TECHNICAL NOTE

Huntingdonshire Strategic Transport Study

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1. Introduction

1.1 Context

The Huntingdonshire Local Plan to 2046 is currently being prepared for submission in 2025. Following National Planning Policy Framework (NPPF) and National Planning Policy Guidance (NPPG), it is imperative that local planning authorities develop a robust transport evidence base to support the preparation and review of their Local Plan.

Huntingdonshire and the wider Cambridgeshire region has a growing population, and targets are in place for the development of new homes and commercial space in the district between the present year and 2046. These are to be supported by the development of new employment sites as well as retail and wider ancillary facilities. Such development requires robust transport infrastructure to be sustainable, to ensure efficient movement of people and goods, and to enable further housing and economic growth across Huntingdonshire.

This Technical Note has been prepared by AtkinsRéalis, who have been commissioned by Huntingdonshire District Council (HDC) to deliver a Strategic Transport Study for Huntingdonshire.

The purpose of the Strategic Transport Study is to inform the development of the Huntingdonshire Local Plan to 2046. The study will:

- Identify and test the transport implications of development across four potential development strategies;
- Recommend the most sustainable development strategy in transport terms for delivering the homes required during the Local Plan period;
- Highlight where there are opportunities for increasing the usage of sustainable transport modes;
- Identify and cost where amended or additional transport infrastructure is required to mitigate the predicted impacts of each potential development strategy; and
- Form the basis of a district-wide transport strategy that mitigates the transport implications of the chosen development strategy.

The study is being conducted in three phases:

- **Phase 1:** Preferred Options Draft Local Plan
- **Phase 2:** Finalisation of the Preferred Option
- **Phase 3:** Proposed Submission

Phase 1 was conducted from April to June 2025 and comprised four key elements:

- **Baseline conditions transport evidence:** A detailed understanding of current transport conditions across Huntingdonshire was compiled.
- **Comparative accessibility assessment:** The accessibility of the proposed strategic development sites to key destinations by different modes of transport was evaluated and compared.

- **Development of mitigation packages:** A tailored package of transport interventions for each spatial strategy was identified and developed to address emerging impacts support sustainable growth.
- **Scenario testing with CaPCAM:** The transport impacts of the four spatial development strategies (with and without mitigation) were assessed using the Cambridge and Peterborough Combined Authority Model (CaPCAM), focusing on network performance, and demand patterns.

This study is undertaking a comparative assessment of the transport implications of four spatial strategies provided by Huntingdonshire District Council. It is a strategic study and considers the impact of the four spatial strategies at a strategic level, noting by exception the impacts of strategic and non-strategic sites.

A proportionate approach has been adopted for this first phase of assessment to enable a comparative assessment of the spatial strategies. The transport evidence would be expected to develop and be further refined as the HDC Local Plan moves through the plan making process, including engagement with National Highways and other key stakeholders.

1.2 Purpose and structure of this technical note

The purpose of this technical note is to conclude Phase 1 by providing evidence-based recommendations informed by the comparative accessibility assessment and scenario testing with CaPCAM. This technical note:

- Section 2 provides a summary of the four spatial scenarios and 12 strategic sites assessed in Phase 1.
- Section 3 summarises the accessibility assessment, mitigation package development, and CaPCAM modelling.
- Section 4 presents an assessment of the spatial scenarios in the form of a Multi-Criteria Assessment Framework (MCAF).
- Section 5 draws conclusions from the assessments and evidence to recommend the next steps for developing the transport evidence base to support the development of the HDC Local Plan to 2046.

This technical note is supported by separate technical notes which provide more detail regarding the methodology, assumptions and findings from each workstream. These are:

- TRACC Accessibility Assessment Technical Note[1]
- CaPCAM Transport Modelling Technical Note[2]
- Mitigation Log[3]

[1] Hunts STS Accessibility TN_v2.0.pdf
[2] Hunts STS Modelling TN_v1.0.pdf
[3] Hunts STS Mitigation Log_v2.0.xlsx

2. Spatial development strategies

2.1 Introduction

This chapter provides an overview of the four spatial development strategies provided by HDC that have been assessed at this stage. Each spatial strategy represents a different quantum and distribution of housing and employment growth across the Huntingdonshire district to 2046.

2.2 Summary of spatial strategies

The definition of each spatial strategy is summarised as follows:

- **Spatial Strategy 1**: Strong focus on existing towns and cities.
- **Spatial Strategy 2**: Sustainable locations well served by public transport, employment, and infrastructure (i.e., market towns and service centres).
- **Spatial Strategy 3**: Dispersed growth to support existing settlements.
- **Spatial Strategy 4**: Freestanding strategic development with limited dispersed growth.

Figure 1 and Figure 2 present the quantum of housing and employment growth across the four spatial strategies, split by strategic and non-strategic sites. ‘Strategic sites’ refer to the 12 strategic sites defined by HDC which are listed in

Figure 3 – Strategic site locations

Table 2-1 with their quantum and associated spatial strategy. Their locations are presented in Figure 3.

