Transport Modelling Outputs Report

Greater Cambridge Transport Strategy

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Executive Summary

This report presents the findings of transport connectivity and modelling analysis undertaken to inform the development of the **Greater Cambridge Transport Strategy (GCTS)**. The assessment combines outputs from the **Cambridgeshire and Peterborough Combined Authority Model (CaPCAM)** with accessibility analysis undertaken using **Stantec's STEP tool** to evaluate how the proposed GCTS intervention package supports connectivity, travel choice and growth across Greater Cambridge.

The analysis compares a **Do Minimum** scenario, comprising Local Plan growth and committed transport schemes, with a **Do Something** scenario that incorporates the additional short-, medium- and long-term interventions proposed through the GCTS. The assessment has been undertaken to understand the extent to which the strategy improves access to jobs, services, education, healthcare and transport opportunities, whilst supporting the objectives of the emerging Greater Cambridge Local Plan, the CPCA Local Transport and Connectivity Plan and the wider growth ambitions of the area.

Overall, the analysis demonstrates strong alignment between the STEP accessibility outputs and the CaPCAM modelling results. Whilst each tool assesses different aspects of network performance, both consistently identify improved public transport connectivity and enhanced accessibility under the Do Something scenario. The evidence shows that the GCTS intervention package broadens the range of destinations that can be reached within reasonable journey times and increases the choice of travel options across Greater Cambridge.

The findings indicate that the benefits of the GCTS extend beyond improving access to Cambridge city centre. Enhanced connectivity is demonstrated between strategic growth locations and key employment destinations including the Cambridge Biomedical Campus, Cambridge Science Park, Cambridge East, Babraham Research Campus and other major destinations throughout the wider travel-to-work area. The strategy supports a more distributed pattern of movement across the sub-region, enabling people to access opportunities across Greater Cambridge through a wider range of travel options.

The desire-line analysis shows that public transport movement patterns generally become stronger and more geographically extensive under the Do Something scenario. The most significant improvements are observed at locations including **Cambourne North, Grange Farm, Cambridge Biomedical Campus, Babraham Research Campus, Cambridge East, and Bourn Airfield New Village**, where the intervention package delivers a clear enhancement in accessibility and travel opportunities. While improvements are more modest at sites such as Slate Hall Farm and Northstowe under the currently modelled assumptions, further sensitivity testing suggests that additional targeted interventions could unlock further benefits.

The mode share analysis demonstrates that the strategy supports a meaningful shift towards public and active modes. Across the modelled cordons, public transport trips increase substantially whilst car trips generally reduce. Within Inner Cambridge, public transport person trips increase by approximately **40%**, accompanied by reductions in car trips of around **20%**. Larger increases in public transport demand are recorded across Outer Cambridge and the wider Cambridge and Outer Villages cordons, indicating that improved accessibility translates into increased public transport use and active travel.

Journey time analysis further reinforces these findings. Public transport journey times improve significantly across many strategic growth locations, with savings typically ranging between **10 and 20 minutes**. Some of the largest improvements are observed at **Cambourne North, Grange Farm, Cambridge Biomedical Campus, Babraham Research Campus, Bourn Airfield and Waterbeach**. In many instances, public transport becomes competitive with, or faster than, car travel for journeys to and from Cambridge city centre. Whilst some increases in car journey times are observed, these are generally modest and occur alongside significant improvements in accessibility, travel choice and public transport competitiveness.

Taken together, the evidence demonstrates that the GCTS intervention package would create a more connected, and accessible transport network capable of supporting planned growth across Greater Cambridge. The strategy expands the range of realistic travel options available to residents, workers

and visitors, improves access to key destinations, and strengthens the role of public transport as a viable alternative to private car travel.

Whilst the analysis represents a strategic-level assessment and individual interventions will require further development and appraisal as they progress, the combined STEP and CaPCAM evidence provides a robust basis for concluding that the GCTS can deliver meaningful improvements in connectivity, broaden travel choice and support the long-term economic and spatial ambitions of Greater Cambridge.

1 Introduction

1.1 Background and Project Context

1.1.1 The Greater Cambridge Transport Strategy (GCTS) seeks to provide a local transport strategy cascading from the Cambridgeshire and Peterborough Combined Authority's (CPCA) Local Transport and Connectivity Plan (LTCP)1 aligning with new mayoral priorities, a transport evidence base underpinning a robust, compliant, vison-led joint Local Plan, and a transport decision-making framework to support the CPCA's Local Growth Plan and the ambitions of the Government's Greater Cambridge Development Corporation.

1.1.2 The transport connectivity and modelling analysis has been undertaken to provide a clear, outcome-focused assessment of how effectively the transport network enables access to jobs, services, and opportunities across Greater Cambridge, now and in the future. Connectivity is used as a key metric to support a vision-led approach to transport planning, consistent with national planning policy and emerging best practice, moving beyond traditional 'predict and provide' methods.

1.1.3 The analysis establishes a quantified baseline of access by different modes and identifies gaps in multi-modal connectivity that could constrain growth or inhibit travel choice. This provides an evidence-led basis for testing the emerging Greater Cambridge Local Plan growth and a platform for longer term growth as envisaged in the CPCA's Local Growth Plan, helping to demonstrate that development is located in areas that are, or can be, well served by a range of travel choice. In doing so, it supports the NPPF tests of soundness, particularly positive preparation, and justification.

1.1.4 Connectivity analysis is integrated with the wider Greater Cambridge Transport Strategy, informing the need for intervention, option generation and refinement, and the proportionate use of strategic modelling. It is positioned upstream of detailed scheme-specific modelling to help focus subsequent assessment on the most appropriate and policy-aligned transport packages.

1.2 Project Aims and Objectives

1.2.1 The primary objective of the overarching project is to develop the GCTS, which will serve as a spatial sub-strategy under the approved LTCP.

1.2.2 The connectivity and modelling analysis has been completed in alignment with the project objectives to:

- Provide a robust, and guidance compliant, transport strategy to accompany, alongside other elements of the evidence base, the emerging Greater Cambridge Local Plan.

- Act as a Greater Cambridge-focused sub-strategy to the CPCA's LTCP to also provide transport context for future investment decisions. This should include a high-level forward capital/delivery programme for the authorities in the area including for other transport proposals not directly related to the emerging Greater Cambridge Local Plan, and set out policies, as well as evidence, and be developed cognisant of the Government's longer term growth aspirations for the sub-region such that the strategy is appropriately future proofed to reflect mayoral aspirations for growth set out in the CPCA's Local Growth Plan and the evolving work of the Greater Cambridge Development Corporation.

1.3 Purpose and Scope of this report

1.3.1 The purpose of this report is to provide high-level outputs from the modelling work undertaken using the Cambridgeshire and Peterborough Combined Authority Model (CaPCAM) which has

[1] CPCA-LTCP-Strategic-Document.pdf

been developed by consultants working with Cambridgeshire County Council on behalf of the CPCA. The analysis undertaken is to provide evidence to underpin the transport strategy, with the focus to demonstrate that the transport interventions included within the strategy, provide greater choice and options for people wishing to travel in and around the Cambridge area both in terms of existing trip origins and destinations and providing opportunities for trips by public and active transport to more destinations.

1.3.2 The modelling outputs sit alongside the connectivity analysis undertaken using the DfT Connectivity Tool and Stantec's STEP tool, which were reported in 'Connectivity Analysis Report' produced by Stantec and dated September 2026.

1.4 Geographic coverage of Study

1.4.1 The study area focuses on Greater Cambridge and the wider travel-to-work area, encompassing Cambridge and a range of existing settlements, strategic growth locations and employment destinations. The geographic area extends westwards to St Neots and Tempsford, eastwards to Haverhill, southwards to the Babraham and Granta Park cluster, and northwards to Waterbeach and Northstowe. The assessment includes both strategic growth locations identified through the emerging Greater Cambridge Local Plan and comparator settlements that provide context for interpreting connectivity performance across different settlement types and spatial contexts.

1.4.2 The modelling outputs are considered in the wider context of how they support greater connectivity (and fit with the connectivity analysis work) and demonstrate that the strategy provides people with travel choice options.

1.5 Summary of CaPCAM, and scenarios tested

Transport Model

1.5.1 CaPCAM is a multi-modal demand model that has been developed within the PTV VISUM software. The model has been developed with a base year of 2023 and models highway and public transport modes, as well as other variable demand modelling responses which take account of how traffic demand will react within congested networks and when additional capacity is introduced.

1.5.2 For the purposes of the modelling for GCTS a 2046 forecast model is used. This is consistent with the model used to support the emerging Greater Cambridge Local Plan.

Scenarios

1.5.3 The analysis has been undertaken for the following scenarios:

Do Minimum – this includes all Greater Cambridge emerging Local Plan development, alongside transport interventions identified to support the plan.

- **Do Something** – This includes additional short-, medium- and long-term transport interventions included within the GCTS.

1.5.4 For the purposes of the GCTS modelling high-level assumptions have been made with regard the Do Something interventions, such as routing of mass transit routes. This will provide useful insights into how the interventions influence the origin and destination of trips, demonstrating improvements in connectivity, and access to services. In this context the Do Something scenario is effectively a 'what-if' scenario and the model outputs should be treated as such, and not definitive outcomes expected if the GCTS interventions were fully realised.

1.5.5 The indicative schemes that have been tested in CaPCAM are shown in Appendix A, which includes a note on whether they are included in the Do Minimum and Do Something models, or just the Do Something.

1.5.6 The model outputs include plots showing public transport connectivity to or from strategic sites in the Do Minimum and Do Something scenarios, along with changes in public transport and car person trips across cordons and journey times comparisons for car and public transport between strategic sites and Cambridge city centre.

1.5.7 More detailed modelling of individual interventions would be required as part of the development of these schemes as they are taken through the transport business case and appraisal process.

1.5.8 In addition, impacts at a very localised level have not been fully explored and there is likely to be a requirement for more detailed modelling either using CaPCAM or more detailed micro-simulation modelling, at specific locations to examine the detailed operational implications of elements such as signal optimisation or small changes at junctions, such as changes to lane allocations.

1.6 STEP Tool Overview

1.6.1 The Stantec Transport Evaluation Platform (STEP) tool is a web platform for scenario-based accessibility analysis using public transport, walking, and cycling. It allows for the comparison of accessibility by generating isochrones from site locations and allows for analysis of transport interventions to understand impact on accessibility as a result of their introduction.

1.6.2 The STEP tool uses General Transit Feed Specification (GTFS) and OpenStreetMap (OSM) data to build a public transport and pedestrian network to provide insights into connectivity and accessibility across all areas of the network.

1.6.3 More detail of the STEP tool, along with the analysis undertaken using the tool is provided within *Connectivity Analysis Report, Stantec, September 2026*.

1.7 Report Structure

1.7.1 This report is structured as follows:

- Section 2 discusses the Connectivity in the context of the CaPCAM outputs and provides comparisons with the STEP connectivity analysis.
- Section 3 provides further CaPCAM outputs focusing on mode shift from car to public transport.
- Section 4 provides an overarching narrative to set out how the analysis undertaken fits with the GCTS objectives to improve connectivity and provide wider options and improved travel choices for the residents of Greater Cambridge.

2 Connectivity Analysis

2.1 CaPCAM Connectivity Outputs

2.1.1 To understand how the interventions included within the GCTS impact on public transport connectivity, outputs have been produced from CaPCAM for each of the strategic sites within the Greater Cambridge area.

2.1.2 The outputs have been produced in the form of desire line plots which allow comparison of the distribution of public transport trips from each of the sites and placing the Do Minimum and Do Something plots side by side provides a simple visual comparison of the impact on connectivity for each site.

2.2 Comparison with STEP Analysis

2.2.1 Alongside the plots, and to provide a consistent and auditable narrative to accompany the GCTS, a comparative review has been undertaken of the accessibility outputs from CaPCAM and the outputs from STEP provided in the 'Connectivity Analysis Report' produced by Stantec and dated September 2026.

2.2.2 The two tools perform complementary functions: STEP identifies the destinations and opportunities that can be reached by public transport within a defined journey time threshold, while CaPCAM indicates the principal movements patterns and changes in public transport demand associated with the Do Minimum and Do Something scenarios.

2.2.3 The comparison therefore considers whether the tool identifies similar patterns of connectivity, destinations and changes in connectivity that suggest whether or not the Do Something scenario provides enhanced travel choice.

2.2.4 Taken together, the comparison provides a broader understanding of how the GCTS intervention package could influence both the availability and use of alternative travel choices.

2.2.5 Where the findings align, they provide supporting evidence that improved accessibility under the Do Something scenario is reflected in changes in modelled demand along the same broad corridors and towards similar destinations. Where differences occur, these are reported transparently and interpreted in the context of the distinct purposes of the two tools.

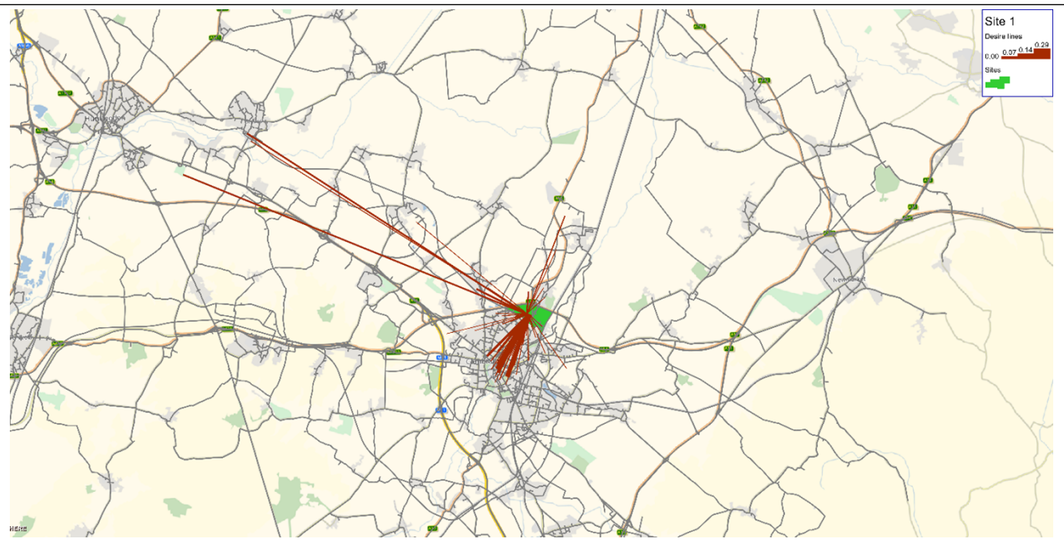
2.2.6 The comparison supports the wider GCTS narrative that the Do Something package can deliver a substantial improvement over the Do Minimum by strengthening access to key opportunities, encouraging greater use of alternative modes and facilitating the movement of more people across the network. Any residual or localised issues identified through the comparison would be subject to further assessment, mitigation and refinement through subsequent studies and more detailed scheme development.

2.2.7 The CaPCAM desire line plots comparing the Do Minimum with the Do Something, for each strategic site for the AM are provided in Table 2-1 to 2-15. The comparative narrative is also provided within the figures, along with any differences that are seen within the PM peak noted.

