such as learning opportunities and jobs. Extended walking and cycling provision, and potential provision of leisure and recreation facilities, could help more residents undertake physical activities and healthy pursuits.



OPTION 2 ASSESSMENT

4.2.7. Table 4.2 below presents the assessment for Option 2.

Table 4.2 – Option 2 Assessment

Determinant of Health	Potential Impact
<p>Housing and Homeless</p>	<p>This option aims to focus on ‘levelling up’ within the city in order to deliver inclusive growth and address ingrained deprivation, leading to new approaches to regeneration and housing delivery. Oxford has the highest percentage of socially rented homes in Oxfordshire (21% compared to the county average of 14%) and the lowest number of residents owning their own homes (46% compared to the county average of 65%).</p> <p>Housing affects the health of working-age people, including through the affordability of local housing, rising rates of homelessness, and the quality and availability of supported or sheltered housing. This option will ensure that housing will be delivered in Oxford where housing is most in need and help more people secure housing. This could have positive effects for working aged adults (18-74) and those who are homeless.</p> <p>Conversely, this option may result in disproportionate effects on those residents who reside outside of Oxford. Individuals and groups could become stranded and cut off from opportunities, local services and facilities, making them vulnerable to social exclusion. This would particularly pertinent to older people (75+), women (maternity and ante-natal), disability and the unemployed and workless vulnerable groups. The magnitude of impact that this option will have in dependent upon the housing supply provided, and its affordability for the population in need of housing.</p>
<p>Travel and Transport</p>	<p>Option 2 aims to provide a well-established network of sustainable and active travel to connect to, including extension of walking and cycling connections with local and regional routes. Transport is a key mechanism in reducing social isolation and increasing connectivity, which has a positive impact on mental health and wellbeing. This option could therefore result in greater connectivity for all residents in Oxford and may enable and encourage active travel and healthy pursuits.</p> <p>There are limited transport options outside of the main settlements, which means there is a high reliance upon private vehicles, which may impact on residents’ access to jobs, education, training and employability services causing an adverse effect on isolated populations. This is likely to be exacerbated if development is focussed on Oxford, which will disproportionately affect older people (75+), women (maternity and ante-natal), disability and the unemployed and workless vulnerable groups.</p>
<p>Access to services</p>	<p>This option recognises the role that Oxford plays as a vital economic node and its function as the main service centre in the county. It will therefore ensure that it will create a well-established network of sustainable and active travel to connect main towns and settlements to the city, which could provide greater access to services for those residing within Oxford and main settlements in its immediate hinterland. This will particularly benefit adults (18-74); older people (75+);</p>

Determinant of Health	Potential Impact
	<p>maternity and ante-natal; those with disabilities; and those who are unemployed or currently in low paid and/or insecure employment.</p> <p>This option could, however, result in distinct inequality in the spatial distribution of benefits provided by living in Oxford and its immediate hinterland, leading to greater levels of social isolation for those living more rurally. This will particularly impact older people (75+) as almost a quarter (23%) of people aged 85+ live in areas of Oxfordshire ranked in the 10% most deprived on access to services¹⁰, Poor access to services and social isolation, will also negatively affect Gypsy and Traveller vulnerable groups.</p>
<p>Economy and economic growth</p>	<p>This option will focus on capitalising on economic growth within the city and its immediate hinterland. This city focused approach aims to support and strengthen Oxford's role as a global centre for knowledge and innovation as well as being one of the key anchors of the Ox-Cam Arc. This is likely to result in a number of economic developments within the city, which could provide opportunities for residents to find jobs and support economic growth.</p> <p>Despite high levels of employment and qualifications, there are small but stubborn pockets of long-term unemployment, predominantly located in the city of Oxford. Urban intensification and supply of affordable housing in the city may result in positive effects for those who are unemployed, workless or are currently in low paid and/or insecure employment. This will, however, depend upon whether the job opportunities are appropriate for those living in the housing provided.</p> <p>Conversely, this option may result in disproportionate effects on those residents who reside outside of Oxford, as it may become harder for them to reach employment. Limited labour pools in rural areas may also be exacerbated by remote locations and poor accessibility, increasing the likelihood of hard-to-fill and skill shortage vacancies in rural areas. This is likely to have the greatest impact on adults (18-74) and those who are unemployed or currently in low paid and/or insecure employment.</p>
<p>Skills and education</p>	<p>Option 2 aims to secure local opportunities by capitalising on skills. The Oxfordshire Skills Strategy¹¹ highlights that there is a limited supply of skilled workers, which, when compounded by low unemployment and inactivity rates, makes it particularly difficult for Oxfordshire's employers.</p>

¹⁰ Oxfordshire Health and Wellbeing Joint Strategic Needs Assessment, 2020

¹¹ OxLEP, Oxfordshire Skill Strategy, [online] available at: <https://www.oxfordshirelep.com/sites/default/files/uploads/OxLEP%20Skills%20Strategy.pdf>

Determinant of Health	Potential Impact
	<p>The opportunities that the option presents to provide a high concentration of jobs could help to alleviate the skills gap. Social infrastructure associated with urban intensification could also result in the provision of educational facilities, enabling greater access to education and potential for upskilling. This option is likely to benefit young people (11-17), adults (18-74) and those who are unemployed or currently in low paid and/or insecure employment; however, it will only benefit those who reside in Oxford and its immediate hinterland. However, it should be recognised that some of the lowest levels of education attainment are found in Oxford city schools; in order to fully realise any benefits this attainment needs to improve to match employment opportunities.</p> <p>For those living outside of Oxford, this option may result in disproportionate effects, as it may become harder for them to reach employment and educational facilities. Limited labour pools in rural areas may also be exacerbated by remote location and poor accessibility, increasing the likelihood of hard-to-fill and skill shortage vacancies in rural areas. This is likely to have the greatest impact on young people (11-17), adults (18-74) and those who are unemployed or currently in low paid and/or insecure employment.</p>
<p>Community severance and social isolation</p>	<p>Social isolation can lead to loneliness, which has the potential to undermine well-being, thereby impacting negatively on people's quality of life. Loneliness can have a huge impact on the wellbeing of many people particularly older people, those with disabilities and new and expectant mothers. It can often result in unhappiness, lowering of self-confidence and lowering of ability to reach out for help.</p> <p>Urban intensification associated with this option could result in the provision of more facilities and services and greater access to them via sustainable transport modes. Vulnerable groups such as infants (0-5), adults (18-74), older people (75+), women (maternity and ante-natal), the disabled and the unemployed, living within the city, may benefit from increased access to facilities, which could reduce levels of community severance and social isolation.</p> <p>According to Age UK¹², 74 LSOAs in the county are deemed to be of very high risk (highest risk quantile nationally), and 70 are deemed to be of high risk of loneliness, for the over 65s. A high number of these LSOAs are located in rural areas, where there are fewer facilities and services.</p>

¹² Age UK, Loneliness Maps, 2016 [online] available at: <http://data.ageuk.org.uk/loneliness-maps/england-2016/>