Table 2-1 - Strategic site inclusion by spatial strategy scenario

ID	Strategic site	Dwellings	Jobs	Strategy 1	Strategy 2	Strategy 3	Strategy 4
1	Sibson Garden Community	2,875	3,493	✓			
2	Chesterton Garden Village	1,420	-	✓			✓
3	Land West of A1	-	3,135	✓		✓	
4	Land at Weybridge Farm	-	13,926	✓			✓
5	Nook Farm	4,108	2,045	✓			
6	Sapley Park Garden Village	9,006	2,836				✓
7	Lodge Farm	4,989	2,040	✓	✓	✓	
8	Hungary Hall	4,061	1,860				✓

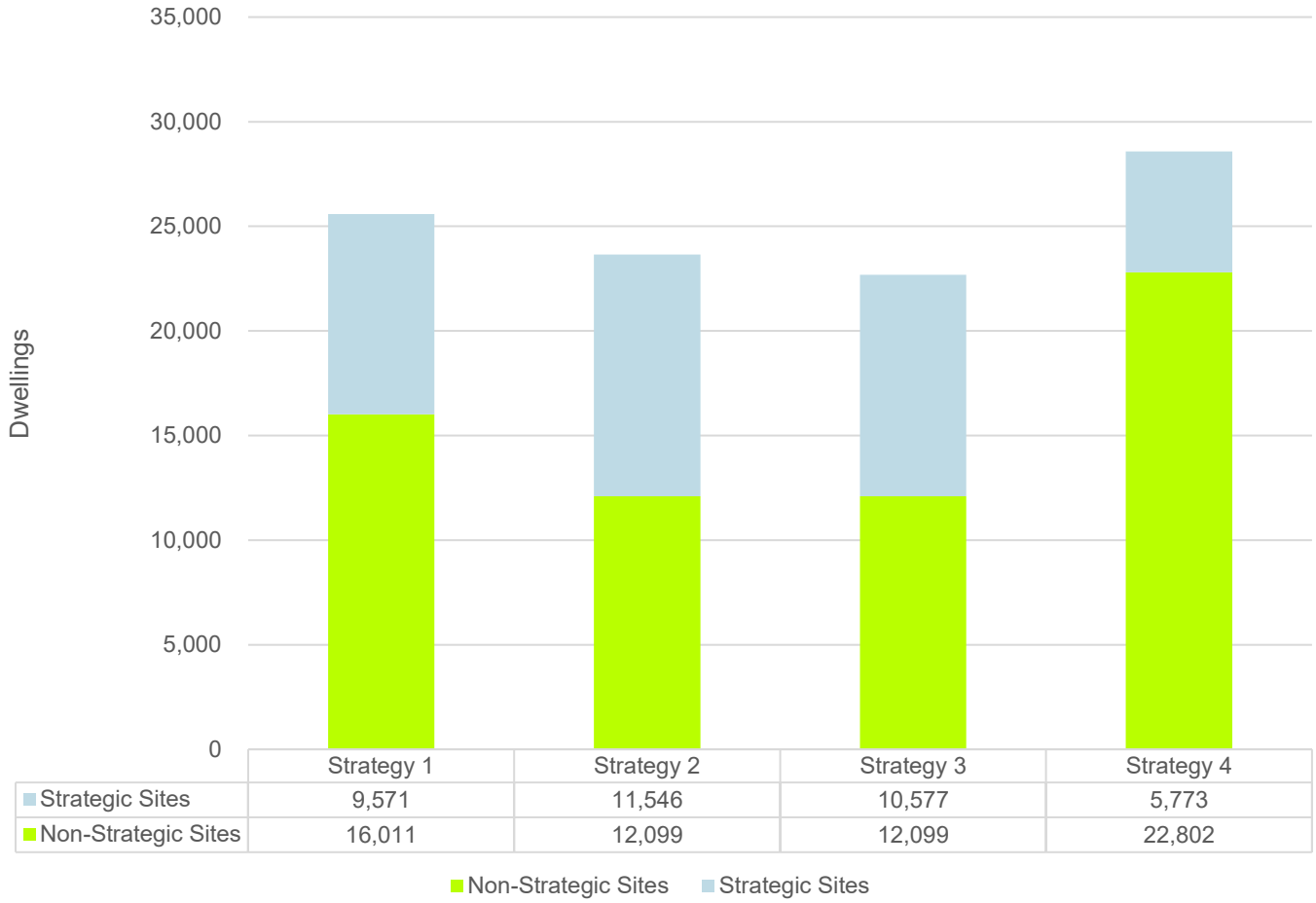
ID	Strategic site	Dwellings	Jobs	Strategy 1	Strategy 2	Strategy 3	Strategy 4
9	Wyton Airfield	4,491	2,188		✓	✓	✓
10	The Lattenburys	3,824	1,689				✓
11	Land East of St Neots	2,619	1,656	✓	✓	✓	
12	Land North of A141	-	3,439	✓	✓	✓	✓

Dwelling growth across the four spatial strategies is relatively constant, ranging from 22,000 to 29,000 new homes. Jobs growth however varies between the strategies, with significantly higher levels of growth in Strategies 1 (34,251 jobs) and 4 (30,671 jobs) compared to strategies 2 (12,557 jobs) and 3 (17,858 jobs). The additional growth in Strategies 1 and 4 is mostly concentrated at the strategic sites of Land at Weybridge Farm (13,926 jobs, Strategies 1 and 4) and Sibson Garden Community (3,493 jobs, Strategy 1 only).

Strategies 1 and 4 contain the higher proportion of strategic site growth, whilst Strategies 2 and 3 contain a lower proportion of growth with the quantum of development being distributed more evenly across strategic and non-strategic sites. The breakdown of dwellings quantum for strategic and on-strategic sites is:

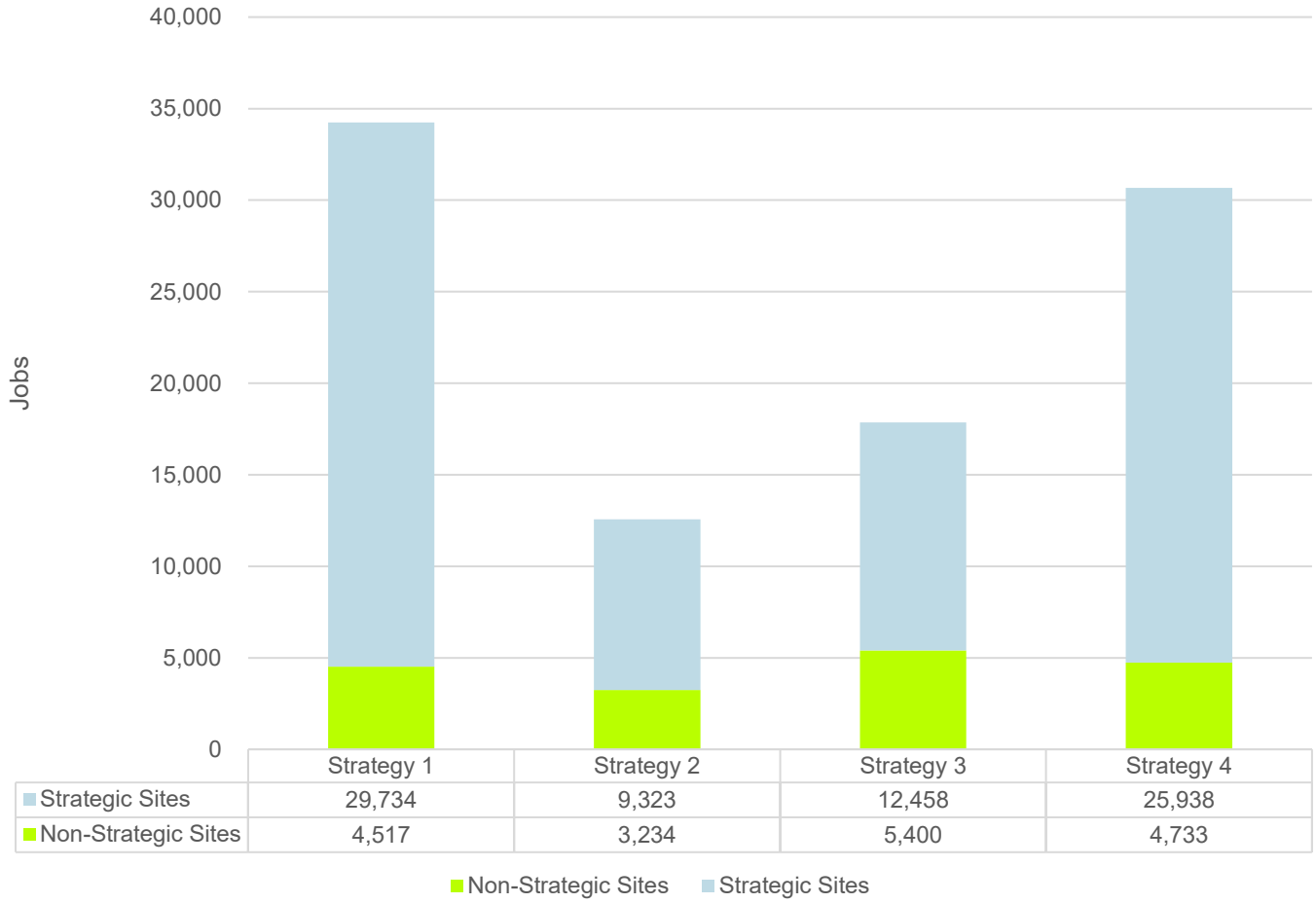
- **Spatial Strategy 1:** Strategic sites (63% of dwellings), non-strategic sites (37% of dwellings).
- **Spatial Strategy 2:** Strategic sites (51% of dwellings) and non-strategic sites (49% of dwellings).
- **Spatial Strategy 3:** Strategic sites (53% of dwellings), non-strategic sites (47% of dwellings).
- **Spatial Strategy 4:** Strategic sites (80% of dwellings), non-strategic sites (20% of dwellings).

Figure 1 - Quantum of dwellings growth by spatial strategy scenario



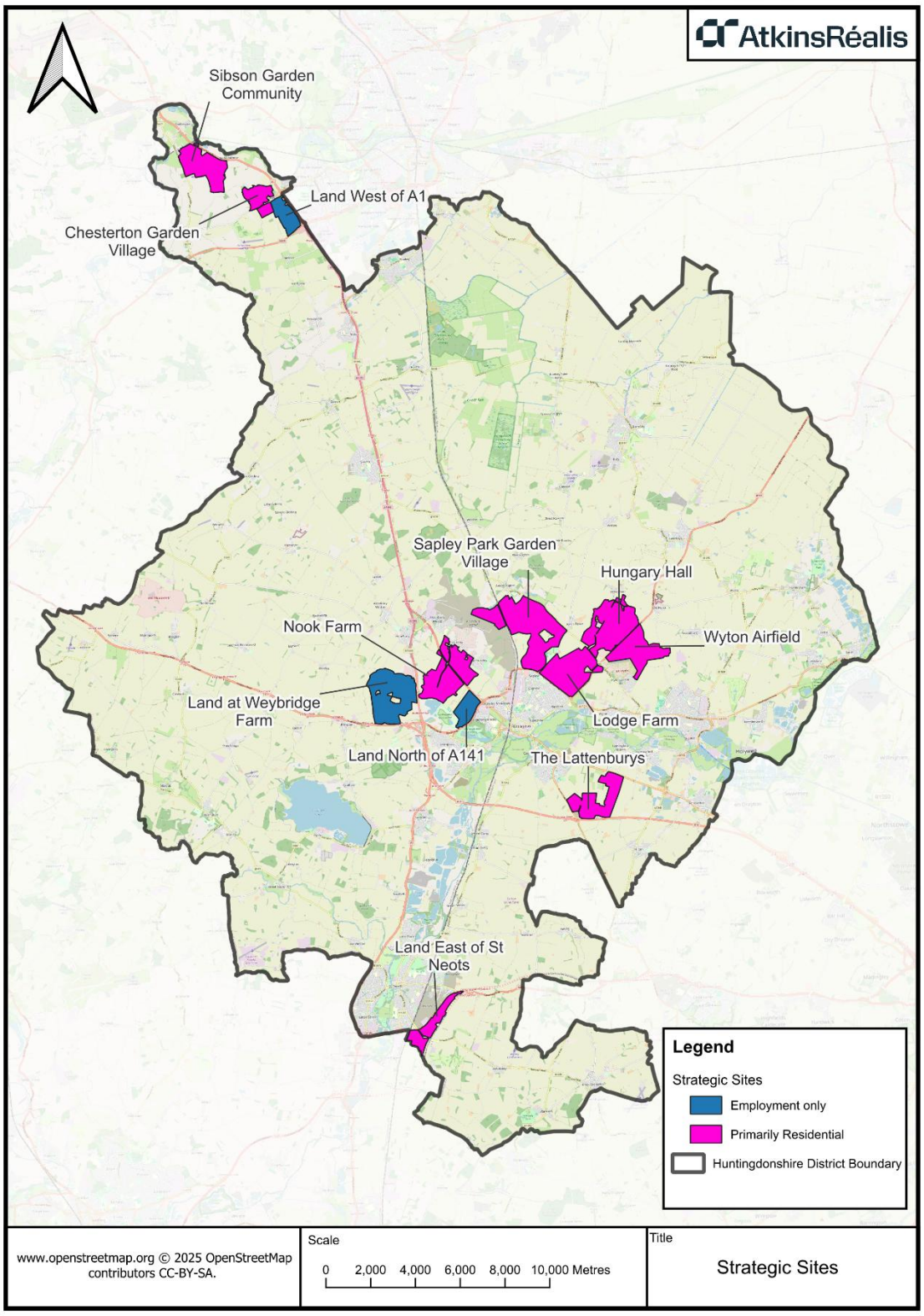
	Strategy 1	Strategy 2	Strategy 3	Strategy 4
Strategic Sites	9,571	11,546	10,577	5,773
Non-Strategic Sites	16,011	12,099	12,099	22,802