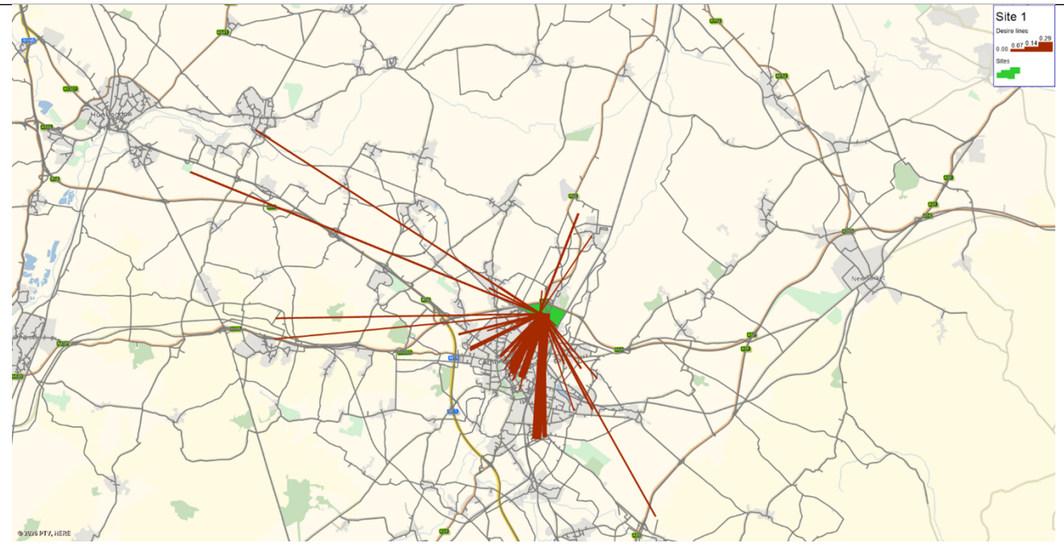
2.2.8 Please note that while North East Cambridge is not a strategic site allocation, analysis of it has also been included as a key destination (Cambridge Science Park).

North East Cambridge

Table 2-1: North East Cambridge Desire Line Analysis



Do Minimum



Do Something

The desire-line analysis demonstrates that North East Cambridge has strong public transport connections with Cambridge city centre and the wider urban area under both the Do Minimum and Do Something scenarios, demonstrating good alignment between STEP and CaPCAM outputs. The principal movements are focused on central Cambridge and key destinations to the south, reflecting the site's location and relationship to the city.

Under the Do Something scenario, the pattern of movement broadens, with stronger connections to/from the southern and south eastern locations within Cambridge, including the area around Cambridge East. Connections to the north-east are also strengthened with improvements towards Waterbeach consistent between STEP and CaPCAM. The increased range of the desire lines indicate that the GCTS interventions support a wider range of public transport journeys to and from North East Cambridge, increasing opportunities to access the sites employment opportunities, from across the urban area as a result of greater travel choice.

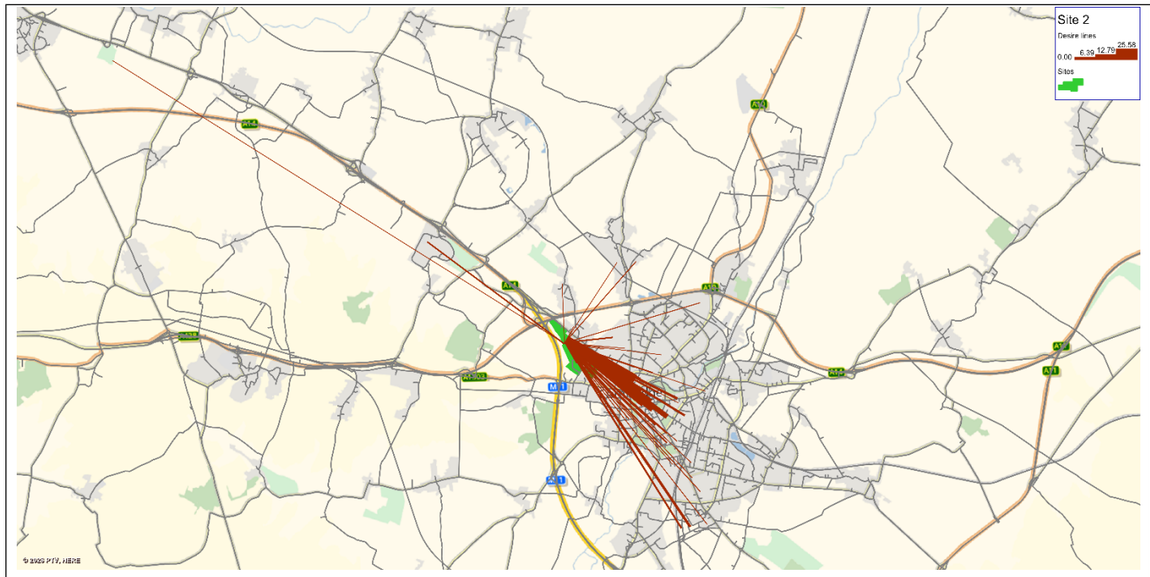
The desire lines show less change from Northstowe and the north-west, indicating that the strongest additional movements are expected to be from the central, southern, and eastern areas of Cambridge. Overall, the analysis demonstrates that the Do Something package builds on North East Cambridge's strong existing accessibility by broadening the pattern of public transport movement, and availability, and strengthening connections from origins across Cambridge. For example, the DS scenario enables access to three additional transport hubs compared to the DM scenario where thirteen were accessible.

The comparison therefore demonstrates support of the aims and objectives of the GCTS, and that enhanced connectivity can increase travel choice and facilitate the movement of greater numbers of people by alternative modes. For North East Cambridge, the Do Something interventions provide a more extensive and coherent pattern of public transport accessibility than the Do Minimum, strengthening links between the site, Cambridge city centre and other key employments such as the Biomedical Campus, several city centre education facilities as well as Sawston Village College more widely, healthcare such as Addenbrooke's Hospital and transport destinations such as Cambridge and Cambridge South railway stations. The evidence indicates that the benefits are not confined to a single route but extend across several corridors serving the wider urban area.

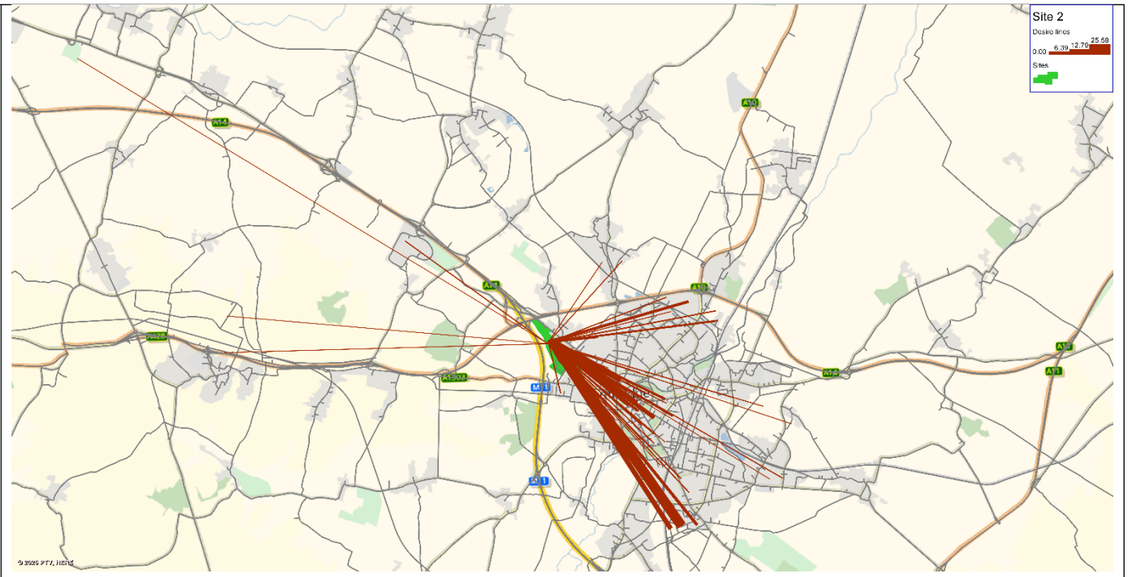
The outputs also provide an evidence trail linking the proposed GCTS interventions to changes in accessibility and modelled public transport movement. STEP demonstrates the destinations and opportunities that become accessible within the assessed journey-time thresholds, CaPCAM indicates how public transport movements respond, and the desire lines communicate the resulting spatial pattern. Taken together, these outputs show good corelation and provide complementary evidence that the Do Something package supports North East Cambridge as a well-connected location and strengthens the availability and attractiveness of alternatives to the car, should users wish to travel by them. The desire-line evidence demonstrates that longer highway journey times would not necessarily equate to reduced overall access where the GCTS simultaneously provides travel choice.

S/ED – Eddington (North West Cambridge)

Table 2-2: Eddington (North West Cambridge) Desire Line Analysis



Do Minimum



Do Something

Under both scenarios shown above, and similarly in the PM peak, the desire lines show movement concentrated towards Cambridge city centre and destinations to the south and south-east, demonstrating the importance of these areas for journeys from Eddington. Under the Do Something scenario, the desire lines become more geographically dispersed, with additional and strengthened movements towards northern and eastern Cambridge, as well as continued strong movements across the city. This demonstrates good alignment with the STEP and CaPCAM outputs which suggested connectivity enhancements in the same areas. This suggests that the intervention package supports a wider range of public transport journey opportunities rather than concentrating all additional demand on a single corridor.

Taken together, the STEP, CaPCAM and Desire-line outputs provide comparable and consistent evidence to support the overarching narrative. STEP demonstrates that the Do Something scenario expands the range and geographical distribution of destinations accessible from Eddington. CaPCAM suggests that these accessibility improvements are accompanied by a broader pattern of public transport movements, while the desire-line outputs illustrate the destinations and directions towards which that movement is expected to occur.

The analysis therefore supports the conclusion that the GCTS broadens travel choice from Eddington and strengthens viable alternatives to car travel. The Do Something scenario improves connections not only to central Cambridge but also across northern, eastern and southern parts of the urban area and along the western corridor. This is important to the GCTS narrative because it demonstrates that improved connectivity is not limited to city-centre access. The proposed package also supports journeys to distributed employment, education, healthcare and transport opportunities across Greater Cambridge, which were not accessible in the Do Minimum scenario, most notably employment in the north and north eastern areas.

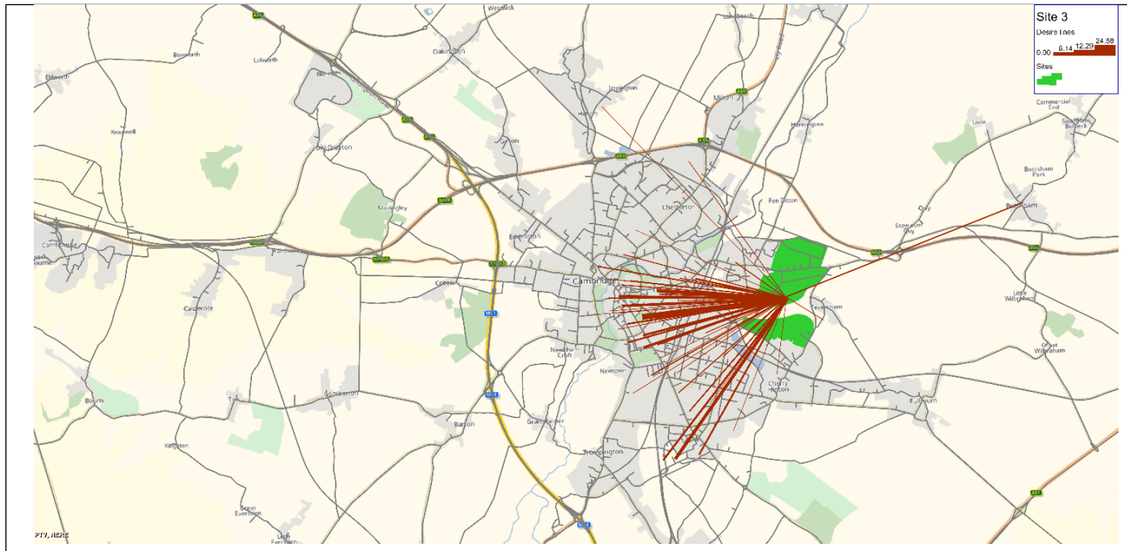
The comparison between the Do Minimum and Do Something scenarios provides evidence of a material improvement in both accessibility and modelled public transport use. As Eddington already has a comparatively strong starting position, the strategic benefit is principally demonstrated through the widening and increased coherence of the accessible network, together with stronger public transport flows across several corridors. The results demonstrate that the GCTS builds on existing provision and expands the number of realistic journeys that can be made by public transport, offering greater levels of choice.

The outputs also support the GCTS objective of facilitating the movement of greater numbers of people by alternative modes. The broader distribution of desire lines indicates increased modelled public transport movement under the Do Something scenario. It must be noted that the acceptability of congestion or, highway delay should be considered using the separate highway-model evidence rather than inferred from the accessibility outputs alone. That said, the outputs suggest that the greater travel choice, provides greater travel opportunities from the strategic site, which would enable more people to travel than otherwise would have been possible without the GCTS, even considering some impact on highway capacity.

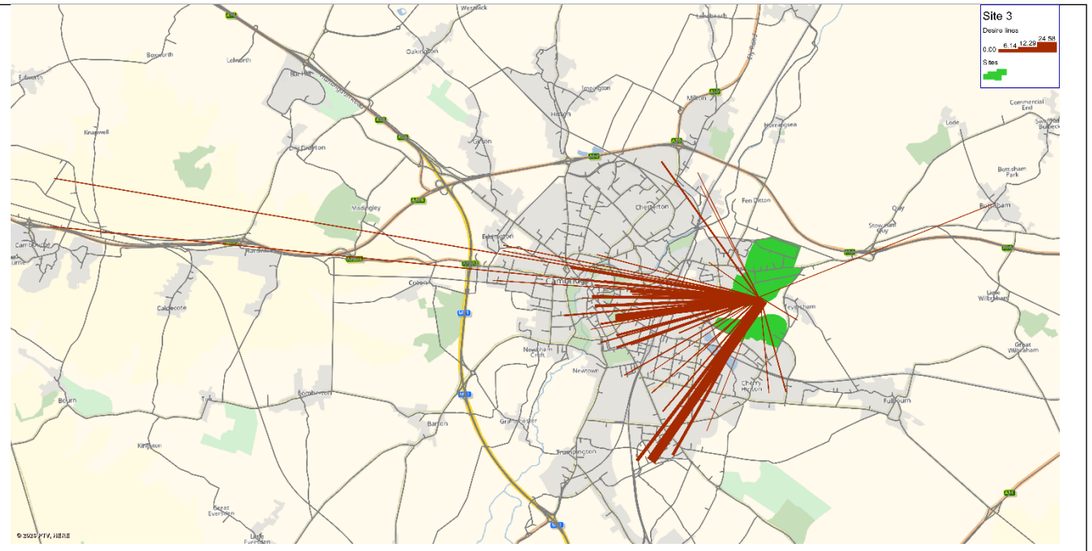
Overall, the evidence demonstrates that Eddington is well connected under the Do Minimum scenario and that the GCTS provides further strategic benefit by extending accessibility, broadening public transport movements and strengthening connections to a wider range of opportunities. This supports Eddington’s role as a highly accessible strategic location and provides a basis for concluding that the Do Something package enhances travel choice and public transport connectivity.