Determinant of Health	Potential Impact
	<p>This option has the potential to exacerbate existing community severance and isolation issues within more rural areas of Oxfordshire, as services will be delivered in Oxford where key services are already provided. This is likely to negatively affect older people (75+), maternity and ante-natal and disabled vulnerable groups.</p>
<p>Physical activity</p>	<p>There is potential for urban intensification and addressing ingrained deprivation to result in additional social infrastructure (including leisure and recreation facilities) that could provide opportunities for physical activity. The option will seek opportunities to extended walking and cycling provision including connections to regional routes, which could further encourage physical activity and active pursuits. However, this will only benefit those living within Oxford.</p> <p>Participation in physical activity is lower in older people (75+), more deprived groups, unemployed or workless groups, routine and manual workers, and disabled people. This trend could be exacerbated in rural areas if leisure and formal recreational facilities (such as swimming pools, leisure centres, sports clubs, etc) are only located within Oxford.</p> <p>Further expansion of settlements at the urban fringe could result in the loss of greenspace and access to the wider countryside, which could inhibit people’s ability to undertake physical activity through outdoor pursuits. However, the option aims to enhance greenbelt for its beneficial uses – for people as well as nature. This could provide further opportunities for physical activity.</p>
<p>Air quality</p>	<p>Urban intensification and additional housing in Oxford could result in a higher number of cars on the city’s roads, which could contribute to a worsening of air quality, particularly given that a city-wide AQMA is already in place and car ownership in the county already exceeds the national average.</p> <p>However, the option also aims to secure 20-minute neighbourhoods, extending walking and cycling provision and promote sustainable transport, which all have potential to increase access to facilities and reduce the reliance on private vehicles for journeys within the city and its immediate hinterland. This could contribute to improving local air quality in Oxford, though may not address air quality concerns in other areas such as Banbury, Bicester, Chipping Norton, Abingdon, Witney and Wallingford.</p> <p>The association between health effects and exposure to air pollutants is now well established, with distinct health risks associated with exposure to particulates at a local level. By concentrating development in Oxford, there will still be a reliance upon the private vehicle by people living outside of the city, particularly in the most rural parts of the county. Older people (75+), infants (0-5) and those with long term health conditions are the most likely to be vulnerable to the effects of air pollution.</p>
<p>Flood risk and climate resilience</p>	<p>There are large areas at risk of flooding located in Oxford. Flooding poses negative effects to both physical and mental health. In the immediate aftermath of flooding, people can suffer from injuries, infections, exposure to chemical hazards and disruption to health services. The longer-term impacts of flooding on health are less well understood and may arise</p>

Determinant of Health	Potential Impact
	<p>from the damage to homes, loss of domestic utilities, having to move out until the home is habitable, and delayed return to normal activities of daily living.</p> <p>Option 2 has the potential to lead to further housing, employment developments and infrastructure, which all have the potential to increase risk of flooding through the introduction of hardstanding surfaces and impermeable structures and loss of rural fringes. This can present an increased risk, or perception of risk, of impacts on all vulnerable groups.</p> <p>At this stage the potential impact on human health is uncertain and would depend upon the type of development that comes forward, and the mitigation and adaptation measures applied.</p>
<p>Green infrastructure, nature, townscape and tranquillity, including natural capital</p>	<p>This option could result in further expansion of the city's rural hinterland, eroding rural character and the relationship with the surrounding countryside. There is also the possibility of the erosion to the city townscape, due to pressure to increase heights of developments. This could result in the loss of greenspace, loss of tranquillity, loss of natural capital assets and reduced access to the wider countryside. This could in turn inhibit people's ability to undertake physical activity through outdoor pursuits.</p> <p>This option could include consideration of enhancement to the green belt adjoining the city for beneficial uses. It states that further development on the edge of Oxford, in the green belt, should be to a high design quality, together with improved connectivity to the city, reinforced links to the business parks surrounding the city and investments in environment enhancements to the green belt around the edge of the city.</p> <p>There are opportunities for Option 2 to contribute positively to the townscape of areas in Oxford through urban regeneration, redevelopment of brownfield and the introduction of concepts such as '20-minute neighbourhoods'. This may provide a greater sense of place, which will result in health and well-being benefits.</p>

4.3 OPTION 3

ASSESSMENT SUMMARY

- 4.3.1. The assessment identified the following vulnerable groups that could be affected by Option 3:
- Gender (specifically maternity and ante-natal);
 - Infants (0-5);
 - Young People (11-17);
 - Adults (18-74);
 - Older People (75+);
 - Disability;
 - Long-term health conditions (including addiction);
 - Unemployed/Workless/Low paid and/or insecure employment;
 - Refugee/Asylum Seekers;
 - Homeless (No fixed abode); and
 - Gypsy and Travellers.
- 4.3.2. Option 3 has predominantly resulted in positive health outcomes for most vulnerable groups. This option aims to focus growth at locations within or connected to the highest concentrations of jobs, affordable housing need and sustainable transport connectivity, to ensure that development is well placed to meet the needs of existing and future communities in a sustainable manner.
- 4.3.3. The option aims to deliver ‘connectivity for all’, not just those who are able to drive. Public transport provisions will meet the needs of younger and older people, those with disabilities and those on lower incomes. There are therefore likely to be positive health impacts on young people (11-17), older people (75+), those who are unemployed/workless or in low paid and/or insecure employment, refugee/asylum seekers and disabled vulnerable groups.
- 4.3.4. With an ageing and rural population, access to services is likely to become a more significant issue over the plan period, particularly as wide areas of rural Oxfordshire are ranked poorly on geographical access to services. This option will strengthen community services and facilities and provide them in the county’s most sustainable locations, away from those locations that have already experienced significant growth.
- 4.3.5. This option aims to move away from car dependent developments, concentrating developments around sustainable transport nodes. Supporting sustainable travel movements will help to decarbonise the transport network and reduce levels of air pollution. Improved air quality will benefit all vulnerable groups; however, it will be most beneficial to older people (75+), infants (0-5) and those with long term health conditions, who are the most likely to be vulnerable to the effects of air pollution.
- 4.3.6. Option 3 aims to fit with the zero carbon ambitions of the Oxfordshire Plan, which understands the need to address the causes of climate change and to improve the health and well-being of communities. Securing growth based on a sustainable transport network and placing the focus and emphasis on growth in areas with good public transport links, will help to ensure development will meet the needs of existing and future communities in a sustainable manner, building resilience to climate change.