Figure 2 - Quantum of jobs growth by spatial strategy scenario



	Strategy 1	Strategy 2	Strategy 3	Strategy 4
Strategic Sites	29,734	9,323	12,458	25,938
Non-Strategic Sites	4,517	3,234	5,400	4,733

Figure 3 – Strategic site locations



3. Summary of technical work

3.1 Introduction

This chapter summarises the technical work undertaken to assess the four spatial development strategies. This includes the comparative accessibility assessment, development of mitigation packages, and testing in CaPCAM. Further detail for each of these workstreams is included in the accompanying Technical Notes.

3.2 Comparative accessibility assessment

The scope of the comparative accessibility analysis was to provide a baseline comparison of existing access credentials for walking, cycling and public transport journeys to reach destinations from strategic sites being considered in the development of the emerging local plan.

Reviewing the comparative accessibility of these sites is a vital part of the transport evidence base for the new Local Plan. The purpose of this accessibility analysis was therefore to identify the relative merits of the twelve strategic sites, in terms of their accessibility based on the existing active travel, public transport and highway network.

The analysis measures the travel time from each site access point to key destinations within the Huntingdonshire district and the wider Cambridgeshire county area by walking, cycling and public transport. The results enable a comparison between sites allow them to be ranked based on their accessibility across all modes.

The comparative accessibility assessment was driven by the use of TRACC travel time analysis and transport planning software developed by Basemap. TRACC is a multi-modal transport planning software which produces accurate travel times and distances for active travel and public transport modes, using TRACC travel time analysis software. The software allows users to specify origin and destination points, producing detailed travel time data for comparative assessments, including realistic multi-modal journeys that combine public transport and walking. For the purpose of the analysis, we have assessed journey times for different travel modes between the access points of strategic sites and key destinations including those for education, employment, and leisure purposes.

The findings of the comparative accessibility assessment inform the assessment provided in Section 4. Further details on the comparative accessibility assessment are provided in the separate TRACC Accessibility Assessment Technical Note.

3.3 CaPCAM Do-Minimum testing (without mitigation measures)

Transport modelling and analysis were undertaken using the Cambridgeshire and Peterborough Combined Authority Model (CaPCAM) to assess the transport implications of the four spatial development scenarios under consideration.

The assessment was based on the 2046 Reference Case scenario, which incorporates all committed development and transport infrastructure as set out in the CaPCAM Forecasting Report[4] and associated Uncertainty Log.

The initial round of modelling – referred to as the Do-Minimum (DM) scenarios – was designed to explore the baseline impact of each spatial strategy in the absence of additional mitigation. The objectives of this testing were to:

- Quantify the impact of each development scenario on the transport network in 2046.
- Identify the location and severity of transport pressures likely to emerge as a result of planned growth.
- Highlight the potential need for mitigation measures to address areas of network stress.

The CaPCAM model was run with the following key assumptions:

- Growth in housing and employment, as provided by HDC, was converted to travel demand using standard CaPCAM land-use to trip-generation methods (see Model Development and Validation Report[5] and Forecasting Report).
- New model development zones were introduced to represent the strategic sites, providing unconstrained access to the existing transport network with no capacity limits at access points.
- The A141 core scheme improvements were assumed to be delivered and operational by 2046.

The outputs of the DM modelling informed the identification of initial mitigation requirements for each spatial strategy. These are discussed in the following section.

3.4 Identification of potential mitigation

The approach to identifying the mitigation package for each spatial strategy can be broken into four key stages as outlined below in Figure 4.

Figure 4 - Approach to identifying mitigation measures

[4] CaPCAM_FR_v1.1.pdf
[5] CaPCAM_MDVR_v1.2.pdf

3.4.1 Review of strategic site documentation

A review of the relevant information provided by HDC was conducted to understand the access arrangements and transport mitigation measures identified for each of the strategic sites. Where information regarding site access and wider connectivity was provided, this was assessed to determine whether there was a gap in provision as part of the proposed development.

Connectivity to existing bus routes and nearby public rights of way were considered, as was the likelihood of the proposed site access being sufficient to support the proposed development quantum.