S/CE Cambridge East

Table 2-3: Cambridge East Desire Line Analysis



Do Minimum



Do Something

The modelled outputs demonstrate that Cambridge East benefits from good accessibility to Cambridge and the wider urban area in the Do Minimum scenario. The principal public transport connections are focused westwards into central Cambridge and southwards towards key destinations such as Addenbrooke's Hospital and the Biomedical Campus. However, the Do Minimum scenario does show limitations in connectivity to just Cambridge and relatively limited connections to employment destinations to the north despite the site's proximity to them. This was reflected in the STEP analysis and confirmed through the CaPCAM outputs.

The Desire Lines as shown are consistent with the STEP and CaPCAM outputs in both the Do Minimum and Do Something scenarios. Under the Do Something scenario, the accessibility catchment becomes broader and more continuous across Cambridge. Improvements as shown in the Desire Line outputs are particularly evident towards north-east and south-east Cambridge and on the eastern edge in the Cherry Hinton area. The analysis also shows stronger westward connectivity across Cambridge and along the A428 corridor towards Cambourne, extending the range of opportunities accessible from the site.

These improvements in connectivity indicate that the GCTS intervention package influences both the scale and distribution of public transport movements, creating additional journey opportunities and making greater use of different parts of the network. The PM peak shows a broadly similar pattern to the AM peak.

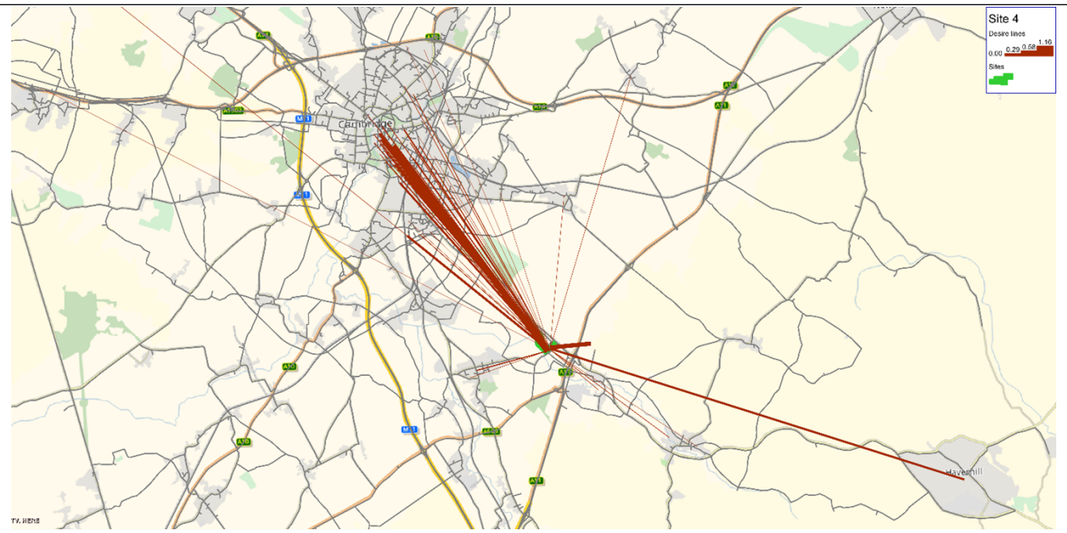
The desire line analysis has good consistency with the STEP and CaPCAM outputs, supporting the overarching GCTS narrative. STEP demonstrates that the Do Something interventions broaden the range of destinations accessible from Cambridge East, while the CaPCAM indicates that these improvements are accompanied by changes in the distribution of modelled public transport movements. The desire lines provide a clear spatial representation of these changes, showing stronger and more widely distributed connections across Cambridge.

The STEP and CaPCAM outputs provide an aligned and quantified analysis that supports the aims and objectives of the GCTS that aim to deliver travel choice from strategic sites such as Cambridge East. The benefits are not limited to journeys into the city centre. The Do Something scenario also strengthens access opportunities in southern, eastern, north-eastern and western Cambridge and more widely along the A428 corridor to Cambourne. This is consistent with the GCTS objectives of providing attractive and viable alternatives to the car to key destinations. The more dispersed desire lines indicate that public transport users would have access to a wider range of destinations and route choices, rather than relying on a single connection into central Cambridge.

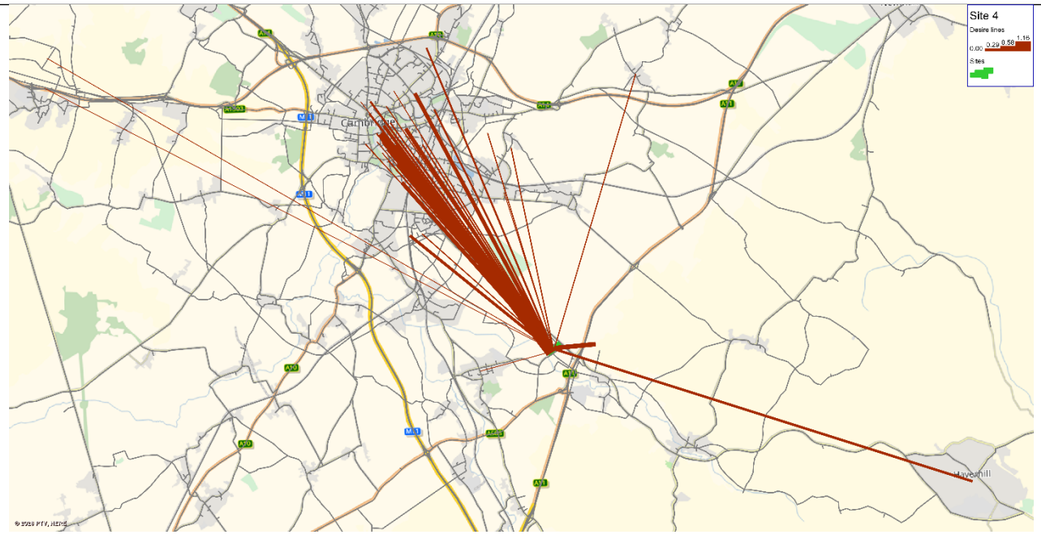
Overall, the evidence demonstrates that Cambridge East is well placed to benefit from the GCTS. The Do Something scenario builds on the site's existing urban accessibility by strengthening connections to a wider range of key destinations including major employment locations. The connectivity modelling undertaken and the evidence gathered supports the conclusion that the GCTS broadens travel choice, strengthens viable alternatives to car travel and enables Cambridge East to function as a well-connected strategic location within the wider Greater Cambridge region.

S/BRC – Babraham Research Campus

Table 2-4: Babraham Research Campus Desire Line Analysis



Do Minimum



Do Something

The Do Minimum outputs indicate that Babraham Research Campus is primarily served by the Babraham Road corridor, with more limited connectivity on parallel routes. This pattern is consistent across the STEP and CaPCAM outputs and is reflected in the desire-line plots. The Do Minimum desire lines show strong demand between the campus and Cambridge city centre, demonstrated by the thicker and more concentrated lines to and from central destinations.

Under the Do Something scenario, STEP and CaPCAM both indicate improved connectivity, including faster journey times via Babraham Road and increased public transport demand on parallel corridors such as the A1301. The spatial pattern of improvement is consistent across the two tools and is reflected in the desire-line outputs through stronger and more widely distributed lines. The analysis also shows improved connectivity and demand towards northern and north-eastern destinations, including Cambridge Science Park, representing a clear enhancement over the Do Minimum scenario.

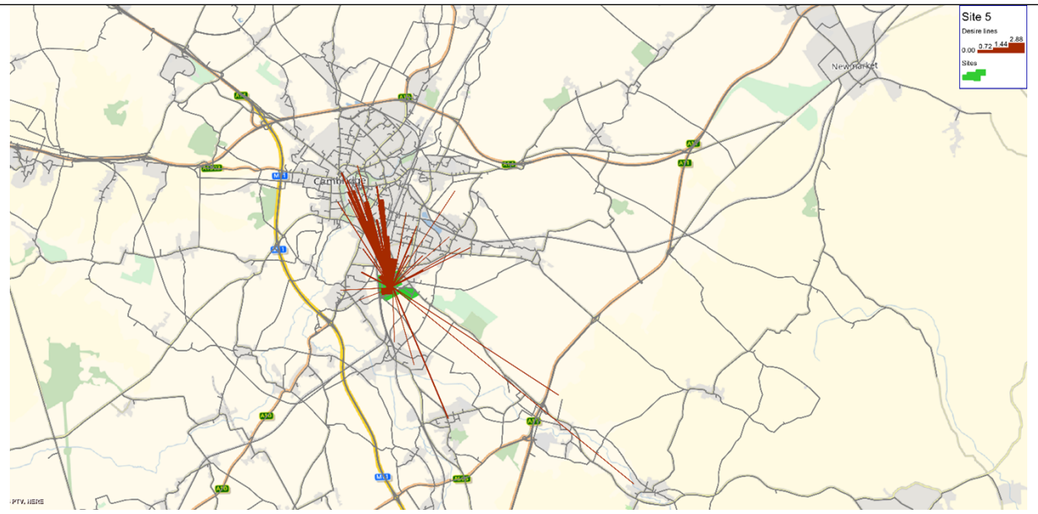
While the Do Minimum scenario is largely focused on Cambridge city, the Do Something scenario shows improved westward connectivity towards Cambourne via the A428 corridor. This aligns with the STEP and CaPCAM outputs and demonstrates good consistency between the different sources of evidence. The GCTS Strategy enhances access to other employment areas from Babraham Research Campus. The DM suggests accessibility from three existing employment sites, with the DS increasing this by four to provide seven total accessible major employment destinations. This improvement is captured in the desire-line analysis with which shows good coverage across Cambridge city. The STEP analysis also demonstrated that between 129,000 (AM peak) and 135,000 (PM Peak) people could access the site in the DM peak hours, this range increases to 232,000 and 235,000. This suggests over 100,000 additional people can now access Babraham Research Campus as a result of the GCTS strategy. This is possible as a result of the increase in travel choice delivered as part of the strategy.

Overall, the consistency between the modelling outputs and desire-line plots provides evidence of improved public transport connectivity and increased demand. This supports the GCTS narrative that the proposed interventions would improve access to the city centre and major employment locations to the north of Cambridge, while also improving access to employment opportunities at Babraham from those areas. The desire-line plots show this increased public transport demand through thicker and more numerous lines. More widely, the Do Something scenario also indicates that larger settlements such as Cambourne would have improved access to opportunities at Babraham.

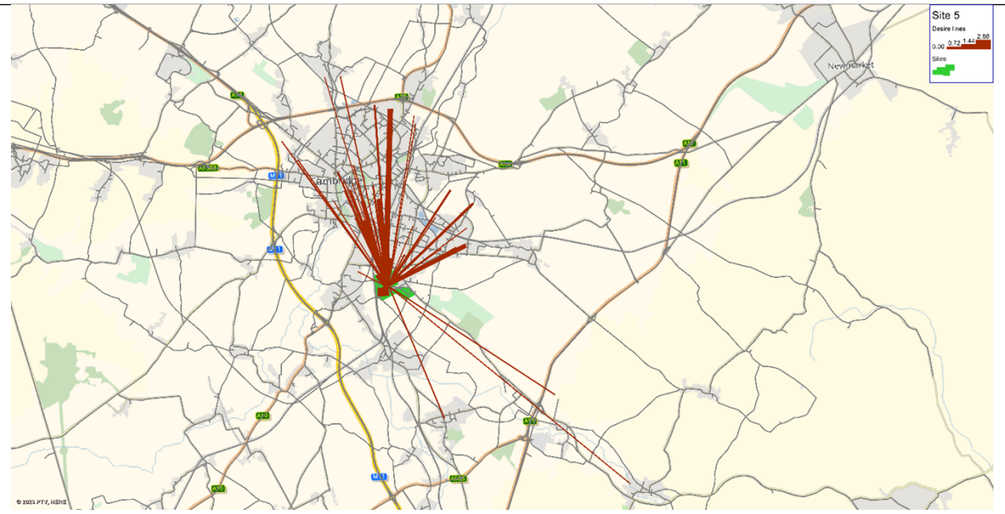
The analysis therefore indicates that public transport opportunities are improved under the Do Something scenario, providing enhanced access to a range of key destinations within the assessed 60-minute journey time threshold. These improvements support the role of public transport as a viable alternative to the car. As such, the GCTS interventions would improve travel choice and provide more travel options. Babraham can therefore be considered a well-connected strategic site allocation with the potential to support a wider range of travel choices as alternatives to car travel.

S/CBC- Cambridge Biomedical Campus

Table 2-5: Cambridge Biomedical Campus Desire Line Analysis



Do Minimum



Do Something

The Cambridge Biomedical Campus already benefits from a highly central location within the Public Transport network and demonstrates good connectivity in the Do Minimum and Do Something scenarios. Whilst the STEP accessibility outputs show relatively limited changes in the overall spatial pattern of accessible destinations between scenarios, they indicate notable reductions in public transport journey times with more of the north of the city accessible within 30 minutes compared to 40 – 50 minutes of the Do Minimum. As a result, a greater range of origins become accessible within comparable journey time thresholds, strengthening the site's connection to existing communities and planned growth areas.

The desire-line analysis suggests that these journey time improvements result in a discernible increase in the attractiveness of the sites as a destination. The Do Minimum scenario targets limited linear corridors for accessibility, but the Do Something scenario is characterised by a wider geographic spread of connections and strong demand along key routes as demonstrated in the Do Something desire-line output. This is evidenced by thicker desire lines, additional connections across the city and a greater number of origins contributing trips to the Biomedical Campus, indicating that more people are able to access the site using public transport.

The CaPCAM outputs reinforce this finding, highlighting increased usage of public transport corridors serving the site and demonstrating enhanced connectivity across a broader area of Cambridge. The emergence of new east-west movements around the eastern outskirts of Cambridge, alongside enhanced connections to key transport interchanges such as Trumpington and Babraham Park & Ride, illustrates an expansion of the site's effective catchment beyond the existing Hills Road corridor. This expanded catchment is demonstrated by STEP which suggest the Biomedical Campus has a population catchment reach of 241,000 people in the AM and 237,000 people in the PM peak. With the provision of the GCTS strategy this increases to 255,000 people in the AM and 248,000 people in the PM peak. The strategy, therefore, benefits approximately 14,000 people in the AM and 11,000 additional people in the PM peak*[2].