OPTION 3 ASSESSMENT

4.3.7. Table 4.3 below presents the assessment for Option 3.

Table 4.3 – Option 3 Assessment

Determinant of Health	Potential Impact
<p>Housing and Homeless</p>	<p>This option aims to focus growth at locations within or connected to the highest concentrations of jobs, affordable housing need and sustainable transport connectivity to ensure that development is well placed to meet the needs of existing and future communities in a sustainable manner. This could result in the establishment of new garden communities where they are well related to existing or planned sustainable transport infrastructure investment such as the rail network, not in isolated locations.</p> <p>Housing affects the health of working-age people, including through the affordability of local housing, rising rates of homelessness, and the quality and availability of supported or sheltered housing. This option will ensure that housing will be delivered in locations across the county where housing is most in need, helping more people secure housing. This could have positive effects for working aged adults (18-74) and those who are homeless.</p>
<p>Travel and Transport</p>	<p>This option would closely align with the Oxfordshire Local Transport and Connectivity Plan vision, which includes active and healthy travel, encouraging healthy choices, promoting the use of public transport and improved regional and local connectivity. The option will also look at opportunities to provide new bus routes, including rapid transit options, increased rail services and new rail stations.</p> <p>The option aims to deliver ‘connectivity for all’, not just those who are able to drive. Public transport provisions will meet the needs of younger and older people, those with disabilities and those on lower incomes. There are therefore likely to be positive health impacts on young people (11-17), older people (75+), those who are unemployed, workless or in low paid and/or insecure employment, refugee/asylum seekers and disabled vulnerable groups.</p>
<p>Access to services</p>	<p>With an ageing and rural population, access to services is likely to become a more significant issue over the plan period, particularly as wide areas of rural Oxfordshire are ranked poorly on geographical access to services.</p> <p>Option 3 aims to strengthen community services and facilities and provide them in the county’s most sustainable locations, away from those locations that have already experienced significant growth. In addition, this option will better meet the needs of an ageing population and address existing deprivation issues.</p> <p>This will particularly benefit adults (18-74), older people (75+), women (maternity and ante-natal), those with disabilities, and those who are unemployed or currently in low paid and/or insecure employment, as well as Gypsy</p>

Determinant of Health	Potential Impact
	<p>and Traveller vulnerable groups, as they will more easily be able to access key services, facilities and employment opportunities.</p>
<p>Economy and economic growth</p>	<p>This option will support economic growth by providing greater access to jobs and supporting growth in the most sustainable transport corridors. It will support a mixed economy by balancing both job creation and housing growth. Option 3 could therefore result in a number of economic developments across the county, which could provide opportunities for residents to find jobs and support economic growth.</p> <p>Despite high levels of employment and qualifications, there are small but stubborn pockets of long-term unemployment, predominantly located in the local authorities of Cherwell and Oxford City. This option may result in positive effects for those who are unemployed, workless or are currently in low paid and/or insecure employment. This will, however, depend upon whether the job opportunities are appropriate for those living in the housing provided.</p>
<p>Skills and education</p>	<p>The opportunities that the option presents to provide a number of economic developments could help to alleviate the skills gap. Social infrastructure associated with development could also result in the provision of educational facilities, enabling greater access to education and potential for upskilling.</p> <p>Creating new development and focussing growth in locations that are easily accessible by sustainable transport modes will help more people access jobs and educational facilities. This option is, therefore, likely to benefit young people (11-17), adults (18-74) and those who are unemployed or currently in low paid and/or insecure employment.</p>
<p>Community severance and social isolation</p>	<p>Social isolation can lead to loneliness, which has the potential to undermine well-being, thereby impacting negatively on people's quality of life. Loneliness can have a huge impact on the wellbeing of many people particularly older people, those with disabilities and new and expectant mothers. It can often result in unhappiness, lowering of self-confidence and lowered ability to reach out for help.</p> <p>This option could result in the provision of more facilities and services and greater access to them via sustainable transport modes for some settlements, though might not necessarily reach all isolated or rural communities in the county. Vulnerable groups, such as infants (0-5), adults (18-74), older people (75+), women (maternity and ante-natal), the disabled and the unemployed, residing in these new developments and within the wider transport corridors may benefit from increase access to facilities, which could reduce levels of community severance and social isolation.</p>
<p>Physical activity</p>	<p>This option aims to strengthen community services and facilities in the most accessible locations whilst meeting the needs of an ageing population and addressing existing deprivation issues. There is potential for this option to result in additional social infrastructure (including leisure and recreation facilities) as well as active travel links (such as cycle ways) into transport hubs that could provide opportunities for physical activity. The option will seek opportunities to extended walking</p>

Determinant of Health	Potential Impact
	<p>and cycling provision including connections to existing regional routes, which could further encourage physical activity and active pursuits.</p> <p>Participation in physical activity is lower in older people (75+), more deprived groups, unemployed or workless groups, routine and manual workers, and disabled people. Therefore, this option could result in beneficial health effects on these vulnerable groups.</p>
<p>Air quality</p>	<p>The association between health effects and exposure to air pollutants is now well established, with distinct health risks associated with exposure to particulates at a local level. Moving away from private vehicle dependent developments, concentrating developments around sustainable transport nodes and supporting sustainable travel movements will help to decarbonise the transport network and reduce levels of air pollution.</p> <p>Improved air quality will benefit all groups; however, it will be most beneficial to older people (75+), infants (0-5) and those with long term health conditions, who are the most likely to be vulnerable to the effects of air pollution. It is also most likely to benefit communities experiencing existing poor air quality, which could see improvements, including Oxford, Banbury, Bicester, Chipping Norton, Abingdon, Witney and Wallingford.</p>
<p>Flood risk and climate resilience</p>	<p>Option 3 aims to fit with the zero carbon ambitions of the Oxfordshire Plan. Central to the Oxfordshire Plan is the need to address the causes of climate change and to improve the health and well-being of communities. Securing growth based on a sustainable transport network and placing the focus and emphasis on growth in areas with good public transport links will help to ensure development will meet the needs of existing and future communities in a sustainable manner, building resilience to climate change.</p> <p>This option has the potential to lead to further housing, employment developments and infrastructure, which all have the potential to increase risk of flooding through the introduction of hardstanding surfaces and impermeable structures. This can present an increased risk, or perception of risk, of impacts on all vulnerable groups.</p> <p>There are large areas at risk of flooding located in Newbridge, Radcott, Wallingford, Abingdon, Kidlington, Eynsham, Thame, Banbury, Adderbury, Gosford and Kidlington, which are key areas that could be developed as part of this option. Flooding poses negative effects to both physical and mental health. In the immediate aftermath of flooding, people can suffer from injuries, infections, exposure to chemical hazards and disruption to health services. The longer-term impacts of flooding on health are less well understood and may arise from the damage to homes, loss of domestic utilities, having to move out until the home is habitable, and delayed return to normal activities of daily living.</p> <p>At this stage the potential impact on human health is uncertain and would depend upon the type of development that comes forward, and the mitigation and adaptation measures applied.</p>

Determinant of Health	Potential Impact
<p>Green infrastructure, nature, townscape and tranquillity, including natural capital</p>	<p>This option could result in new developments and expansion of rural settlements, which could erode rural character and the relationship with the surrounding countryside. This could result in the loss of greenspace, loss of tranquillity, loss of natural capital assets and reduced access to the wider countryside. This could in turn inhibit people's ability to undertake physical activity through outdoor pursuits. However, focussing on expanding already urban areas could help to protect larger areas of Oxfordshire's rural countryside.</p> <p>There are, however, opportunities for Option 3 to contribute positively to the townscape of these settlements through the provision of active travel routes, redevelopment of brownfield and the introduction of concepts such as the '20-minute neighbourhoods'. This may provide a greater sense of place, which will result in health and well-being benefits.</p> <p>This option also aims to look at applying the 'garden community' approach. This could see development that enhances the natural environment, providing a comprehensive green infrastructure network and net biodiversity gains, and that uses zero-carbon and climate resilience. This has potential to have positive on all vulnerable groups; however, this is dependent upon proposals that come forward.</p>