Where more detailed masterplans were provided, that considered potential mitigation; these plans were also included.

3.4.2 Review of existing plans

A review of existing plans and relevant policy documents was conducted to determine which areas of the existing network, relevant to each of the 12 strategic sites, had already been identified as an area for improvement. These plans included:

- The Cambridgeshire and Peterborough Combined Authority (CPCA) Bus Service Improvement Plan (BSIP) – published in 2024.
- Cambridgeshire's Local Cycling and Walking Improvement Plans (LCWIP) – published in 2022
- The proposed A141 Improvements – which include:
  - Relocation and dualling of the A141 around Huntingdon, following an orbital route east from the Spittal's Interchange roundabout to the A141/B1090 Sawtry Way roundabout via Ermine Street, Huntingdon Road and King's Ripton Road
  - Improved bus provision facilitated by three additional park and ride sites to serve Huntingdon, St Ives and the wider region
  - A range of active travel interventions proposed to improve connectivity between St Ives and Huntingdon
- Alconbury Weald Train Station (located on the East Coast mainline, north of Huntingdon)

Smaller scale interventions such as localised junction improvements listed within Huntingdonshire's Transport Investment Plan[6] were not included.

3.4.3 Review of DM modelling results

A review of the DM modelling results was conducted to identify key locations where increased highway pressures were likely to emerge as a result of growth.

At each location, potential highway mitigation measures were listed where they were considered to reduce network stress. However, it is important to note that some of the more significant mitigation, such as further capacity improvements to the A605, were dismissed due to concerns over feasibility.

[6] TPD List December 2023 - Huntingdonshire

3.4.4 Indicative cost estimates

Once a list of suitable mitigation measures for each development scenario was agreed, these measures were then costed based on a series of high-level cost assumptions. Costs developed at this stage are indicative only to allow for comparative assessment across the four strategies.

Details of the costs, including the construction and maintenance, operation and replacement (on-going), are provided in the separate Mitigation Log, along with the assumed specification and cost assumptions.

3.5 CaPCAM Do-Something testing (with mitigation measures)

Following the DM testing and identification of potential mitigation measures, a second round of modelling was undertaken using the CaPCAM model to assess the Do-Something (DS) scenarios. These scenarios incorporated the same four spatial development strategies, each re-tested with a tailored package of mitigation interventions in place.

The purpose of the DS modelling was to:

- Quantify the impact of each development scenario on the transport network in 2046 with the proposed mitigation measures implemented.
- Identify the extent and location of any remaining pressures that may arise despite the inclusion of mitigation.
- Assess the effectiveness of the mitigation packages in relieving network stress and supporting planned growth.

The DS model runs used the same core assumptions as the DM tests, with the addition of the specific mitigation measures identified for each scenario. These mitigation measures were developed in response to the pressures observed in the initial analysis and were designed to address critical constraints on the transport network.

In addition to testing mitigation effectiveness, the modelling results were used to compare the transport performance of the four spatial strategies. This included analysis of overall network impacts and levels of congestion. The modelling also enabled a more granular assessment of the performance of individual development sites within each strategy, helping to identify both the most and least transport-efficient locations for growth.

The results of the DS analysis are summarised in Section 4 and form the basis for the conclusions and evidence-based recommendations presented in Section 5 of this technical note.

Further detail on the CaPCAM modelling methodology, inputs, and outputs is provided in the separate Modelling Technical Note.

4. Assessment of spatial scenarios in transport terms

4.1 Introduction

A comparative assessment of the four spatial strategies has been undertaken using a multi-criteria assessment framework (MCAF) which takes inputs and evidence from:

- Comparative accessibility assessment of strategic sites in Huntingdonshire.
- Testing and analysis of four spatial development scenarios in Huntingdonshire using the CaPCAM multi-modal model.

The MCAF provides the basis for understanding the relative transport impacts, merits and weaknesses of each spatial strategy. This chapter describes the framework and presents the key findings. The full MCAF is provided in Appendix A. Conclusions and recommendations are provided in Section 5.

4.2 Assessment framework – approach

As confirmed with HDC the assessment framework is structured to consider the following for each spatial strategy:

a. Alignment with relevant emerging HDC Local Plan objectives.
b. Affordability and deliverability of the identified mitigation package.

A qualitative assessment is provided using the inputs and evidence shown in Table 4-1. This assessment primarily considers the difference between the spatial strategies at a strategic level, while also highlighting specific strategic sites where the findings are significant. As some of the spatial strategies include a proportion of non-strategic sites, the impact of these has also been considered.

Table 4-1 - Assessment framework - inputs and evidence

Assessment component	Inputs/evidence
a. Alignment with relevant emerging HDC Local Plan objectives. Relevant emerging Local Plan objectives under the 'Travel transformed' theme: ▪ *Provision of high-quality digital infrastructure and co-locating homes, jobs, and local services will reduce the need to trave* (objective 1 for the purposes of the MCAF). ▪ *Realistic alternatives to private car use will exist to encourage walking, cycling, wheeling and use of public transport* (objective 2 for the purposes of the MCAF).	CaPCAM modelling outputs: ▪ Trip generation ▪ Mode share ▪ Trip distance & time ▪ Network impact Comparative accessibility assessment of strategic sites ▪ Comparative accessibility ranking.
b. Affordability and deliverability of identified mitigation package.	Sourced from the Mitigation Log: ▪ Capital cost ▪ Revenue cost ▪ Delivery feasibility

4.3 Comparative assessment of four spatial strategies

This section presents the findings from the full assessment framework which is provided in Appendix A. The assessment is presented in the following order:

- Spatial strategy alignment with relevant objectives.
- Comparison of the transport impacts for spatial strategies.
- Affordability and deliverability of mitigation.