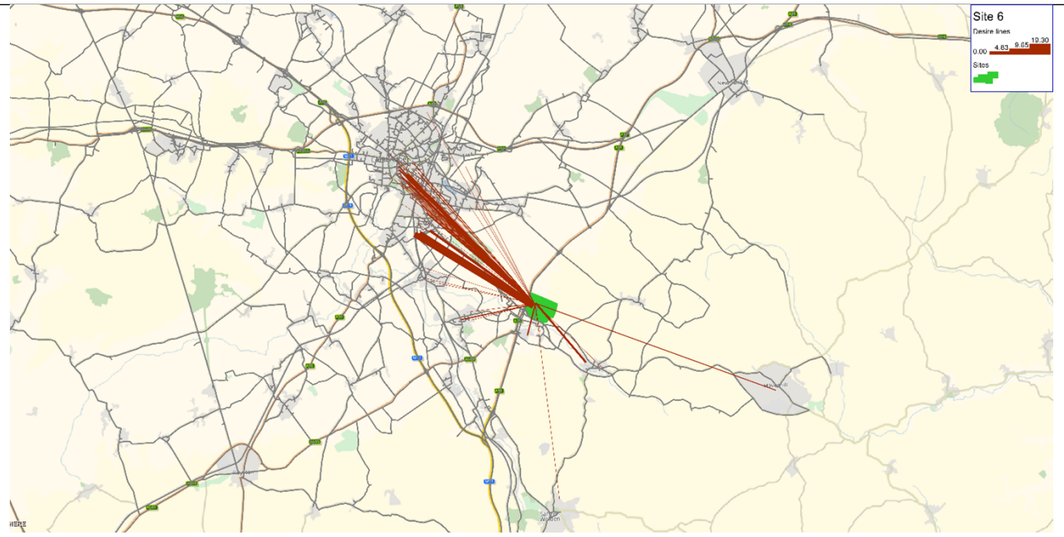
Collectively, the evidence suggests that the Do Something scenario supports the GCTS aims and objectives of providing enhanced connectivity and attractive, viable travel choices. While the overall spatial distribution of opportunities remains broadly similar to the Do Minimum scenario, the reduction in journey times and strengthening of public transport demand indicate that public transport becomes a more competitive and attractive option for accessing the site. The increased number and strength of desire line connections demonstrate a broader range of travel opportunities available to residents across Greater Cambridge, supporting access to a major employment and healthcare destination without a corresponding reliance on private car travel.

Overall, the Biomedical Campus demonstrates how the GCTS interventions deliver a step-change in connectivity and travel choice. The evidence indicates that improvements are translated into increased demand for sustainable travel modes, a wider catchment of accessible communities and enhanced connections between existing and future growth areas. This aligns closely with the overarching GCTS aims and provides robust analysis to support the objective that investment in high-quality public transport infrastructure can provide viable alternatives to car travel, support modal choice and facilitate the movement of significantly greater numbers of people to key strategic destinations.

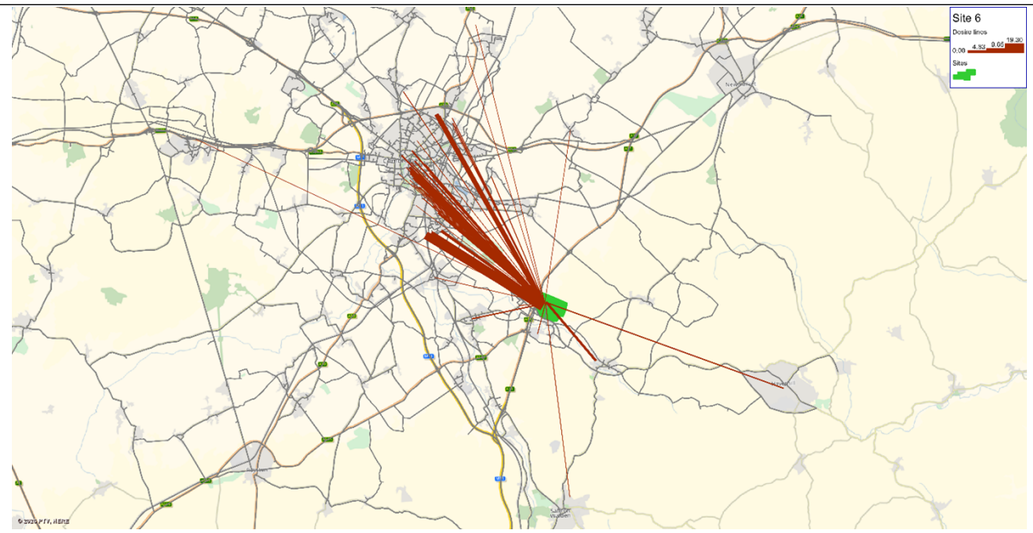
[2] *Numbers are rounded, refer to the Connectivity Analysis Report Table 6-5 for the full values.

S/GF – Land adjacent to A11, and A1307 at Grange Farm Site.

Table 2-6: Land adjacent to A11, and A1307 at Grange Farm Site Desire Line Analysis



Do Minimum



Do Something

Grange Farm demonstrates one of the clearest examples of how the GCTS interventions expand travel choice and improve access to opportunities through enhanced public transport connectivity. In both the Do Minimum and Do Something scenarios, the principal public transport corridor is focused on implementation of a potential high-quality public transport scheme in the CSET extended corridor, providing a direct connection between the site, Babraham, Cambridge South and the wider Cambridge urban area. A secondary corridor along the A1307 and a more limited southbound connection towards Linton are also evident, although these play a comparatively minor role in the site's overall accessibility.

The STEP outputs indicate a significant enhancement in the site's accessible catchment under the Do Something scenario. While the Do Minimum scenario is characterised by a relatively focused pattern of accessibility concentrated on Cambridge city centre, the Biomedical Campus and locations immediately south of Cambridge, the Do Something scenario extends the area that can be reached within 60 minutes to include much larger parts of northern and western Cambridge. Additional destinations around Balsham, Whittlesford Parkway, Duxford and Hinxton also become more readily accessible, demonstrating a substantial increase in the range of opportunities available to future residents.

The CaPCAM outputs reinforce this pattern, highlighting the growing importance of the CSET extended corridor as the preferred public transport route between the site and Cambridge. Demand becomes increasingly concentrated on the new high-quality public transport spine, with limited reliance on the existing A1307 corridor. Enhanced movements are also evident across a broader area of Cambridge, including a slightly stronger east-west distribution of trips within the urban area, reflecting improved integration of the site with the wider public transport network.

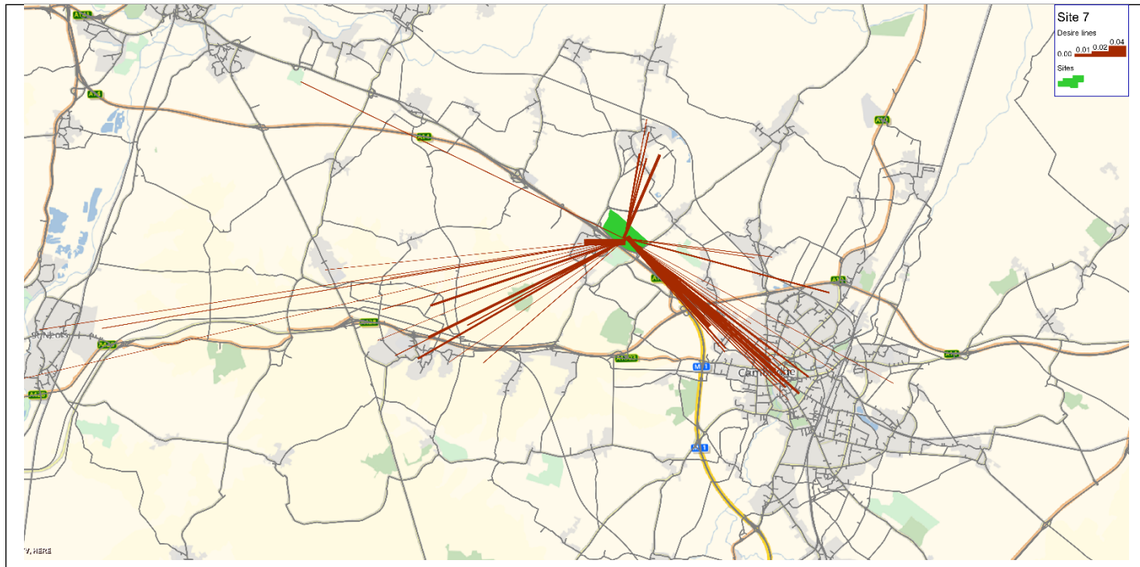
The desire line analysis demonstrates how accessibility improvements are translated into travel demand. Under the Do Minimum scenario, travel demand is predominantly focused on two key destinations: Cambridge city centre and the major employment and healthcare destinations around the Biomedical Campus and Addenbrooke's Hospital. While these remain the dominant destinations in the Do Something scenario, there is a noticeable strengthening and thickening of desire lines to Cambridge city centre, alongside the emergence of new and stronger connections extending beyond the city centre into north and north-east Cambridge. Importantly, the Do Something scenario also introduces a more distinct pattern of trips towards major employment areas in the north of Cambridge, suggesting that a broader range of employment opportunities becomes realistically accessible by public transport.

Taken together, the STEP, CaPCAM and desire line evidence demonstrates a clear step-change between the Do Minimum and Do Something scenarios. The improvements are not simply reflected in faster journey times, but in a meaningful expansion of the destinations, services and employment opportunities that can be reached by public and active modes. The site becomes connected to a wider range of key destinations across the Cambridge urban area and benefits from access to a high-quality public transport corridor that provides a viable alternative to private car travel.

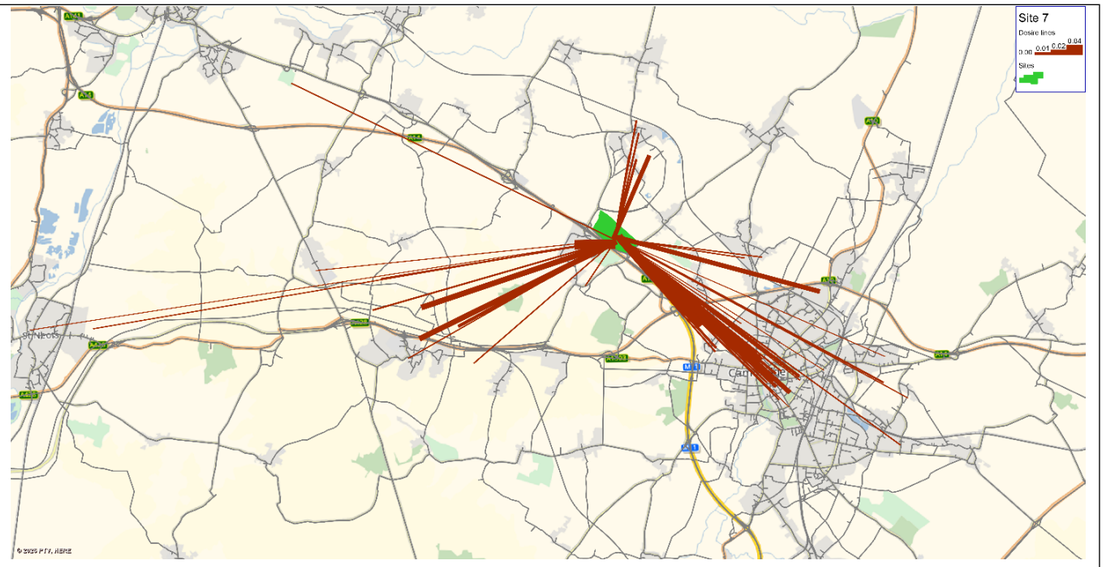
Together, the connectivity analysis and CaPCAM outputs provide aligned, quantified evidence to support the aims and objectives of the GCTS. The evidence demonstrates enhanced connectivity and attractive travel choices, supports a significant widening of opportunities accessible by public transport, and indicates increased demand for travel by public transport along strategic corridors. The shift from a site primarily connected to Cambridge city centre and the Biomedical Campus towards one with stronger links across the wider urban area illustrates how the GCTS interventions facilitate a broader range of travel choices. As a result, Grange Farm provides a strong example of how investment in high-quality public transport infrastructure can potentially support growth, provide a choice of modes and facilitate access to significantly greater numbers of jobs, services and other opportunities without a corresponding reliance on private car travel.

S/SHF – Land north of A1307, Bar Hill (Slate Hall Farm)

Table 2-7: Land north of A1307, Bar Hill (Slate Hall Farm) Desire Line Analysis



Do Minimum



Do Something

Slate Hall Farm presents a slightly different picture to some of the other strategic sites, in that the currently modelled Do Something scenario does not generate the same scale of accessibility improvement evident elsewhere in the network. The site's principal public transport connection remains focused on the A14 and Huntingdon Road corridor into Cambridge in both scenarios. Secondary connections are evident towards Bar Hill, Cambourne and the Northstowe/Longstanton area, although these are comparatively minor movements within the wider travel pattern.

The STEP accessibility outputs indicate only modest differences between the Do Minimum and Do Something scenarios. Unlike sites such as Grange Farm or the Biomedical Campus, there is not a substantial expansion in the site's catchment or a clear step-change in accessibility to key destinations. However, the STEP outputs do demonstrate some improvements across Cambridge, with a larger proportion of the urban area becoming accessible within the assessed journey time thresholds under the Do Something scenario. This suggests that the strategic interventions provide some enhancement to overall connectivity, although the magnitude of change is comparatively limited.

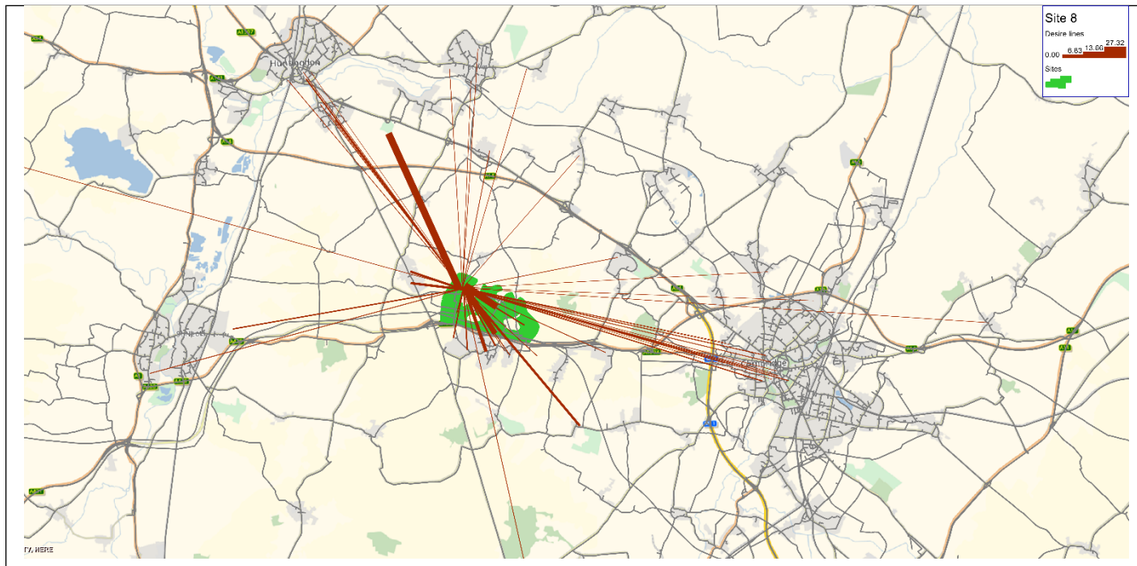
The CaPCAM outputs broadly corroborate this conclusion. The dominant movement pattern remains focused on the Huntingdon Road corridor into Cambridge, with only limited changes observed between scenarios. The most notable improvement is a modest strengthening of connectivity towards the northern parts of Cambridge and the city centre. Some enhanced linkage towards Northstowe and the wider northern growth area is also evident, although these changes are relatively minor when compared with the more significant shifts observed at other strategic sites.