4.4 OPTION 4

ASSESSMENT SUMMARY

- 4.4.1. The assessment identified the following vulnerable groups that could be affected by Option 4:
- Gender (specifically maternity and ante-natal);
 - Infants (0-5);
 - Young People (11-17);
 - Adults (18-74);
 - Older People (75+);
 - Disability;
 - Long-term health conditions (including addiction);
 - Unemployed/Workless/Low paid and/or insecure employment;
 - Homeless (No fixed abode); and
 - Military and Veterans.
- 4.4.2. In general, Option 4 has resulted in disproportionate effects. It has the potential to deliver a number of health benefits but only for those residing within key economic growth areas. These key economic growth areas are predominantly existing large settlements, which already provide a number of key services.
- 4.4.3. Outside of these areas, there is potential for social isolation, an increased need to travel and community severance. These issues are most likely to be felt by adults (18-74), older people (75+), women (maternity and ante-natal), those with disabilities, and those who are unemployed or currently in low paid and/or insecure employment.
- 4.4.4. This option is heavily focussed on economic growth. It includes the intensification of economic activities at existing business parks, building on current economic strengths in key sectors such as life sciences and advanced engineering. Option 4 could result in a number of economic developments across the county which could provide opportunities for residents to find jobs. The success of this option will depend upon whether the job opportunities are appropriate for those living in the housing provided. By targeting niche sectors such as life sciences and advanced engineering, jobs may exclude those with lower level qualifications or those with no qualifications.
- 4.4.5. Good transport links provide access to opportunities for education, work, social contacts and leisure. They can enable physical activity as part of everyday life through walking and cycling, enabling people to maintain good health. By co-locating housing and residential areas alongside economic hubs, this option will help to reduce the need to travel.
- 4.4.6. Development associated with Option 4 could help to provide more social infrastructure within economic growth areas. Applying the '20-minute neighbourhoods' concept will allow more residents to access key services, such as learning opportunities and jobs. Extended walking and cycling provision and potential provision of leisure and recreation facilities could help more residents undertake physical activities and healthy pursuits. Supporting sustainable travel movements will help to decarbonise the transport network and reduce levels of air pollution.



OPTION 4 ASSESSMENT

4.4.7. Table 4.4 below presents the assessment for Option 4.

Table 4.4 – Option 4 Assessment

Determinant of Health	Potential Impact
Housing and Homeless	<p>This option includes consideration of growth proposals that would extend business parks or create new ones, whilst co-locating housing and residential areas alongside these economic hubs. Residential growth associated with this option will be modest and therefore may not deliver adequate housing to meet the current demand.</p> <p>Housing affects the health of working-age people, including through the affordability of local housing, rising rates of homelessness, and the quality and availability of supported or sheltered housing. The ratio of the cheapest market housing (lower quartile) to lower earnings in Oxfordshire was 11.47 in 2018, significantly higher than the England average (7.29). All districts in Oxfordshire had a lower quartile affordability ratio, which was over 11 times lower earnings¹³.</p> <p>This option will ensure that housing will be delivered in existing large settlements and key economic hubs in Oxfordshire, where housing is most in need, which will help more people secure housing. This could have positive effects for working aged adults (18-74) and those who are homeless.</p> <p>This option may also result in disproportionate effects on those residents who reside outside of these targeted economic hubs. Individuals and groups could become stranded and cut off from opportunities, local services and facilities, making them vulnerable to social exclusion. This would particularly be pertinent to older people (75+), women (maternity and ante-natal), disability and the unemployed and workless vulnerable groups.</p>
Travel and Transport	<p>Good transport links provide access to opportunities for education, work, social contacts and leisure. It can enable physical activity as part of everyday life through walking and cycling, enabling people to maintain good health. By co-locating housing and residential areas alongside economic hubs, this option will help to reduce the need for commuting. In addition, option 4 aims to concentrate growth around sustainable transport nodes, which could provide more reliable and affordable transport opportunities.</p>

¹³ Oxfordshire Health and Wellbeing Joint Strategic Needs Assessment, 2020

Determinant of Health	Potential Impact
	<p>Option 4 also aims to provide an extension of walking and cycling connections to local and regional routes. This option could therefore result in greater connectivity for all residents in these economic hub settlements and may enable and encourage active travel and healthy pursuits.</p> <p>Development will however be focussed around these economic hubs, which will benefit those living or wishing to move to these locations. There are limited transport options outside of the county's key settlements, meaning there is a high reliance upon private vehicles, which may impact on residents' access to jobs and education, training and employability services, resulting in an adverse effect on isolated populations. This is likely to be exacerbated if development is focussed on economic hubs and existing larger settlements, which will disproportionately affect older people (75+), women (maternity and ante-natal), disability and the unemployed and workless vulnerable groups.</p>
<p>Access to services</p>	<p>The focus of this option is on the spatial relationship between key innovation and economic growth clusters, with the emphasis on enhanced transport and digital connectivity and the co-location of housing and jobs to reduce the need for travel. This option may, therefore, provide greater access to services for those residing within these key innovation and economic growth clusters. This will particularly benefit adults (18-74), older people (75+), women (maternity and ante-natal), those with disabilities, and those who are unemployed or currently in low paid and/or insecure employment.</p> <p>Access to services in rural areas of Oxfordshire is already poor. This option has the potential to result in distinct inequality in the spatial distribution of benefits provided by living in these key innovation and economic growth clusters, leading to greater levels of social isolation for those living outside of these areas. This will particularly impact older people (75+) as almost a quarter (23%) of people aged 85+ live in areas of Oxfordshire ranked in the 10% most deprived on access to services¹⁴.</p>
<p>Economy and economic growth</p>	<p>This option includes the intensification of economic activities at existing business parks, building on current economic strengths in key sectors such as life sciences and advanced engineering. New economic innovations will be applied, and buildings will be repurposed to support these new economic activities, creating more jobs. It will also support the business opportunities arising from Ministry of Defence (MoD) activities and technology support undertaken at military bases such as Brize Norton.</p>