4.3.1 Spatial strategy alignment with relevant objectives

4.3.1.1 Assessment criteria

The alignment of each spatial strategy with the relevant emerging HDC Local Plan transport objectives under the 'Travel transformed' theme has been assessed using the input evidence. These objectives were confirmed with HDC as the most relevant for this assessment. A rating has been applied using the criteria provided in Table 4-2.

Table 4-2 - Alignment with relevant emerging HDC Local Plan transport objectives criteria

Rating	Contribution	OBJECTIVE 1: *Provision of high-quality digital infrastructure and co-locating homes, jobs, and local services will reduce the need to travel.*	OBJECTIVE 2: *Realistic alternatives to private car use will exist to encourage walking, cycling, wheeling and use of public transport.*
1	No contribution / negative impact	The strategy does not support co-location and may increase the need or distance to travel to access jobs & services.	The strategy includes very few development sites which are in more accessible locations which enables more journeys to be undertaken by walking, cycling, and/or public transport and as such private car mode share increases.
2	Limited contribution	The strategy offers minimal support for co-location. Effects on reducing the need & distance to travel to jobs & services are marginal, inconsistent, or indirect.	The strategy includes a limited number of development sites which are in more accessible locations which enables more journeys to be undertaken by walking, cycling, and/or public transport and as such private car mode share is consistent with the reference case.
3	Moderate contribution	The strategy supports co-location in specific areas that reduce the need or distance to travel to access jobs & services. Benefits are tangible but not transformative.	The strategy includes a select number of development sites which are in more accessible locations which enables more journeys to be undertaken by walking, cycling, and/or public transport and as such private car mode share is lower.
4	Strong contribution	This strategy enables widespread co-location of housing, jobs, and services that significantly reduces the need & distance to travel to access jobs & services.	The strategy includes a majority of development sites, which are in more accessible locations, enabling more journeys to be undertaken by walking, cycling, and/or public transport and as such private car mode share is significantly lower.

4.3.1.2 Assessment findings

The alignment of each spatial strategy against the two objectives is summarised in Table 4-3. The assessment has shown that Strategies 1 and 4 have a limited alignment or contribution towards achieving the transport objectives for the emerging HDC Local Plan. Strategies 2 and 3 have a stronger alignment with the objectives.

The key driver in the difference is that Strategies 1 and 4 have a higher quantum of development which will generate more demand on the transport network, compounded with a higher quantum apportioned to a number of key strategic sites which are comparatively less accessible. As such, Strategies 1 and 4 generate higher travel demand by car and longer distances which has an impact on the transport network.

Table 4-3 - Summary of alignment with objectives

Spatial strategy	Alignment with objectives	Rating
Spatial Strategy 1	The higher level of growth in this strategy, concentrated at a small number of strategic sites, presents a challenge to facilitate in transport terms without considerable mitigation.	2
Spatial Strategy 2	The lower levels of growth in this strategy, and the balance of that growth across comparatively more accessible strategic and non-strategic sites puts less strain on the transport network relative to other strategies. The lower levels of growth concentrated at specific strategic locations requires less costly mitigation.	4
Spatial Strategy 3	The lower levels of growth in this strategy, and the balance of that growth across accessible strategic and non-strategic sites puts less strain on the transport network relative to other strategies. The lower levels of growth concentrated at specific strategic locations requires less costly mitigation.	3
Spatial Strategy 4	The higher level of growth in this strategy, concentrated at a small number of strategic sites, presents a challenge to facilitate in transport terms without considerable mitigation.	2

4.3.2 Comparison of transport impacts at strategy level

The qualitative assessment summarised in Table 4-4 and driven by the assessment framework provided in Table 4-2 indicates that the transport performance of each spatial strategy, in order of lowest performing to best performing is:

- **Spatial Strategy 1**: Strong focus on existing towns and cities.
- **Spatial Strategy 4**: Freestanding strategic development with limited dispersed growth.
- **Spatial Strategy 3**: Dispersed growth to support existing settlements.
- **Spatial Strategy 2**: Sustainable locations well served by public transport, employment, and infrastructure (i.e., market towns and service centres).

The reasons for this follow from the conclusions of the alignment of objectives. The key driver in the difference is that strategies 1 and 4 have a higher quantum of development which will generate more demand on the transport network, compounded with a higher quantum apportioned to several key strategic sites which are comparatively less accessible.

Table 4-4 - Comparison across all four spatial strategies

Assessment metric	Strategy 1	Strategy 4	Strategy 3	Strategy 2
Quantum	Second highest dwellings total. Split: Strategic sites (63%), non-strategic sites (37%). Highest jobs total.	Highest dwellings total. Split: Strategic sites (80%), non-strategic sites (20%). Second highest jobs total.	Lowest dwellings total. Split: Strategic sites (53%), non-strategic sites (47%). Second lowest jobs total,	Second lowest dwellings total growth, Split: strategic sites (51%) and non-strategic sites (49%). - Lowest jobs total,
Strategic sites – transport impacts	▪ Higher trip generation. ▪ Highest car mode share. ▪ Highest out-commuting. ▪ Longest distance & time travelled. ▪ Lowest internalisation of trips.	▪ Highest trip generation. ▪ Higher car mode shares. ▪ Longest distance & time travelled. ▪ Less in/out commuting from Huntingdonshire. ▪ Higher internalisation of trips.	▪ Higher trip generation. ▪ Lowest car mode share. ▪ Shorter distance & time travelled. ▪ Lower in/out commuting from Huntingdonshire.	▪ Lowest trip generation. ▪ Lowest car mode share. ▪ Shortest distance & time travelled. ▪ Lowest in/out commuting from Huntingdonshire.
Non-Strategic sites – transport impacts	▪ Generates the second lowest volume of trips. ▪ Mode share is consistent across all four strategies.	▪ Generates the lowest volume of trips. ▪ Mode share is consistent across all four strategies.	▪ Generates the second highest volume of trips. ▪ Mode share is consistent across all four strategies.	▪ Generates the highest volume of trips. ▪ Mode share is consistent across all four strategies.
Network impact	Network impact: ▪ Vehicle delay – second highest, significant.	Network impact: ▪ Vehicle delay – highest, significant.	Network impact: ▪ Vehicle delay - moderate increase, higher than Strategy 2.	Network impact: ▪ Vehicle delay – moderate increase, lower than Strategy 3.