The desire line analysis broadly reflects the STEP and CaPCAM findings, with Cambridge city centre remaining the dominant origin. The Do Something scenario shows a modest strengthening of demand, suggesting some improvement in the attractiveness of public and active modes. However, the current intervention package does not include the direct public transport connection to Cambridge Bus Station tested through the Connectivity Analysis, which generated greater accessibility benefits. The modelling may therefore understate the site’s potential to support mode shift through improved public transport connections.

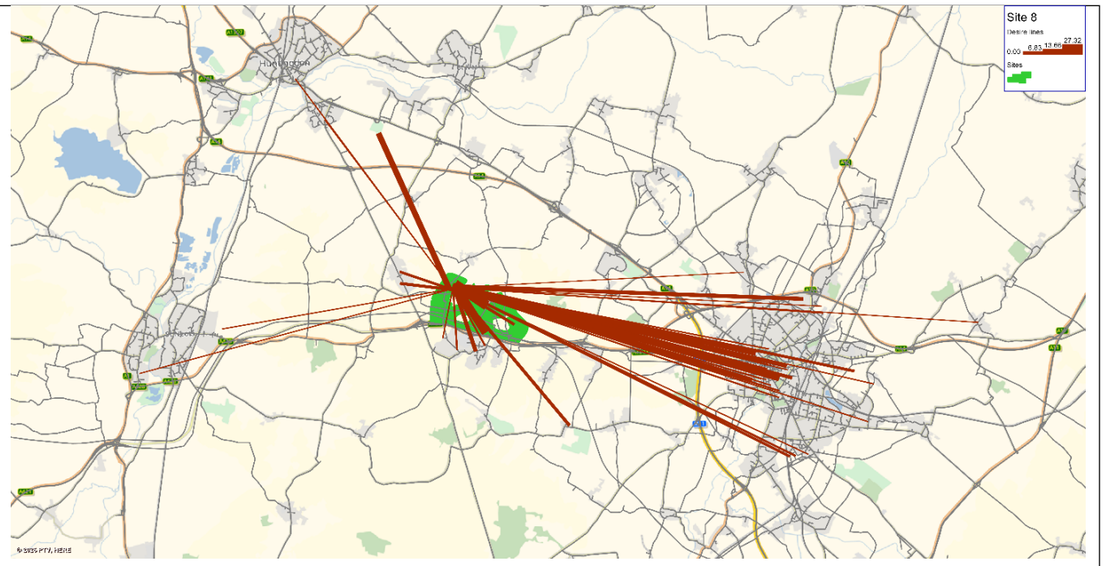
Overall, Slate Hall Farm is therefore best characterised as a site with clear future potential rather than a site whose benefits are fully realised within the current modelling assumptions. The evidence demonstrates some improvement in connectivity and some increase in demand for travel by public transport and active modes under the Do Something scenario, particularly from Cambridge city centre and northern Cambridge. However, further work is required to demonstrate the full scale of opportunity identified through the sensitivity testing. Consequently, the findings should be viewed as broadly consistent with the ambitions of the GCTS objectives to provide enhanced connectivity, attractive travel choices and viable alternatives to the car, whilst recognising that additional intervention development and testing may be necessary to fully realise and evidence that potential. This aligns with the wider conclusion of the Connectivity Analysis Report that further refinement of public transport interventions could unlock significantly stronger accessibility outcomes for the site and better demonstrate how it can contribute to the GCTS objective of supporting growth through expanded travel choice and improved public transport connectivity.

S/CBN – Cambourne North

Table 2-8: Cambourne North Desire Line Analysis



Do Minimum



Do Something

Cambourne North represents one of the strongest examples of how the GCTS interventions deliver a genuine step-change in public transport accessibility, travel choice and connectivity. Whilst the Do Minimum scenario already provides connections towards Cambridge via the A428/Madingley Road corridor and towards Huntingdon via the A428/A1198 corridor, the Do Something scenario significantly strengthens these links and substantially broadens the range of destinations that can be accessed by public transport.

The STEP accessibility outputs demonstrate a marked expansion in the site's accessible catchment under the Do Something scenario. Compared with the Do Minimum scenario, considerably more of Cambridge becomes accessible within the assessment thresholds, particularly across southern Cambridge and key employment destinations. Accessibility improvements are also evident in the outer areas of Cambridge and the settlements surrounding Cambourne, indicating that the site benefits not only from stronger links to the city but also from improved connectivity with neighbouring communities and services. This creates a much wider range of accessible employment, healthcare, education and transport opportunities than is available in the Do Minimum scenario. The CaPCAM outputs strongly reinforce these findings. Whilst the principal movement corridors remain focused on Cambridge and Huntingdon, the Do Something scenario shows a substantial strengthening of demand along the Cambourne to Cambridge corridor, reflecting the increasing attractiveness and competitiveness of public transport. Additional connectivity is evident towards St Ives, with some movements also extending towards St Neots and surrounding rural settlements. The routing of movements through Cambridge also changes slightly, reflecting a network that provides more opportunities to access destinations across the city rather than simply serving the city centre alone.

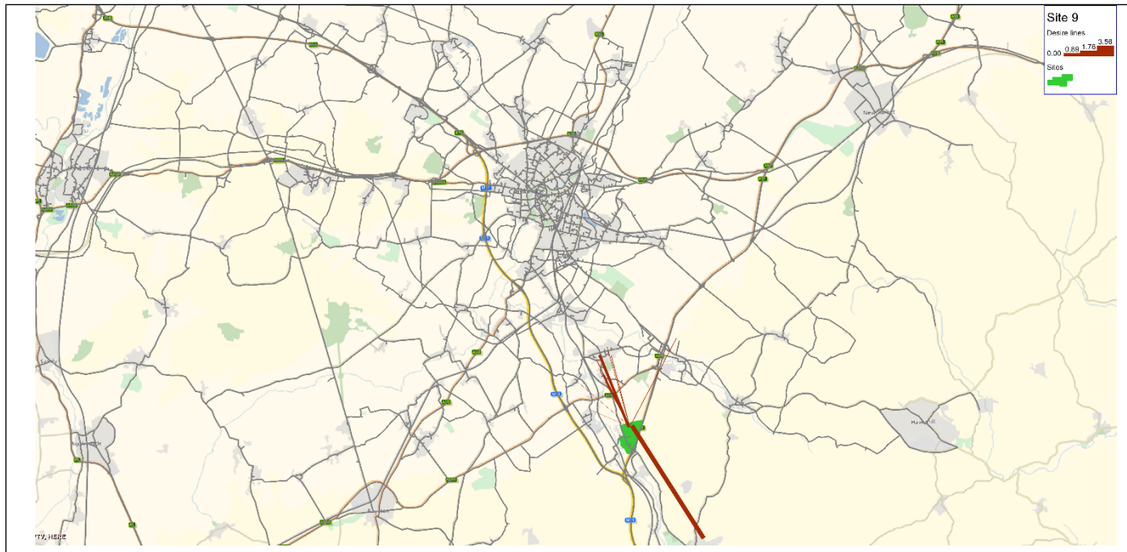
The desire line analysis provides some of the clearest evidence of the scale of improvement delivered by the Do Something scenario. Under the Do Minimum scenario, demand is concentrated along a relatively limited number of corridors and destinations. In contrast, the Do Something scenario demonstrates both a substantial increase in overall demand and a much broader geographic spread of trips. Desire lines become significantly stronger along the Cambridge corridor and extend across a wider range of destinations throughout the city. In particular, the site gains much stronger links not only to Cambridge city centre but also to major employment destinations in both the northern and southern parts of Cambridge, reflecting a substantial increase in the range of opportunities that can be reached by public transport. The public transport improvements can also benefit the nearby Cambourne Business Park. Population catchment data determined from STEP has shown that the population able to access the employment site increases from 151,000 in the DM AM peak to 190,000 in the DS AM peak. The PM peak records similar increases. Approximately 40,000 more people have the opportunity to access the employment sites in proximity to Cambourne North as a result of the GCTS interventions.

The consistency between the STEP accessibility outputs, the CaPCAM outputs and the desire line analysis is notable. All three strands of evidence indicate that the Do Something scenario generates a significant enhancement in connectivity and materially increases the available travel options. The growth in demand shown within the CaPCAM outputs suggests that these accessibility improvements are not merely theoretical but are translated into meaningful behavioural change, with substantially more trips being undertaken by public transport.

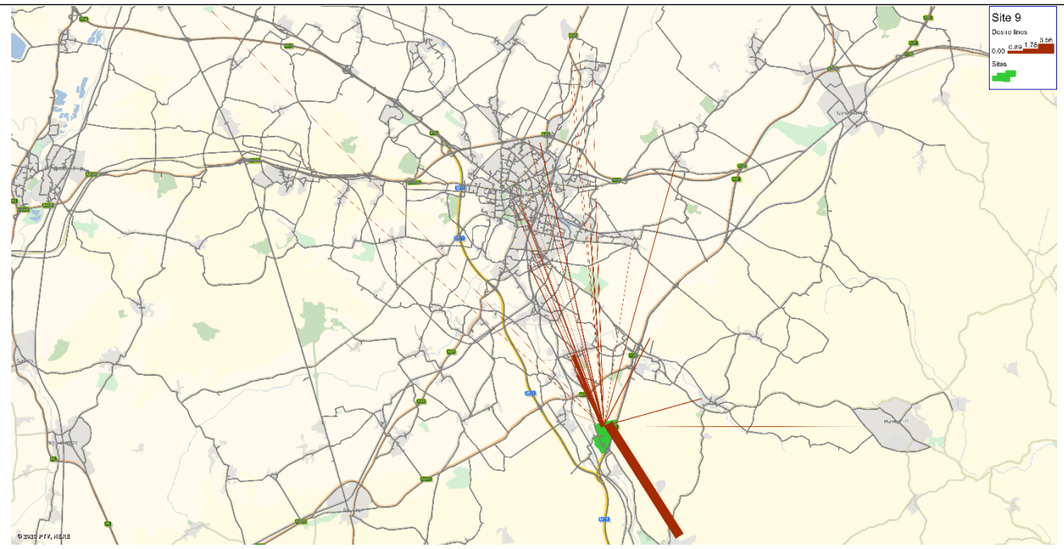
Overall, Cambourne North aligns particularly strongly with the overarching GCTS aims and objectives. The evidence demonstrates enhanced connectivity, a significant widening of travel opportunities and a substantial increase in demand for travel by public transport and active modes. The site benefits from improved access to major employment centres, healthcare facilities, educational destinations and Cambridge city centre, whilst also strengthening connections with surrounding settlements. The Do Something scenario therefore delivers the type of step-change in connectivity and travel choice envisaged by the GCTS, providing attractive and viable alternatives to private car travel and supporting growth through improved access to a significantly greater number of opportunities. Of all the sites assessed, Cambourne North provides one of the clearest examples of how strategic public transport investment can translate directly into both improved accessibility and increased demand for public transport, fully supporting the GCTS objective of facilitating travel choice and enabling mode shift.

S/WGC – Wellcome Genome Campus

Table 2-9: Wellcome Genome Campus Desire Line Analysis



Do Minimum



Do Something

The Wellcome Genome Campus has a more constrained public transport position in the Do Minimum scenario, reflecting its location outside the main Cambridge urban area and the limited availability of high-quality direct public transport connections. This is reflected in the STEP analysis, which indicates that Cambridge city centre is not accessible within the assessed 60-minute threshold. The CaPCAM outputs suggest a small level of modelled connectivity towards Cambridge city centre in the Do Minimum scenario, although the overall pattern remains limited. The desire-line outputs provide a clear visual representation of this position, with movements largely focused within a relatively localised catchment extending towards Sawston to the north and Saffron Walden to the south.

Under the Do Something scenario, the GCTS interventions, including the provision of a high-quality public transport service between Cambridge Biomedical Campus and the A11 Travel Hub in the CSET ‘extended corridor’, provide a clear improvement in the site’s public transport accessibility. The STEP outputs show an expanded accessibility catchment, with Cambridge city centre becoming accessible within 60 minutes and the A11 Travel Hub accessible within 30 minutes. The CaPCAM outputs also indicate a change in public transport demand, with stronger movements along the A1301 corridor. This demonstrates a broad level of consistency between the STEP and CaPCAM evidence, indicating that the proposed interventions improve both the range of destinations that can be reached and the attractiveness of public transport as a means of accessing the campus.

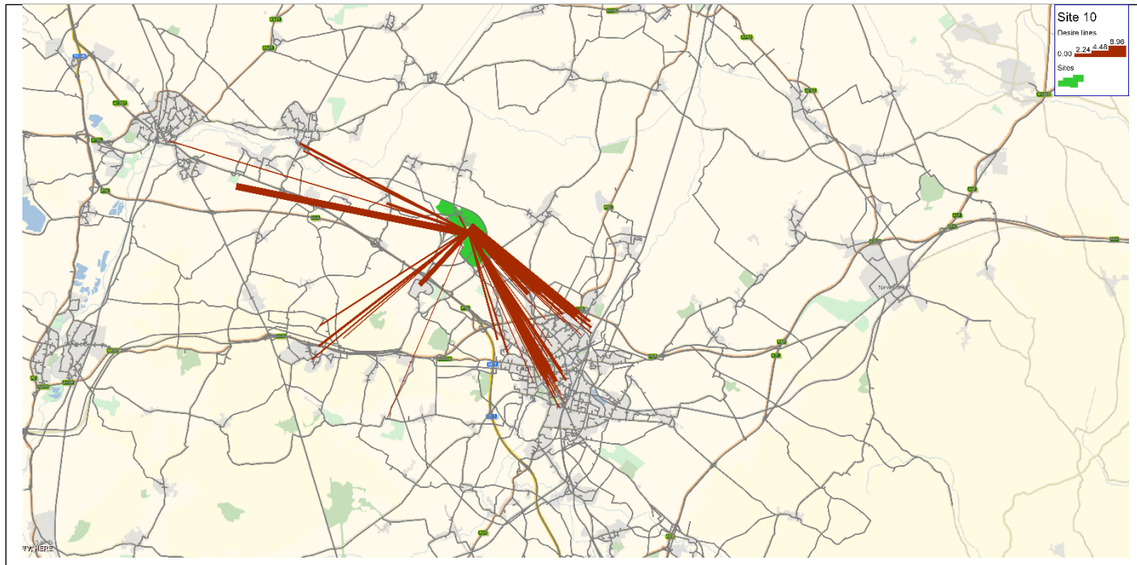
This improvement is also evident in the desire-line outputs. Compared with the Do Minimum scenario, the Do Something plot shows stronger movements between Sawston and Saffron Walden, represented by thicker desire lines, as well as a wider geographic spread of connections towards Cambridge. This suggests that the GCTS interventions would enable a greater number of people to access the Wellcome Genome Campus by public transport than would otherwise be possible, widening travel choice and reducing reliance on private car access for at least some journey types.