¹⁴ Oxfordshire Health and Wellbeing Joint Strategic Needs Assessment, 2020

Determinant of Health	Potential Impact
	<p>Option 4 aims to provide clean economic growth to support innovation and economic prosperity across the county. It addresses the key issue of a lack of affordable housing, which can act as a constraint on economic growth. This option could therefore result in a number of economic developments across the county, which could provide opportunities for residents to find jobs. This will have particular positive health outcomes for adults (18-74), those who are unemployed, workless and are currently in low paid and/or insecure employment and those who are currently in the military and/or veterans.</p> <p>The success of this option will depend upon whether the job opportunities are appropriate for those living in the housing provided. By targeting niche sectors such as life sciences and advanced engineering, jobs may exclude those with lower level qualifications or those with no qualifications. There is also potential that employment associated with these sectors and start-ups may be short lived and/or provide limited employment opportunities.</p> <p>This option may also result in disproportionate effects on those residents who reside outside of these planned economic hubs, as it may become harder for them to reach employment. Limited labour pools in rural areas may also be exacerbated by remote locations and poor accessibility, increasing the likelihood of hard- to-fill and skill shortage vacancies in rural areas. This is likely to have the greatest impact on adults (18-74) and those who are unemployed or currently in low paid and/or insecure employment. This option may also have a disproportionate effect on older people (75+) who may no longer be in employment, but instead are more reliant on social and medical infrastructure to fulfil their needs.</p>
Skills and education	<p>The opportunities that the option presents to build upon existing economic hubs and provide a number of further economic developments could help to alleviate the skills gap. Social infrastructure associated with development could also result in the provision of educational facilities, enabling greater access to education and potential for upskilling.</p> <p>Creating new development and focussing growth in locations that are easily accessible by sustainable transport modes will help more people access jobs and educational facilities. This option is, therefore, likely to benefit young people (11-17), adults (18-74) and those who are unemployed or currently in low paid and/or insecure employment; however, it will only initially benefit those who reside within these planned economic hubs. Wider economic benefits across Oxfordshire will take longer to take effect.</p> <p>This option aims to spread growth and investment (and the opportunities associated with this) across a wide geographical area and a range of key economic assets within Oxfordshire. However, by targeting niche sectors such as life sciences and advanced engineering, jobs may exclude those with lower level qualifications and skills or those with no qualifications.</p>
Community severance and social isolation	<p>This option includes consideration of growth proposals that would extend business parks or create new ones, whilst co-locating housing and residential areas alongside these economic hubs. This will help to reduce the need to travel whilst creating more sustainable locations.</p>

Determinant of Health	Potential Impact
	<p>Development associated with this option could result in the provision of more facilities and services and greater access to them via sustainable transport modes. Vulnerable groups such as infants (0-5), adults (18-74) older people (75+), women (maternity and ante-natal), the disabled and the unemployed, living within these larger settlements and planned growth areas may benefit from increase access to facilities, which could reduce levels of community severance and social isolation.</p> <p>This option has the potential to exacerbate existing community severance and isolation issues within Oxfordshire, as services will be delivered in locations where key services are already provided. This is likely to negatively affect older people (75+), women (maternity and ante-natal) and disabled vulnerable groups.</p>
Physical activity	<p>There is the potential that Option 4 could result in additional social infrastructure (including leisure and recreation facilities) that could provide opportunities for physical activity. The option will seek opportunities to extended walking and cycling provision including connections to regional routes, which could further encourage physical activity and active pursuits. However, this will only benefit those living within these planned economic growth areas.</p> <p>Participation in physical activity is lower in older people (75+), more deprived groups, unemployed or workless groups, routine and manual workers, and disabled people. This trend could be exacerbated in rural areas if leisure and recreational facilities are only located within these planned economic growth areas.</p> <p>Further expansion of settlements and business parks at the urban fringe could result in the loss of greenspace and access to the wider countryside, which could inhibit people's ability to undertake physical activity through outdoor pursuits.</p>
Air quality	<p>The association between health effects and exposure to air pollutants is now well established, with distinct health risks associated with exposure to particulates at a local level. Moving away from private vehicle dependent developments, concentrating developments around sustainable transport nodes, promoting '20-minute neighbourhoods' and supporting sustainable travel movements will help to decarbonise the transport network and reduce levels of air pollution, particularly in areas with existing AQMAs including Oxford, Banbury, Bicester, Chipping Norton, Abingdon, Witney and Wallingford.</p> <p>Improved air quality will benefit all groups; however, it will be most beneficial to older people (75+), infants (0-5) and those with long term health conditions, who are the most likely to be vulnerable to the effects of air pollution.</p> <p>However, by concentrating development in the existing larger settlements and planned economic growth areas, there will still be a reliance upon the private vehicle by people living outside of these areas, particularly in the most rural parts of the county, which could contribute to the worsening of air quality in certain rural locations. This will have negative effects on older people (75+), infants (0-5) and those with long term health conditions, who are the most likely to be vulnerable to the effects of air pollution.</p>

Determinant of Health	Potential Impact
Flood risk and climate resilience	<p>Option 4 has the potential to lead to further housing, large employment developments and infrastructure, which all have the potential to increase risk of flooding through the introduction of hardstanding surfaces and impermeable structures and loss of rural fringes. This can present an increased risk, or perception of risk, of impacts on all vulnerable groups.</p> <p>There are large areas at risk of flooding located in Oxford, Abingdon, Kidlington and Eynsham, which are key areas that could be developed as part of this option. Flooding poses negative effects to both physical and mental health. In the immediate aftermath of flooding, people can suffer from injuries, infections, exposure to chemical hazards and disruption to health services. The longer-term impacts of flooding on health are less well understood and may arise from the damage to homes, loss of domestic utilities, having to move out until the home is habitable, and delayed return to normal activities of daily living.</p> <p>At this stage the potential impact on human health is uncertain and would depend upon the type of development that comes forward, and the mitigation and adaptation measures applied.</p>
Green infrastructure, nature, townscape and tranquillity, including natural capital	<p>This option could result in further expansion of both economic and residential settlements at the urban fringe, eroding rural character and the relationship with the surrounding countryside. This could result in the loss of greenspace, loss of tranquillity, loss of natural capital assets and reduced access to the wider countryside. This could in turn inhibit people's ability to undertake physical activity through outdoor pursuits. However, focussing on expanding already urban areas could help to protect larger areas of Oxfordshire's rural countryside.</p> <p>There are however opportunities for Option 4 to contribute positively to the townscape of these larger settlements through urban regeneration and the introduction of concepts such as '20-minute neighbourhoods'. This may provide a greater sense of place, which will result in health and well-being benefits.</p>