4.3.3 Affordability and deliverability of mitigation

A mitigation package of measures has been developed and costs (capital and revenue) have been estimated. Each package has been considered in terms of complexity, likely delivery feasibility and cost. The assessment is summarised in Table 4-5.

Table 4-5 – Affordability and deliverability of mitigation

Spatial strategy	Spatial strategy description	Rating
Spatial Strategy 1	**Significantly challenging to deliver** ▪ Sibson Garden Community to the north requires a new National Highways junction on the A1 and realignment of the carriageway. This will be costly and challenging to deliver. ▪ Nook Farm will likely require de-trunking of the A1307 and a reduction in speed limit in order to accommodate a new access junction into the site. This will be costly to deliver and require buy-in from National Highways which will require a specific process to be followed which can be lengthy. ▪ Land at Weybridge Farm is likely to cause significant impact to the surrounding road network without an alternative access proposal. ▪ Hinchingbrooke Newlands access will require removal of existing slips into Hinchingbrooke Business Park/Hospital site and construction of a new access roundabout which will require approval from National Highways.	1
Spatial Strategy 2	**Relatively simple to deliver** ▪ Hinchingbrooke Newlands access will require removal of existing slips into Hinchingbrooke Business Park/Hospital site and construction of a new access roundabout which will require approval from National Highways.	3
Spatial Strategy 3	**Relatively simple to deliver** ▪ Hinchingbrooke Newlands access will require removal of existing slips into Hinchingbrooke Business Park/Hospital site and construction of a new access roundabout which will require approval from National Highways.	3
Spatial Strategy 4	**Challenging to deliver** ▪ Land at Weybridge Farm is likely to cause significant impact to the surrounding road network without an alternative access proposal. ▪ Hinchingbrooke Newlands access will require removal of existing slips into Hinchingbrooke Business Park/Hospital site and construction of a new access roundabout which will require approval from National Highways. ▪ Sapley Park Garden Village may require the delivery of Alconbury Train Station, which will require significant buy-in and investment from Network Rail. Delivery of a new railway station will be extremely costly and challenging to deliver. ▪ The Lattenbury's site may require significant improvement to the A1307 (south), which is now detrunked (and a large access roundabout at this location).	2

4.4 Summary of findings

Noting the difference in development quantum across the four spatial strategies, a fair comparison is to consider spatial strategies which have a similar development quantum. Strategies 1 and 4 have a higher quantum, whilst Strategies 2 and 3 have a lower quantum. These are discussed below.

4.4.1 Comparing Strategies 1 & 4 (higher growth quantum)

The analysis and assessment framework suggests Strategies 1 and 4 are poorer performing in transport terms due to:

- A higher quantum of growth, which generates a greater level of travel demand.
- A higher proportion of this growth being concentrated at strategic sites.
- Strategic sites located closer to the strategic road network and further from existing urban centres, leading to a higher proportion of demand being met by car travel.

While both strategies share these characteristics, Strategy 1 includes more comparatively accessible strategic sites (e.g. East of St Neots, Lodge Farm), whereas Strategy 4 concentrates greater growth at a less accessible location (e.g. Sapley).

As such, the quantum of demand and associated car trips results in substantial increases in delay on the transport network which will impact the journey times and reliability for all users of the road network, including bus services.

4.4.2 Comparing Strategies 2 & 3 (lower growth quantum)

Strategies 2 and 3 represent lower-growth scenarios and perform more favourably in transport terms compared to Strategies 1 and 4. The analysis suggests that this is primarily due to three factors:

- Lower overall growth quantum, resulting in reduced travel demand and fewer vehicle trips.
- A more even distribution of growth between strategic and non-strategic sites, helping to avoid over-concentration of demand in specific locations.
- A better balance between the number of jobs and resident workers, supporting higher levels of internal trip-making within Huntingdonshire and reducing pressure from out-commuting.

As a result, while car mode share remains broadly in line with the Huntingdonshire average, the absolute number of car trips is lower than in the higher-growth scenarios. Furthermore, the distribution of development in Strategies 2 and 3 places a greater proportion of growth closer to existing services and facilities, increasing the potential for travel by non-car modes.

The improved jobs-to-workers balance in these strategies also supports more self-contained commuting patterns. In contrast, Strategies 1 and 4 include larger growth in areas with strong connections to the strategic road network, encouraging more out-commuting, particularly by car.

That said, both Strategies 2 and 3 are forecast to result in increased delay on the transport network. Strategy 3, in particular, is associated with marginally higher average delay and lower average vehicle speeds than Strategy 2. The reasons for this difference may relate to the specific locations and characteristics of development sites within each strategy, including:

- **Strategic site allocations:** Strategy 3 includes the Land West of the A1 (approx. 1,638 dwellings), a site likely to be more car-dependent due to its relative inaccessibility by non-car modes.
- **Non-strategic site composition:** Strategy 3 includes additional commercial development at Galley Hill (Fenstanton), near the A1307 and A1096 junction—an area already under pressure from existing highway demand.
- In contrast, Strategy 2 includes Giffords Farm, located to the east of St Ives, which may be comparatively more accessible by sustainable modes and less reliant on private car use.

5. Conclusions and recommendations

5.1 Conclusions

Phase 1 of the Huntingdonshire Strategic Transport Study has established a robust evidence base to assess the relative transport implications of the four proposed spatial development strategies. Using the CaPCAM model, the study tested four spatial strategy development scenarios under DM (without mitigation) and DS (with mitigation) conditions, supported by a comparative accessibility assessment and review of the baseline transport conditions.