Although the Wellcome Genome Campus does not demonstrate the same scale of connectivity improvement as some of the more centrally located strategic sites, the modelling outputs indicate that the GCTS package has the potential to materially improve its public transport offer. The site’s future potential is therefore best understood in the context of its existing constraints: the Do Something scenario does not remove all accessibility limitations, but it does provide substantially enhanced accessibility and demonstrates how targeted public transport investment can further strengthen the role of the campus within the wider Greater Cambridge network. On this basis, there is alignment between STEP and CaPCAM and the analysis supports the GCTS aims and objectives by showing that the proposed interventions would improve travel choice, enhance public transport accessibility and provide more realistic travel choice for journeys to and from the Wellcome Genome Campus.

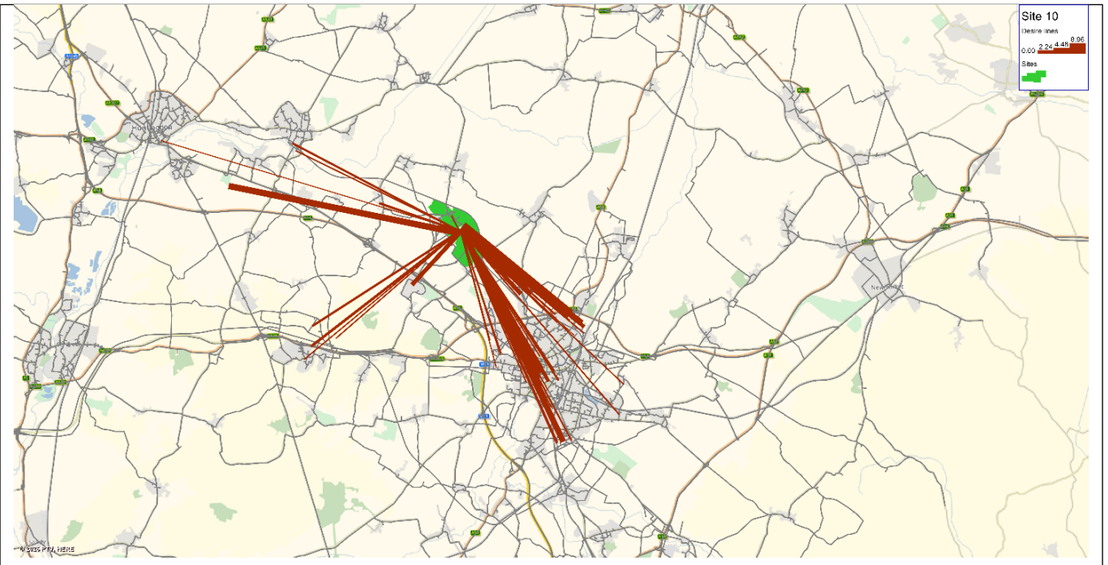
In addition, the GCTS, alongside the strengthened future role of mayoral authorities in transport planning and delivery, can provide a strong strategic context for considering a future Cambridge "Science Line", or other Southern Cluster transport intervention. Such schemes may be capable of being progressed over a shorter timescale than previously envisaged, subject to scheme development and approval timelines.

S/NST – Northstowe New Town

Table 2-10: Northstowe New Town Desire Line Analysis



Do Minimum



Do Something

The modelling identifies the Guided Busway as Northstowe's principal public transport corridor, supporting movements towards northern and central Cambridge with further connections to St Ives and Huntingdon to the west and Cambourne to the southwest. The desire-lines show a similar geographical pattern in both scenarios, but with stronger movements into Cambridge in the Do Something.

The initial STEP and CaPCAM results differ because the tools measure different aspects of connectivity. STEP assesses the complete journey, including the walk to public transport, and identifies limited accessibility under the Do Minimum because existing stops are more than a 20-minute walk from parts of Northstowe. CaPCAM models wider demand and network movements, so it identifies demand along the Guided Busway even where access to the stop falls outside the STEP threshold.

This difference highlights an access-to-network issue rather than an absence of public transport demand. STEP sensitivity testing, not included within the CaPCAM modelling assumptions, introduced additional stops on the Guided Busway that enable public transport to be accessible within 20-minutes' walk. This significantly improved the STEP results, bringing northern Cambridge employment destinations such as Cambridge Science Park and St John's Innovation Centre within approximately 40-50 minutes and strengthening connections to Swavesey and Willingham.

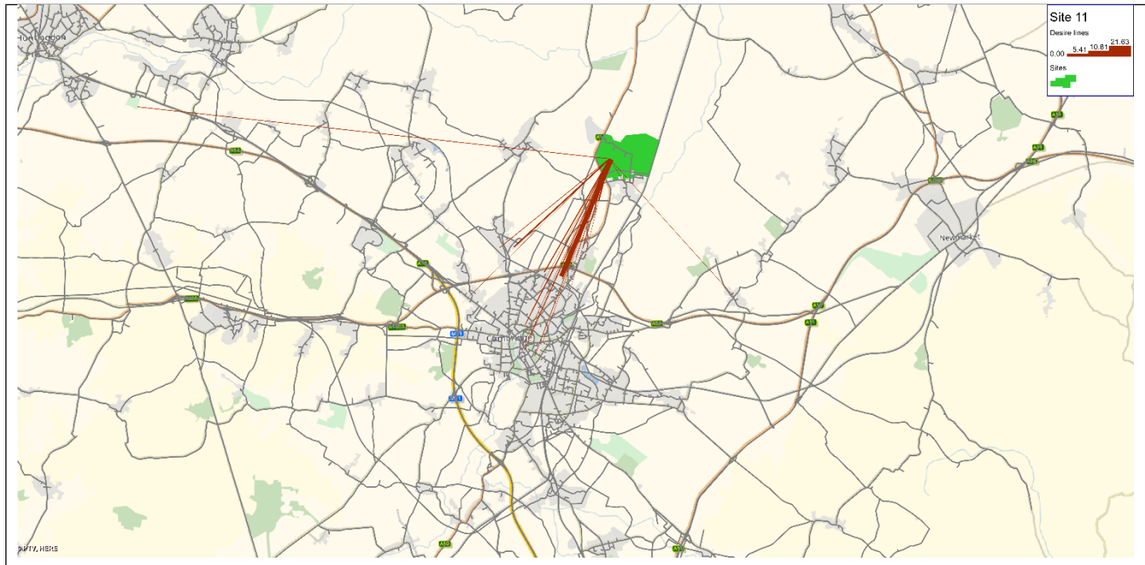
Under Do Something, the modelled outputs demonstrate a substantially broadened range of accessible destinations beyond the city centre limits of the Do Minimum. Addenbrooke Hospital and the Biomedical Campus become accessible, alongside destinations east of Cambridge, including Fulbourn Hospital and Cambridge East. The PM peak represents a similar pattern, with modelled movements extending further into eastern and south-eastern Cambridge.

Although the overall geographic spread of the desire-line outputs is broadly comparable between scenarios, Do Something improves the strength and usefulness of Northstowe's existing connections. The benefits are demonstrated through strong demand towards Cambridge, improved access to the public transport network and a wider range of employment, healthcare, and other destinations becoming reachable by public transport.

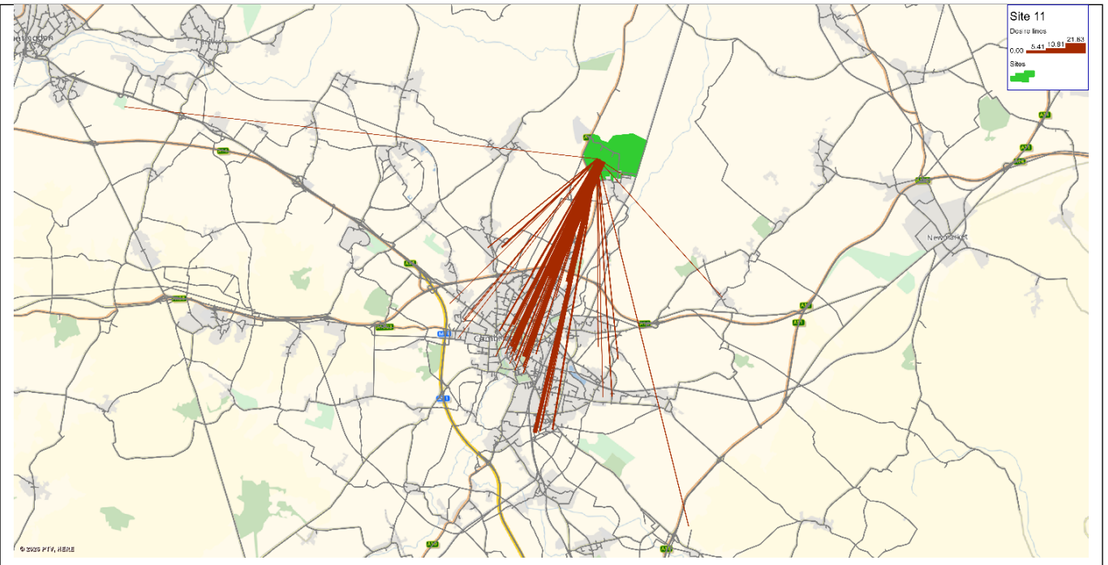
Overall, the analysis demonstrates good alignment between STEP and CaPCAM, providing confidence that the proposed interventions can widen the choice of modes by delivering attractive and viable alternatives to car travel. Additional stops and improved walking and cycling access as suggested through STEP sensitivity testing, allow residents to make better use of the Guided Busway, translating the wider GCTS package into practical travel choices and enabling Northstowe to achieve connectivity outcomes appropriate to its role as a new town.

S/WNT Waterbeach New Town

Table 2-11: Land north of Waterbeach Desire Line Analysis



Do Minimum



Do Something

The STEP modelling outputs under the AM peak Do Minimum scenario shows strong accessibility to Cambridge city centre, with Addenbrooke Hospital and the Biomedical campus falling within the 60-minute threshold, with a broadly similar pattern observed in the PM peak. The CaPCAM outputs show a comparable concentration of public transport demand towards central Cambridge, although movements to southern Cambridge are less evident under Do Minimum conditions. The difference reflects the distinct purposes of the tools; STEP identifies destinations accessible within defined journey times, while CaPCAM represents modelled demand and movement across the transport network.

Under the Do Something scenario, the spatial pattern remains focused on Cambridge but becomes broader and more coherent. STEP shows improved connectivity west of the city and notable journey-time improvements across the existing catchment. CaPCAM likewise indicates a stronger corridor into Cambridge, alongside additional movements towards southern Cambridge and westwards towards Cambourne. Although the precise southern catchments differ, both outputs demonstrate that the GCTS strengthens connections beyond the city centre.

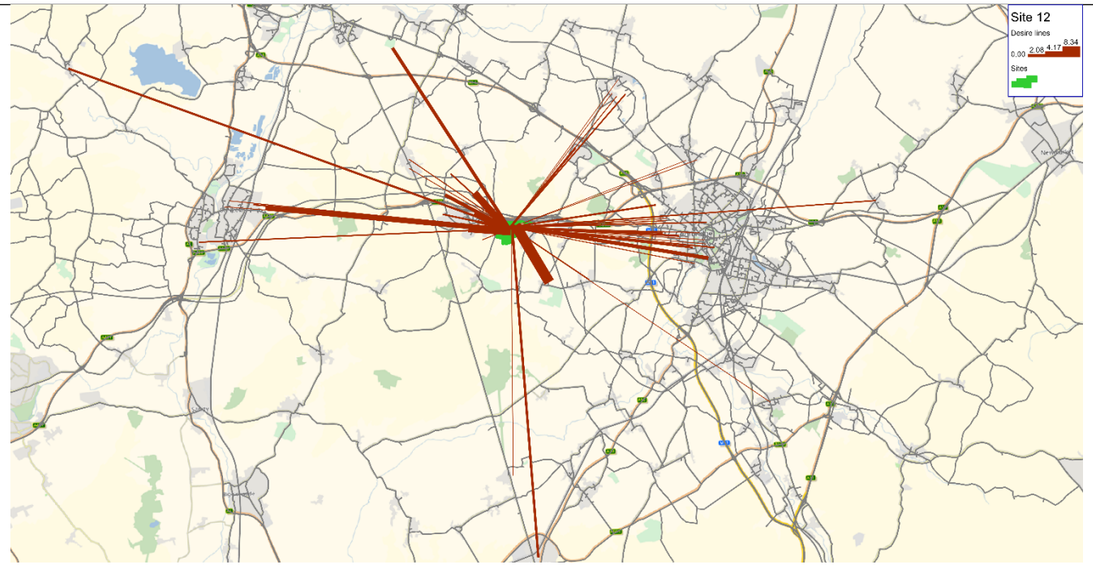
The desire lines reinforce this overall pattern. Under Do Minimum, movements are largely concentrated in northern and central Cambridge. Under Do Something, they become stronger and more widely distributed across the city, including towards southern and western destinations. This indicates increased demand for public transport and improved access to a broader range of opportunities.

The comparison therefore aligns well with the GCTS narrative. The Do Something package builds on Waterbeach's strong radial connection to Cambridge by reducing journey times, improving access across the urban area and broadening travel choice. In particular, improved connections to Addenbrooke's Hospital, Cambridge Biomedical Campus and other major destinations strengthen the attractiveness of Waterbeach as an origin for journeys to employment, healthcare and services.

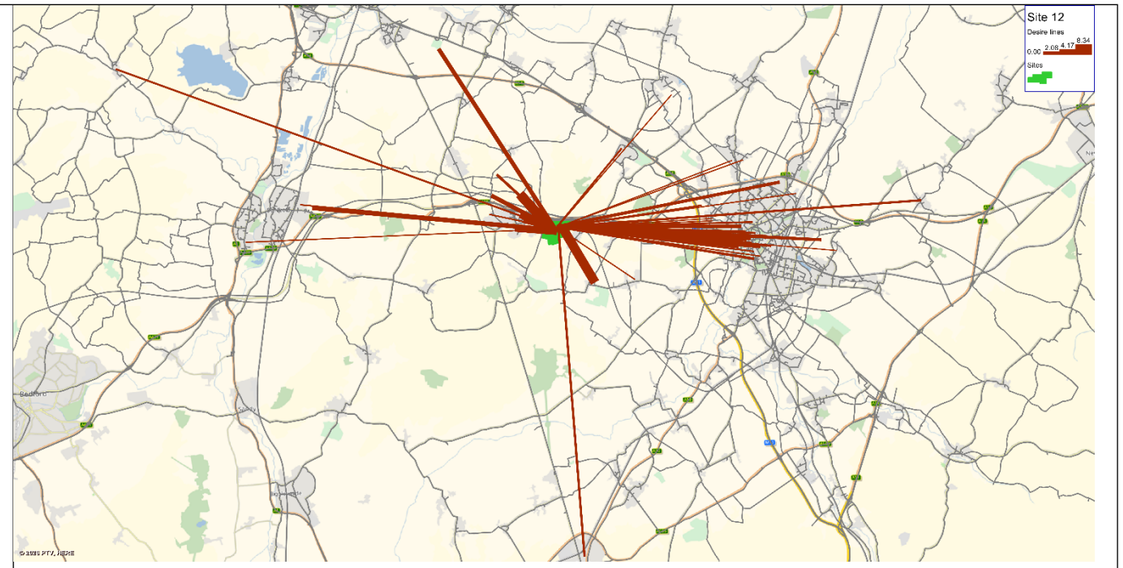
Overall, STEP, CaPCAM and the desire lines provide complementary evidence that the GCTS enhances connectivity from Land North of Waterbeach. While some differences remain in the precise extent of the southern and western catchments, the combined evidence demonstrates stronger public transport movements, improved journey opportunities and a more extensive range of viable alternatives to car travel.