4.5 OPTION 5

ASSESSMENT SUMMARY

- 4.5.1. The assessment identified the following vulnerable groups that could be affected by Option 5:
- Gender (specifically maternity and ante-natal);
 - Infants (0-5);
 - Young People (11-17);
 - Adults (18-74);
 - Older People (75+);
 - Disability;
 - Long-term health conditions (including addiction);
 - Unemployed/Workless/Low paid and/or insecure employment;
 - Homeless (No fixed abode); and
 - Gypsy and Travellers.
- 4.5.2. Option 5 aims to consider growth in rural settings away from the main service centres and top tier settlements, redirecting development to more rural parts of the county that have limited access to the public transport network and key services and facilities. This has predominantly resulted in positive health outcomes for rural communities. Outside of these areas, there is potential for social isolation and community severance; however, it may also reduce existing pressure on services in urban areas.
- 4.5.3. Social isolation can lead to loneliness, which has the potential to undermine well-being, thereby impacting negatively on people's quality of life. Loneliness can have a huge impact on the wellbeing of many people particularly older people, those with disabilities and new and expectant mothers. This option seeks to address existing issues of isolation and rural deprivation by redirecting growth away from main settlements to where it could best address such inequalities.
- 4.5.4. This option will ensure that housing will be delivered in rural parts of Oxfordshire, where housing is in high demand, which will help more people secure housing. However, at this stage, development will be modest and there is currently no indication of affordable housing allocation. If affordable housing isn't provided, it is likely that this option will disproportionately affect those adults (18-74) who are from lower income groups, those who are homeless and those who are unemployed, workless or in low paid and/or insecure employment.
- 4.5.5. This option could include new investment in the rural economy, new village clusters, as well as taking account of strong cross-boundary relationships with major settlements outside Oxfordshire, such as Swindon. It is likely that the process of farm diversification (particularly in response to climate change) will lead to new innovations in the rural economy that will themselves support residential growth in rural areas. This could result in a number of job opportunities in rural areas as well as providing better connectivity to jobs outside of Oxfordshire.
- 4.5.6. Creating more assessible rural developments, reducing commuter trips, promoting '20-minute neighbourhoods' and supporting active travel movements will help to decarbonise the transport network and reduce levels of air pollution. This option also aims to look at applying the 'garden village' approach. This could see development that enhances the natural environment, providing a comprehensive green infrastructure network and net biodiversity gains, and that uses zero-carbon



and climate resilience. This has potential to have positive on all vulnerable groups; however, it is dependent upon proposals that come forward.



OPTION 5 ASSESSMENT

4.5.7. Table 4.5 below presents the assessment for Option 5.

Table 4.5 – Option 5 Assessment

Determinant of Health	Potential Impact
Housing and Homeless	<p>This option aims to consider growth in rural settings away from the main service centres and top tier settlements, redirecting development to more rural parts of the county that have limited access to the public transport network and key services and facilities. However, due to constraints such as poor access and the limited capacity of rural roads, only a modest level of growth is anticipated.</p> <p>This option will ensure that housing will be delivered in rural parts of Oxfordshire, where housing is in high demand, which will help more people secure housing. This could have positive effects for working aged adults (18-74) and those who are homeless. However, at this stage, no indication of affordable housing has been provided. If affordable housing isn't provided, it is likely that this option will disproportionately affect those adults (18-74) who are from lower income groups, those who are homeless and those from who are unemployed, workless or in low paid and/or insecure employment.</p> <p>This option also does not address existing housing inequalities in urban centres, most notably the limited affordable housing stock in Oxford. This option may therefore result in disproportionate effects on those residents who reside outside of these rural areas, which will have particular negative health impacts on those adults (18-74) who are from lower income groups, those who are homeless and those from who are unemployed, workless or in low paid and/or insecure employment.</p>
Travel and Transport	<p>Good transport links provide access to opportunities for education, work, social contacts and leisure. It can enable physical activity as part of everyday life through walking and cycling, enabling people to maintain good health. Option 5 also aims to provide an extension of walking and cycling connections to local and regional routes. This option could therefore result in greater connectivity for all residents in these rural settlements and may enable and encourage active travel and healthy pursuits.</p> <p>It is not clear whether this option will provide further access to public transport. If affordable public transport options aren't provided, it is likely that there will still be a high reliance upon private vehicles, which may impact on residents' access to jobs, education, training and employability services, resulting in an adverse effect on isolated populations. This is likely will disproportionately affect older people (75+), women (maternity and ante-natal), disability and the unemployed and workless vulnerable groups.</p>
Access to services	<p>With an ageing and rural population, access to services is likely to become a more significant issue, particularly given that wide areas of rural Oxfordshire are ranked poorly on geographical access to services. This option aims to address rural</p>

Determinant of Health	Potential Impact
	<p>deprivation and inequalities by improving access to services, facilities, homes and jobs in rural areas. This will particularly benefit adults (18-74), older people (75+), women (maternity and ante-natal), those with disabilities, those who are unemployed or currently in low paid and/or insecure employment, as well as Gypsies and Travellers.</p> <p>This option could, however, result in distinct inequality in the spatial distribution of benefits provided by living in rural areas, leading to greater levels of social isolation for those living in urban areas. However, providing more facilities rurally may reduce pressure on services provided within the county's main settlements.</p>
<p>Economy and economic growth</p>	<p>At present there are limited labour pools in rural areas, exacerbated by remote locations and poor accessibility, which is contributing to the increasing hard-to-fill and skill shortage vacancies in rural areas.</p> <p>This option could include new investment in the rural economy and new village clusters, as well as taking account of strong cross-boundary relationships with major settlements outside Oxfordshire, such as Swindon. It is likely that the process of farm diversification (particularly in response to climate change) will lead to new innovations in the rural economy that will themselves support residential growth in rural areas.</p> <p>This could result in a number of job opportunities in rural areas as well as providing better connectivity to jobs outside of Oxfordshire. This will have particular positive health outcomes for adults (18-74) and those who are unemployed, workless and are currently in low paid and/or insecure employment. The success of this option will, however, depend upon whether the job opportunities are appropriate for those living in the housing provided.</p>
<p>Skills and education</p>	<p>The opportunities that the option presents to provide a number of economic developments could help to alleviate the skills gap. Social infrastructure and services associated with development could also result in the provision of educational facilities, enabling greater access to education and potential for upskilling.</p> <p>Improving rural accessibility will help more people access jobs and educational facilities. This option is, therefore, likely to benefit young people (11-17), adults (18-74) and those who are unemployed or currently in low paid and/or insecure employment; however, it will only benefit those who reside in these rural areas.</p> <p>This option could, however, result in distinct inequality in the spatial distribution of benefits provided by living in rural areas. There are existing inequalities in education within the county with regards to Attainment 8, which is particularly pertinent in the local authorities of Oxford and Cherwell. This option could therefore exacerbate this issue. However, providing more facilities rurally may reduce pressure on educational services provided within the county's main settlements.</p>
<p>Community severance and social isolation</p>	<p>According to Age UK, 74 LSOAs in the county are deemed to be of very high risk (highest risk quantile nationally), and 70 are deemed to be of high risk, of loneliness for the over 65s. A high number of these LSOAs are located in rural areas,</p>