The DM testing highlighted where growth would place pressure on the transport network in the absence of any mitigation, while the DS scenarios demonstrated how a targeted package of mitigation measures could help alleviate that pressure. The modelling also enabled a comparative assessment of the performance of each spatial strategy, both at a strategic level and at the level of individual development sites.

The analysis indicates that Strategy 2 (sustainable locations well served by public transport, employment, and infrastructure) performs most favourably in transport terms. However, there is clear potential to develop a refined 'hybrid' strategy, combining the strongest-performing elements of multiple strategies to achieve a better balance of housing and employment, maximise internal trip-making, and reduce reliance on external commuting journeys.

Strategies 2 and 3 align more closely with the two emerging HDC Local Plan transport objectives, compared to Strategies 1 and 4. While they still generate additional pressure on the transport network (e.g. in terms of vehicle kilometres and delay), the impacts are less severe than those associated with Strategies 1 and 4.

The findings point to two broad directions depending on the preferred quantum of growth:

- If a lower level of growth (as in Strategies 2 and 3) aligns with HDC's housing and employment targets, a 'hybrid' strategy will need to be developed. The development of a 'hybrid' package will need to consider how existing travel behaviours and conditions (particularly high car dependence) are not reinforced in order to meet the wider transport objectives in Cambridgeshire.
- If a higher growth requirement is confirmed (as represented in Strategies 1 and 4), further refinement would be needed to accommodate this sustainably. This could include increasing densities within the preferred locations of Strategies 2 and 3 or introducing one or more of the next most accessible strategic or non-strategic sites into a 'hybrid' strategy. In either case, the same underlying transport challenges would need to be addressed.

It is also important to note that this study has considered Huntingdonshire in isolation and does not currently take account of interactions with proposed levels of development in adjacent districts, including Cambridgeshire and Peterborough. Future phases of work may need to consider these wider cross-boundary influences to ensure a consistent and coordinated strategic approach.

5.2 Recommendations

Based on the findings of Phase 1, several areas have been identified for further development and analysis in Phase 2. These next steps are intended to build on the initial evidence base and refine the strategic direction of the developing transport evidence to support the emerging Local Plan. The recommended next steps include:

- **Development and testing of a 'hybrid' strategy:** The Phase 1 assessment has demonstrated that Strategy 2 performs most strongly in transport terms. However, there is an opportunity to further optimise outcomes by developing a hybrid strategy that combines the strongest-performing elements of Strategy 2 with complementary elements from other strategies - such as selected non-strategic sites from Strategy 3. This hybrid approach would aim to improve the balance of housing and employment growth across Huntingdonshire, with the objective of increasing trip internalisation, reducing reliance on in/out-commuting, and minimising impacts on the transport network.
- **Refinement of the mitigation package:** Phase 1 included a single round of mitigation development and testing. There is scope to improve these packages further in Phase 2, through refinement of individual measures and the introduction of more strategic-level interventions and a review of the measures with the Huntingdonshire Transport Strategy and supporting Transport Investment Plan. For example, adopting a 'trip budget' approach for strategic and larger non-strategic sites (residential and employment) can provide a framework for identifying measures to manage trip generation in a more demand-led and sustainable manner. The refined mitigation should be tested in CaPCAM in combination with the hybrid development strategy to evaluate overall effectiveness.
- **Costing and deliverability of mitigation measures:** Additional work should be undertaken to develop more comprehensive cost estimates for the mitigation measures identified, particularly those associated with Strategy 2 and any new interventions proposed as part of the hybrid strategy. This should also focus on the deliverability of any proposed mitigation. This will help inform viability assessments and implementation planning.
- **Model testing of the 'hybrid' strategy:** The refined hybrid strategy and updated mitigation package should be tested using the CaPCAM model under Do-Something conditions. This will provide an updated understanding of future network performance and help validate the transport merits of the proposed approach.
- **Testing without the A141 Core Scheme:** To understand the dependency of the spatial strategy on the A141 core scheme, a sensitivity test should be undertaken of the 'hybrid strategy' using CaPCAM with the A141 scheme removed. This will provide insight into the resilience of the development strategy and the potential need for alternative or supplementary mitigation.
- **Use of the CaPABM model:** Where time and resources allow, further modelling could be undertaken using the Cambridgeshire and Peterborough Activity-Based Model (CaPABM). This could support a more detailed understanding of detailed behavioural responses, including public transport and active travel interactions, which are not fully captured in CaPCAM.
- **Sensitivity test to include East West Rail (EWR) scheme:** EWR is expected to enable modal shift towards rail and away from car for trips on the east-west axis. To understand the impact of EWR on the preferred strategic development scenario, a sensitivity test could be undertaken using CaPCAM. Previous modelling in the Cambridge Sub-Regional Model (CSRM2) has shown that EWR impacts the A428 around St Neots, as well as the A14 to a lesser extent. CSRM2 modelling has historically also shown a slight modal shift towards rail for trips from Huntingdonshire and Peterborough to Cambridge, particularly the area around Cambridge South station when EWR has been implemented. With additional development around Huntingdon in the emerging HDC Local Plan, along with the potential provision of a new station at Alconbury Weald, rail access in the Huntingdonshire area will be improved. The implementation of EWR (via the interchange station at Tempsford) may allow for this improved rail access to further increase the rail mode as more destinations are served more directly by rail. This may reduce car flows and bus loads between Huntingdon and Cambridge, but certain areas may see bus patronage and car traffic increase as rail users access the stations – for instance flows from villages around Huntingdon station, flows from St Neots to Tempsford station or flows from St Ives/southeast Huntingdonshire to the EWR Cambourne station.

TECHNICAL
NOTE

Appendices

Appendix A. Multi-Criteria Assessment Framework (MCAF)