S12: S/BA Bourn Airfield New Village

Table 2-12: Bourn Airfield Desire Line Analysis



Do Minimum



Do Something

The STEP and CaPCAM outputs provide a consistent picture of public transport connectivity from Bourn Airfield, centred on the east-west corridor linking Cambourne, the site and Cambridge via the A428 and Madingley Road. Under Do Minimum, the strongest demand is towards Cambridge city centre, supported by local connections to Cambourne and Cambourne Business Park. Both outputs also identify movements towards St Neots and northwards along the A1198, with additional connections towards St Ives and Royston.

The STEP analysis confirms that Bourn Airfield benefits from access to destinations along the A428 corridor, with Cambridge city centre reachable within approximately 50 minutes and Cambourne Business Park within 30 minutes. Cambridge railway station, St John's Innovation Park, Cambridge Science Park and Cambridge Business Park are also close to the 60-minute threshold, demonstrating the corridor's role in connecting the site with major employment and transport opportunities.

Under Do Something, the overall east-west spatial pattern remains, but both tools demonstrate a clear improvement. STEP records reduced journey times and an expanded accessible catchment, while CaPCAM indicates stronger public transport demand along the A428 corridor and into Cambridge. Connections to central and northern Cambridge are strengthened, while the PM peak displays a broadly comparable pattern to the AM peak.

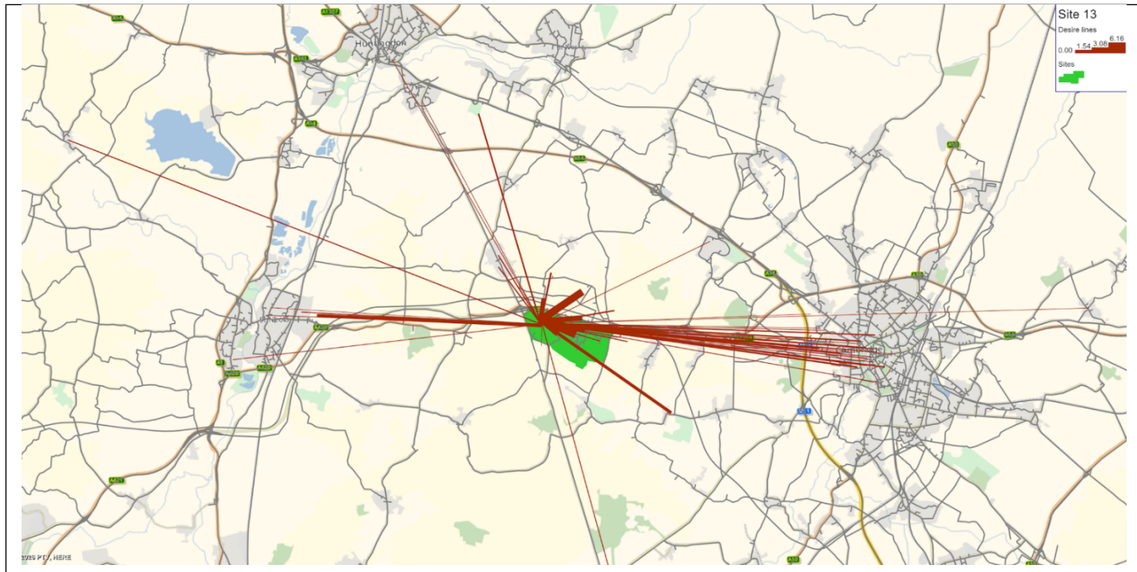
The desire-line analysis corroborates these findings, showing the strongest movements towards Cambridge alongside a wider spread of journeys to surrounding settlements. Under Do Something, the reach of public transport expands to include major employment destinations in northern Cambridge, including Cambridge Science Park and St John's Innovation Centre. The analysis also demonstrates the wider value of the strategy by supporting connections to Swavesey, St Ives, St Neots and Royston. STEP has also been used to assess the population catchment able to access Bourn Quarter, located adjacent to the proposed Bourn Airfield New Village. In the Do Minimum scenario, approximately 73,000 people can access the employment destination during both the AM and PM peak periods. With the implementation of the GCTS Strategy, this increases to around 92,000 people in the AM peak and 84,000 people in the PM peak. The strategy therefore expands access to Bourn Quarter for approximately 10,000 to 20,000 additional people, increasing the number of residents able to reach this key employment destination by public transport and active travel and broadening travel choices across the area

Although connectivity remains principally structured around the east-west corridor, this corridor provides access to a purposeful range of employment, services and transport opportunities. The improvements delivered under Do Something strengthen the site's relationship with Cambridge while also supporting journeys to destinations elsewhere in the western part of Greater Cambridge and beyond.

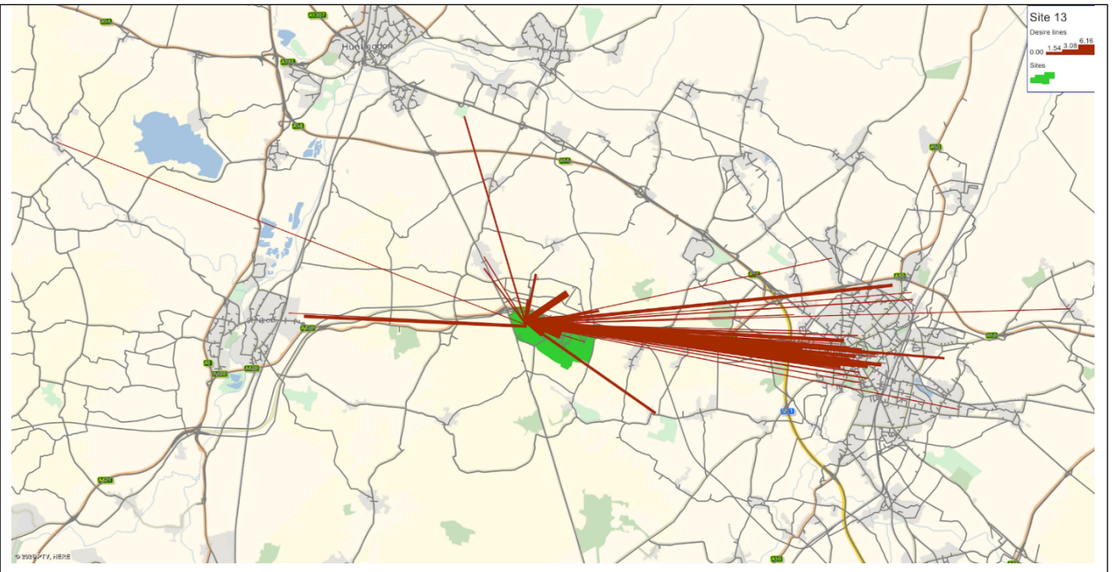
Overall, the STEP and CaPCAM outputs show a strong degree of alignment, supported by the desire line visualisations. This provides confidence that the GCTS can deliver on its objectives by providing genuine and viable travel choices for residents and workers. The consistency between STEP, CaPCAM and the desire line analysis demonstrates that the proposed interventions improve journey times, strengthen public transport accessibility and demand, and broaden the range of destinations that can be reached by public transport and active travel. Collectively, the findings indicate that the strategy can provide Bourn Airfield with attractive and credible alternatives to car travel, delivering a level of travel choice that is appropriate to the site's location, scale and planned role within Greater Cambridge.

S13: S/CB Cambourne

Table 2-13: Cambourne Desire Line Analysis



Do Minimum



Do Something

The main public transport corridor for the Cambourne site is via the A428 / Madingley Road to Cambridge, which is particularly prominent in the Do Minimum and can generally be accessed in 40-50 minutes. There are also less used, but still evident corridors to Huntingdon to the north and educational and healthcare destinations across villages to the south of Cambourne. The STEP outputs show particular demand to various destinations south of Cambridge being met within a 50-60 minute travel time.

The Cambourne to Cambridge corridor is further strengthened in the Do Something as a result of the Greater Cambridge Transport Strategy, with particular improvements seen to the north of Cambridge where there are employment opportunities. Further improvements are seen in the STEP outputs which show increased accessibility to the towns and villages near to Cambourne such as St Neots to the west and Papworth Everard to the north.

Overall, the modelling demonstrates substantial improvement between Do Minimum and Do Something along the Cambourne to Cambridge corridor. The GCTS interventions strengthen the site's principal strategic connection, reduce journey times, increase public transport demand and broaden access to employment and other opportunities. The results therefore support the GCTS narrative that targeted corridor investment can provide attractive and viable alternatives to car travel and deliver a realistic and purposeful level of travel choice for Cambourne. East West Rail would provide a further uplift by expanding access to employment, transport, education and healthcare opportunities beyond the benefits delivered by the core GCTS package.

2.3 Summary of Connectivity Comparison

2.3.1 The comparative review demonstrates a good overall alignment between the STEP accessibility analysis and the CaPCAM outputs. Although the tools serve different purposes, both identify broadly consistent strategic corridors and show that the Do Something scenario strengthens public transport connectivity between strategic sites, Cambridge and other important destinations. STEP demonstrates how the GCTS changes the range of opportunities accessible within defined journey times, while CaPCAM shows how these improvements are reflected in public transport demand and movement across the network.

2.3.2 Some differences are evident in the precise extent of individual catchments and routes. These principally arise between STEP assesses the complete end-to-end journeys, including walking, waiting, interchange and in-vehicle times, whereas CaPCAM models demand and route choice across the wider network. The differences are, therefore, complementary rather than contradictory and, in some cases, help identify where underlying demand exists but local to the public transport network requires improvement. The connectivity analysis also recognises interventions rather than a complete representation of every factor influencing future travel behaviour.

2.3.3 The desire-line analysis provides a clear and accessible way of visualising the results. The plots illustrate the principal destinations and directions of public transport movement and show how these change between the Do Minimum and Do Something scenarios. Across the strategic sites, the Do Something desire-lines generally become stronger or more widely distributed, reflecting increased demand along key corridors and access to a broader range of employment, education healthcare, services and transport opportunities. The desire-lines therefore provide an effective public-facing representation of the more detailed evidence produced through STEP and CaPCAM.

2.3.4 Taken together, the outputs provide a coherent and robust evidence base. STEP identifies the opportunities that can be reached within reasonable journey times, CaPCAM demonstrates the corresponding demand and network improvements; and the desire-lines communicate the geographical pattern of those movements. Where residual accessibility issues have been identified, sensitivity tests also demonstrate how targeted measures, including new public transport stops, enhanced service frequencies, express services and improved walking and cycling access, can help translate strategic transport provision into practical travel choices.

2.3.5 The analysis strongly supports the overarching GCTS narrative. Compared with the Do Minimum, the GCTS interventions package strengthens radial corridors, improves cross-city and orbital connections and enhances access to transport interchanges and broadens the destinations accessible from strategic growth locations. The benefits extend beyond access to Cambridge city, improving connections to distributed employment areas, healthcare facilities, educational destinations and neighbouring settlements within the settlement hierarchy.

2.3.6 Overall, the evidence demonstrates that the GCTS delivers genuine travel choice by making public transport a more viable option for a wider range of journeys. The strategy does not prescribe how individual should travel. Instead, it expands the range of realistic options available, allowing people to make informed decisions on their travel choice to destinations based on the journey purpose and personal circumstances. By improving access to opportunities and strengthening thet public transport and active travel offer, the GCTS provides more people with the opportunity to choose alternatives to car travel should they wish to and what meets their needs. This supports existing communities, enables planned growth and provides a strong strategic base for a more connected Greater Cambridge.

3 CaPCAM Outputs

3.1 Overview

3.1.1 The aim of this section of the report is to provide outputs that demonstrate the levels of mode shift seen as a result of the GCTS transport interventions. In addition, the model has been used to compare car and public transport journey times on key corridors into Cambridge and to understand how the transport interventions impact on the highway.

3.1.2 As previously noted, the modelling of the interventions is high-level at this stage. The outputs provide a useful insight into how the aims and objectives of the GCTS can be met through providing a greater choice of options for travellers.

3.1.3 In terms of mode shift the outputs have been considered at a person trip level, making a direct comparison between the number of people making trips by car and the number by public transport users (rail and MRT/bus). The model outputs public transport numbers as person trips, whereas highway trips are output at vehicle level. Vehicle trips are converted to person trips using DfT TAG data book car occupancy factors, taken from Table A1.3.3 of the November 2026 version 2.02 of the data book, as this is the version used within CaPCAM.[3].

Link Based Data

3.1.4 Analysis of modes shares has been undertaken at a Cordon and Screenline level.

3.1.5 Three cordons have been produced and car and PT data extracted from all links within the model at each cordon point. The three cordons are as follows and are shown in Figure 3.1, 3.4 and 3.7 respectively:

- Cordon 1 – Inner Cambridge
- Cordon 2 – Outer Cambridge
- Cordon 3 – Cambridge and outer Villages

3.1.6 As well as reporting data at full cordon level, each cordon has been split into North, East, South and West screenlines.

3.1.7 The change in person trips is shown in Figures 3.2, 3.5 and 3.8 with percentage changes shown in Figures 3-3, 3,6 and 3,9.