Determinant of Health	Potential Impact
	<p>where there are fewer facilities and services. This option seeks to address existing issues of isolation and rural deprivation by redirecting growth away from main settlements to where it could best address such inequalities.</p> <p>Social isolation can lead to loneliness, which has the potential to undermine well-being, thereby impacting negatively on people's quality of life. Loneliness can have a huge impact on the wellbeing of many people particularly older people, those with disabilities and new and expectant mothers. It can often result in unhappiness, lowering of self-confidence and lowered ability to reach out for help.</p> <p>This option could result in the provision of more facilities and services and greater access to them. Vulnerable groups such as infants (0-5), adults (18-74), older people (75+), women (maternity and ante-natal), the disabled and the unemployed, living within these rural areas may benefit from increase access to facilities, which could reduce levels of community severance and social isolation.</p> <p>Conversely, this option has the potential to exacerbate existing community severance and isolation issues within urban areas of Oxfordshire, which is likely to negatively affect older people (75+), women (maternity and ante-natal) and disabled vulnerable groups.</p>
<p>Physical activity</p>	<p>There is potential that Option 5 could result in additional social infrastructure (including leisure and recreation facilities) that could provide opportunities for physical activity. The option will seek opportunities to extended walking and cycling provision including connections to regional routes, which could further encourage physical activity and active pursuits. However, this will only benefit those living within these rural areas.</p> <p>Further expansion of rural settlements and the potential establishment of new settlements could result in the loss of greenspace and access to the wider countryside, which could inhibit people's ability to undertake physical activity through outdoor pursuits.</p> <p>Participation in physical activity is lower in older people (75+), more deprived groups, unemployed or workless groups, routine and manual workers, and disabled people. This trend could be exacerbated in urban areas if leisure and recreational facilities are only located within rural areas.</p>
<p>Air quality</p>	<p>The association between health effects and exposure to air pollutants is now well established, with distinct health risks associated with exposure to particulates at a local level. Creating more assessible rural developments, reducing commuter trips, promoting '20-minute neighbourhoods' and supporting active travel movements will help to decarbonise the transport network and reduce levels of air pollution, particularly in areas with existing AQMAs including Oxford, Banbury, Bicester, Chipping Norton, Abingdon, Witney and Wallingford.</p> <p>Improved air quality will benefit all groups; however, it will be most beneficial to older people (75+), infants (0-5) and those with long term health conditions, who are the most likely to be vulnerable to the effects of air pollution.</p>

Determinant of Health	Potential Impact
Flood risk and climate resilience	<p>Option 5 has the potential to lead to further housing, employment developments and infrastructure, which all have the potential to increase risk of flooding through the introduction of hardstanding surfaces and impermeable structures and loss of rural areas. This can present an increased risk, or perception of risk, of impacts on all vulnerable groups.</p> <p>There are large areas at risk of flooding located in Thame, Kidlington, Bampton, Eynsham and Shrivenham, which are key areas that could be developed as part of this option. Flooding poses negative effects to both physical and mental health. In the immediate aftermath of flooding, people can suffer from injuries, infections, exposure to chemical hazards and disruption to health services. The longer-term impacts of flooding on health are less well understood and may arise from the damage to homes, loss of domestic utilities, having to move out until the home is habitable, and delayed return to normal activities of daily living.</p> <p>At this stage the potential impact on human health is uncertain and would depend upon the type of development that comes forward, and the mitigation and adaptation measures applied.</p>
Green infrastructure, nature, townscape and tranquillity, including natural capital	<p>This option could result in further expansion of rural settlements and addition of new settlements, eroding rural character and the relationship with the surrounding countryside. This could result in the loss of greenspace, loss of tranquillity, loss of natural capital assets and reduced access to the wider countryside. This could in turn inhibit people's ability to undertake physical activity through outdoor pursuits.</p> <p>There are however opportunities for Option 5 to contribute positively to the townscape of these rural settlements through regeneration and the introduction of concepts such as '20-minute neighbourhoods'. This may provide a greater sense of place, which will result in health and well-being benefits.</p> <p>This option also aims to look at applying the 'garden village' approach. This could see development that enhances the natural environment, providing a comprehensive green infrastructure network and net biodiversity gains, and that uses zero-carbon and climate resilience. This has potential to have positive on all vulnerable groups, however; this is dependent upon proposals that come forward.</p>

5 CONCLUSIONS

- 5.1.1. Conclusions of the assessment outcomes for each of the key determinants of health have been outlined below.

HOUSING AND HOMELESS

- 5.1.2. All options have potential to deliver housing, which will have positive effects for working aged adults (18-74) and those who are homeless.
- 5.1.3. Options 1, 2 and 4 will focus housing in existing urban areas within the county, where housing is most in need; however, these options will neglect the rural areas, which could result in individuals and groups could becoming stranded and cut off from opportunities, making them vulnerable to social exclusion. This would particularly pertinent to older people (75+), women (maternity and ante-natal), those with disabilities, the unemployed and workless, and Gypsy and Traveller vulnerable groups.
- 5.1.4. Option 3 will ensure that housing will be delivered in sustainable, well spread (both urban and rural) locations across the county, helping more people secure housing.
- 5.1.5. Options 5 could see development being located rural areas, which may alleviate housing pressures in these locations. However, at this stage, no indication of affordable housing has been provided. If affordable housing is not provided, it is likely that this option will disproportionately affect those adults (18-74) who are from lower income groups, those who are homeless and those from who are unemployed, workless or in low paid and/or insecure employment.

TRAVEL AND TRANSPORT

- 5.1.6. All options aim to provide an extension of walking and cycling connections to local and regional routes, which could result in greater connectivity for all residents and may enable and encourage active travel and healthy pursuits.
- 5.1.7. Options 1, 2 and 4 focus development around existing large settlements. These will provide greater connectivity for all residents in these urban localities; however, outside of these areas transport options are limited. There is currently a high reliance upon private vehicles, which may impact on residents' access to jobs, education, training and employability services but may have an adverse effect on isolated populations. This is likely to be exacerbated if development is focussed on larger settlements, which will disproportionately affect older people (75+), women (maternity and ante-natal), those with disabilities and the unemployed and workless vulnerable groups.
- 5.1.8. Option 3 includes active and healthy travel, encouraging healthy choices, promoting the use of public transport and improved regional and local connectivity. The option aims to deliver 'connectivity for all', not just those who are able to drive. There are therefore likely to be positive health impacts on young people (11-17), older people (75+), those who are unemployed, workless or in low paid and/or insecure employment, and disabled vulnerable groups.

ACCESS TO SERVICES

- 5.1.9. Access to services in rural areas of Oxfordshire is already poor. Options 1, 2 and 4 have the potential to result in distinct inequality in the spatial distribution of benefits provided by living in these urban areas and key innovation and economic growth clusters, leading to greater levels of social

isolation for those living outside of these areas. This will particularly negatively impact older people (75+), women (maternity and ante-natal), those with disabilities, those who are unemployed or currently in low paid and/or insecure employment and Gypsy and Traveller vulnerable groups.

- 5.1.10. Option 3 aims to strengthen community services and facilities and provide them in the county's most sustainable locations, away from those locations that have already experienced significant growth. In addition, this option will meet the needs of an ageing population and address existing deprivation issues. This will particularly benefit adults (18-74), older people (75+), women (maternity and ante-natal), those with disabilities, and those who are unemployed or currently in low paid and/or insecure employment, as they will more easily be able to access key services, facilities and employment opportunities.
- 5.1.11. Option 5 aims to address rural deprivation and inequalities by improving access to services, facilities, homes and jobs in rural areas. This will particularly benefit adults (18-74), older people (75+), women (maternity and ante-natal), those with disabilities and those who are unemployed or currently in low paid and/or insecure employment.

ECONOMY AND ECONOMIC GROWTH

- 5.1.12. All options could result in economic growth. Development associated with each of the options will provide a number of employment developments, which could provide opportunities for residents to find jobs and support economic growth. However, options may result in disproportionate effects on those residents who reside outside of target areas, as it may become harder for them to reach employment.
- 5.1.13. Out of all the options, option 4 is likely to result in the most significant growth. It could result in a number of economic developments across the county which could provide opportunities for residents to find jobs. The success of this option will depend upon whether the job opportunities are appropriate for those living in the housing provided. By targeting niche sectors such as life sciences and advanced engineering, jobs may exclude those with lower level qualifications or those with no qualifications.

SKILLS AND EDUCATION

- 5.1.14. All options present opportunities to provide a number of jobs and could help to alleviate the skills gap. Social infrastructure associated with development could also result in the provision of educational facilities, enabling greater access to education and potential for upskilling.
- 5.1.15. This is likely to benefit young people (11-17), adults (18-74) and those who are unemployed or currently in low paid and/or insecure employment; however, it will only benefit those who reside in these areas targeted by each of the options. For those living outside of these areas, this option may result in disproportionate effects, as it may become harder for them to reach employment and educational facilities.
- 5.1.16. The exception to this is Option 3, which will ensure that development is located in sustainable locations, which will be accessible by public transport. This will enable opportunities for more people to access training and education.

COMMUNITY SEVERANCE AND SOCIAL ISOLATION

- 5.1.17. Development associated with each of the options could result in the provision of more facilities and services and greater access to them via active travel and sustainable transport modes. Vulnerable

groups such as infants (0-5), adults (18-74), older people (75+), women (maternity and ante-natal), the disabled and the unemployed may benefit from increased access to facilities, which could reduce levels of community severance and social isolation.

- 5.1.18. Options 1, 2 and 4 have the potential to result in distinct inequality in the spatial distribution of benefits provided by living in these urban areas and key innovation and economic growth clusters, leading to greater levels of social isolation for those living outside of these areas. This will particularly negatively impact older people (75+), women (maternity and ante-natal), those with disabilities, and those who are unemployed or currently in low paid and/or insecure employment.
- 5.1.19. Option 5 aims to address rural deprivation and inequalities by improving access to services, facilities, homes and jobs in rural areas. This will particularly benefit adults (18-74), older people (75+), women (maternity and ante-natal), those with disabilities, and those who are unemployed or currently in low paid and/or insecure employment.

PHYSICAL ACTIVITY

- 5.1.20. All options could result in additional social infrastructure (including leisure and recreation facilities) that could provide opportunities for physical activity. The options will seek opportunities to extended walking and cycling provision including connections to regional routes, which could further encourage physical activity and active pursuits. However, this will only benefit those living within these development areas.
- 5.1.21. Participation in physical activity is lower in older people (75+), more deprived groups, unemployed or workless groups, routine and manual workers, and disabled people. This trend could be exacerbated in rural areas if leisure and recreational facilities are only located within the larger settlements and planned growth areas, associated with options 1, 2 and 4.
- 5.1.22. Options 1, 2, 3 and 5 could result in expansion of settlements at the urban-rural fringes and other rural areas, which could result in the loss of greenspace and access to the wider countryside. This could inhibit people's ability to undertake physical activity through outdoor pursuits.

AIR QUALITY

- 5.1.23. All options aim to secure 20-minute neighbourhoods, extending walking and cycling provision and promote sustainable transport, which all have potential to increase access to facilities and reduce the reliance on private vehicles for journeys. This could also contribute to improving local air quality.
- 5.1.24. However, development and additional housing associated with options 1 and 2 could result in a higher number of cars on the roads, which could contribute to a worsening of air quality, particularly given that a city-wide AQMA is already in place in Oxford and car ownership in the county already exceeds the national average.
- 5.1.25. Options 1, 2 and 4 concentrate development in urban areas. This will continue the existing reliance upon the private vehicle by people living outside of these urban areas, particularly in the most rural parts of the county. Older people (75+), infants (0-5) and those with long term health conditions are the most likely to be vulnerable to the effects of air pollution.
- 5.1.26. Options 3 and 5 will both create more assessible developments (in both urban and rural areas), which could reduce commuter trips. Supporting active travel movements will also help to decarbonise the transport network and reduce levels of air pollution.

FLOOD RISK AND CLIMATE RESILIENCE

- 5.1.27. All options have the potential to lead to further housing, employment developments and infrastructure, which all have the potential to increase risk of flooding through the introduction of hardstanding surfaces and impermeable structures and loss of rural areas. This can present an increased risk, or perception of risk, of impacts on all vulnerable groups.
- 5.1.28. There are large areas of the county at risk of flooding which, are key areas that could be developed as part of these options. Flooding poses negative effects to both physical and mental health. In the immediate aftermath of flooding, people can suffer from injuries, infections, exposure to chemical hazards and disruption to health services.
- 5.1.29. Option 3 aims to fit with the zero carbon ambitions of the Oxfordshire Plan. Central to the Oxfordshire Plan is the need to address the causes of climate change and to improve the health and well-being of communities. Securing growth based on a sustainable transport network and placing the focus and emphasis on growth in areas with good public transport links will help to ensure development will meet the needs of existing and future communities in a sustainable manner, building resilience to climate change.
- 5.1.30. At this stage the potential impact on human health is uncertain and would depend upon the type of development that comes forward, and the mitigation and adaptation measures applied.

GREEN INFRASTRUCTURE, NATURE, TOWNSCAPE AND TRANQUILLITY, INCLUDING NATURAL CAPITAL

- 5.1.31. All options could result in further expansion of urban and rural settlements as well as the addition of new settlements, which have potential to erode townscapes, rural character and the relationship with the surrounding countryside. This could result in the loss of greenspace, loss of tranquillity, loss of natural capital assets and reduced access to the wider countryside. This could in turn inhibit people's ability to undertake physical activity through outdoor pursuits.
- 5.1.32. There are, however, opportunities for all options to contribute positively to the townscape of settlements through regeneration and the introduction of concepts such as '20-minute neighbourhoods'. This may provide a greater sense of place, which will result in health and well-being benefits.
- 5.1.33. Option 2 could include consideration of enhancement to the green belt adjoining Oxford for beneficial uses. It states that further development on the edge of Oxford in the green belt should be to a high design quality, together with improved connectivity to the city, reinforcing the links to the business parks surrounding the city and investing in environment enhancements to the green belt around the edge of the city. This has the potential to have positive on all vulnerable groups.
- 5.1.34. Option 5 aims to look at applying the 'garden village' approach. This could see developments that enhances the natural environment, providing a comprehensive green infrastructure network and net biodiversity gains, and that uses zero-carbon and climate resilience. This has potential to have positive on all vulnerable groups; however, this is dependent upon proposals that come forward.



The Forum
Barnfield Road
Exeter, Devon
EX1 1QR

wsp.com

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