Figure 3-1: Inner Cambridge Cordon

[3] tag-data-book-v2-03.xlsm

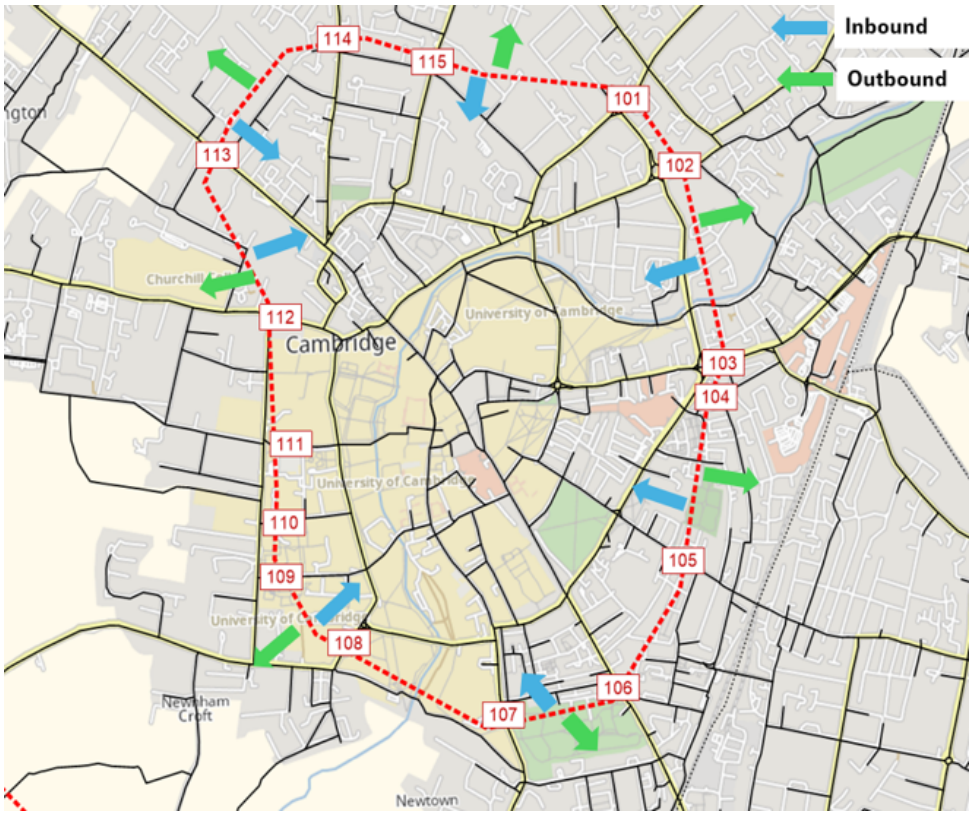


Figure 3-2: Change in Person Trips on Inner Cambridge Cordon

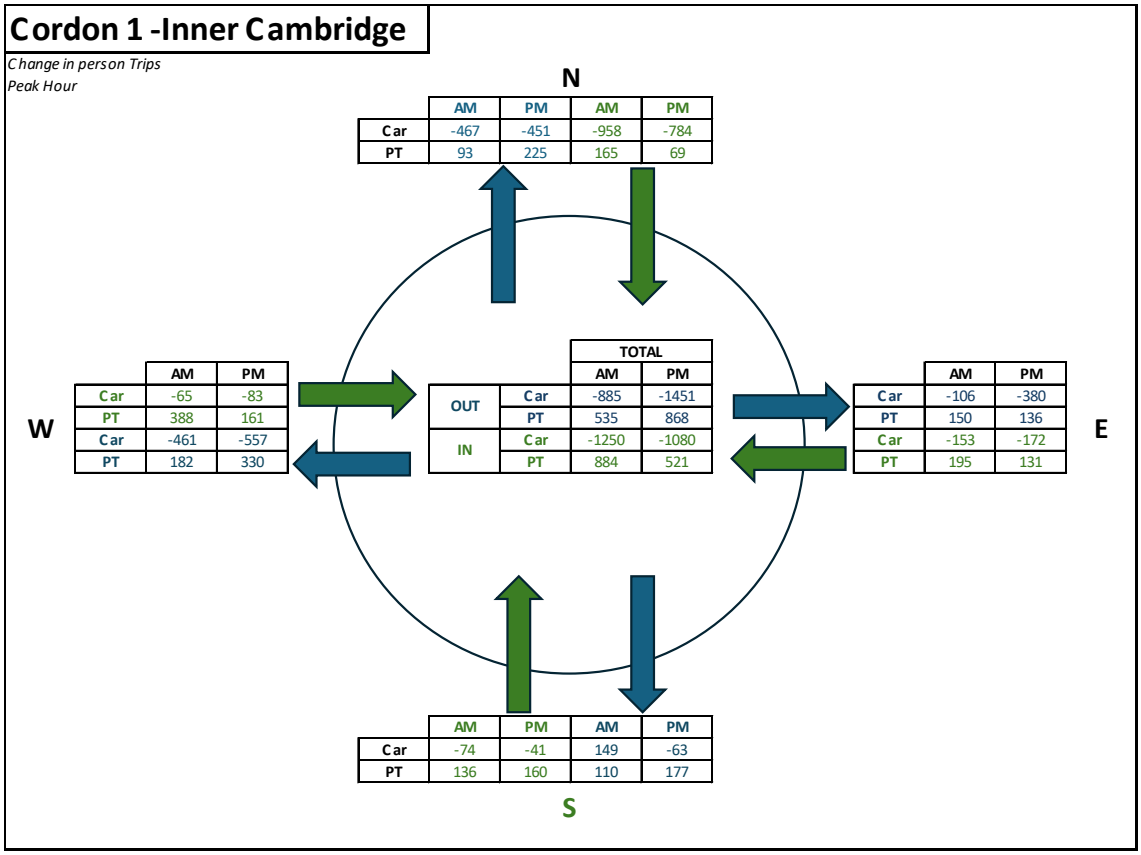


Figure 3-3: Percentage Change in Person Trips on Inner Cambridge Cordon

Cordon 1 -Inner Cambridge

% Change in person Trips
Peak Hour

N

	AM	PM	AM	PM
Car	-22.0%	-16.3%	-36.1%	-27.8%
PT	28.9%	33.9%	22.6%	22.4%

W

	AM	PM
Car	-7.3%	-9.1%
PT	78.5%	86.6%
Car	-68.3%	-43.0%
PT	130.0%	74.8%

		TOTAL	
		AM	PM
OUT	Car	-17.5%	-19.2%
	PT	41.3%	41.8%
IN	Car	-23.3%	-17.2%
	PT	38.6%	43.5%

E

	AM	PM
Car	-12.6%	-27.9%
PT	83.3%	36.6%
Car	-34.2%	-25.4%
PT	46.5%	65.8%

	AM	PM	AM	PM
Car	-5.4%	-2.2%	10.5%	-2.9%
PT	21.1%	31.7%	16.8%	29.4%

S

Figure 3-4: Outer Cambridge Cordon



Figure 3-5: Change in Person Trips on Outer Cambridge Cordon

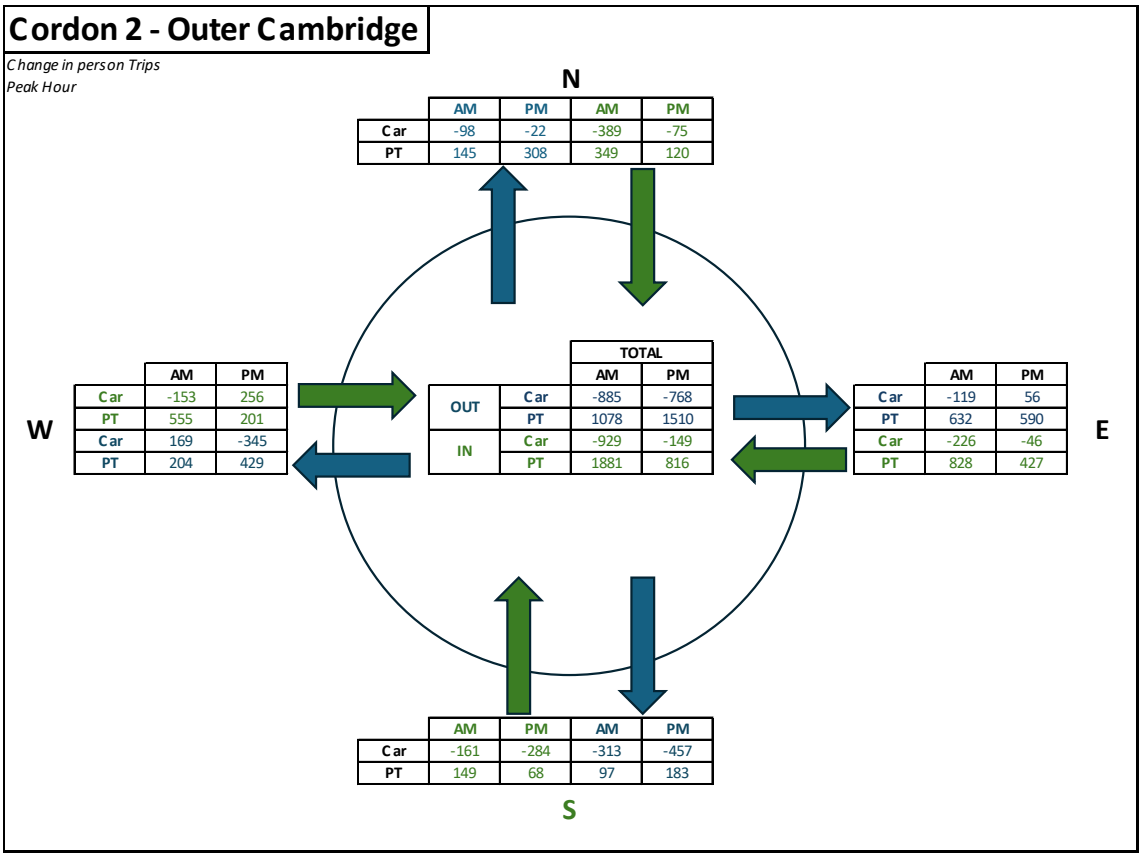


Figure 3-6: Percentage Change in Person Trips on Outer Cambridge Cordon

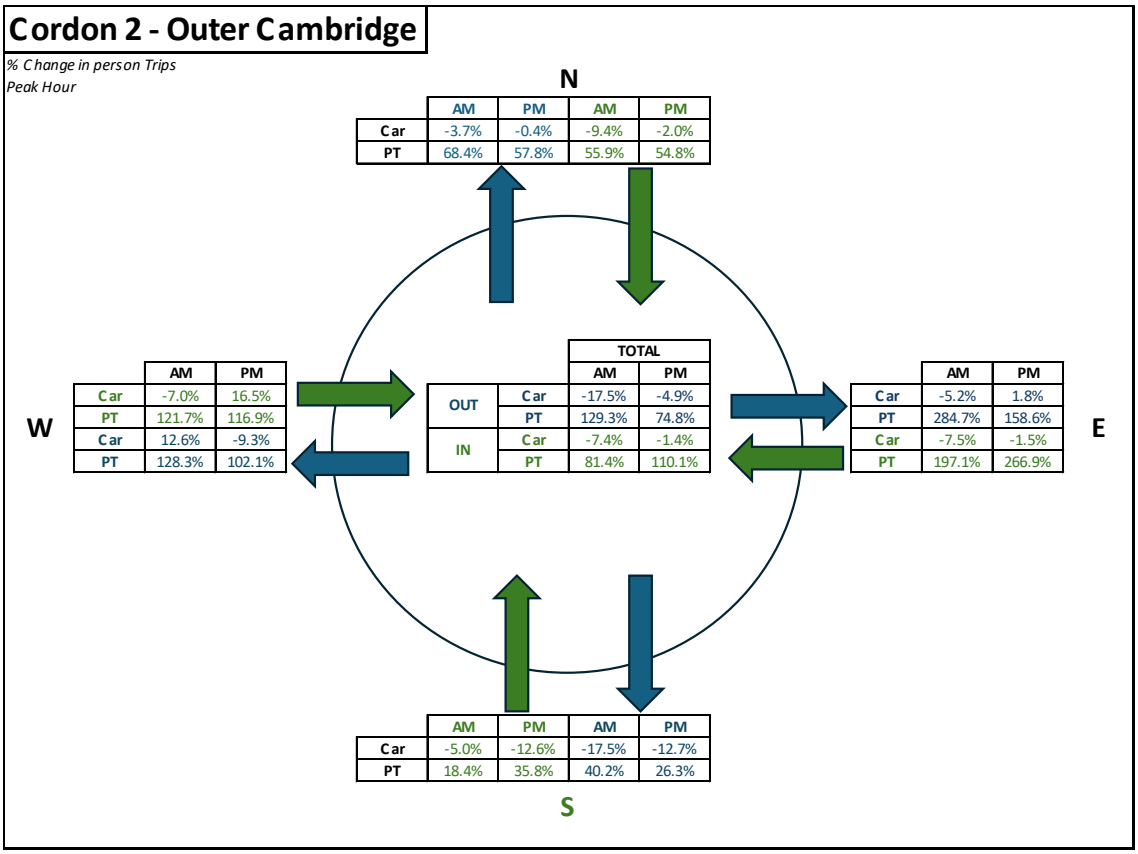


Figure 3-7: Cambridge and Outer Villages Cordon

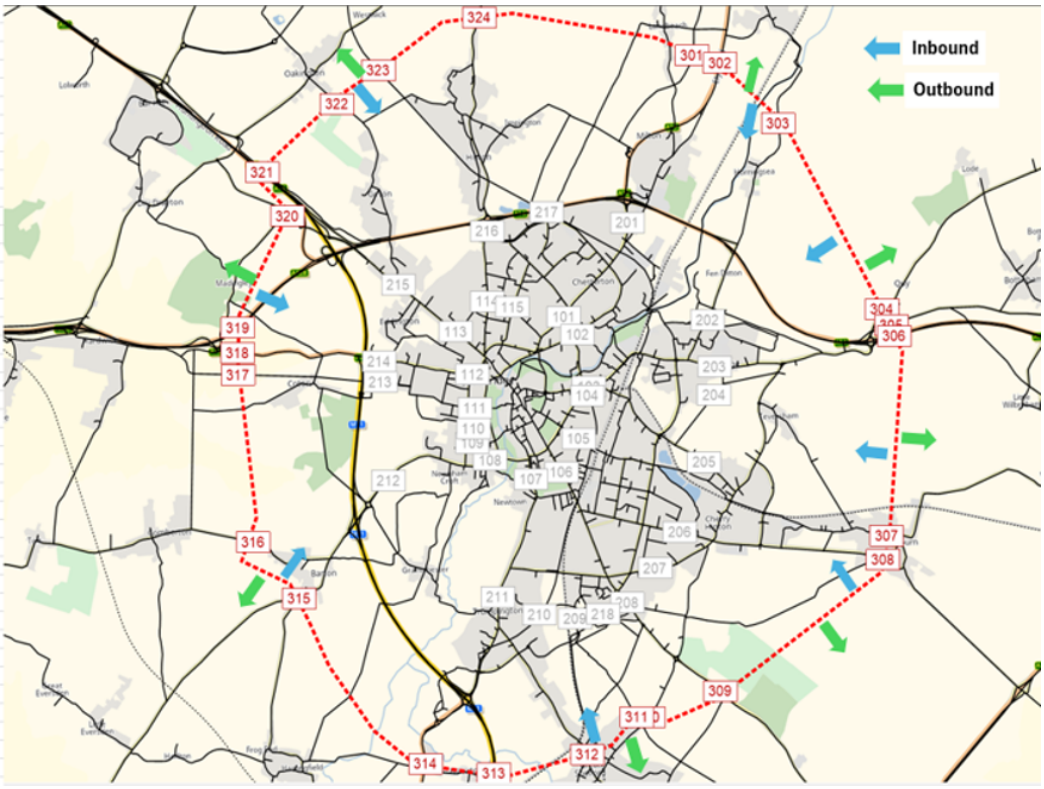


Figure 3-8: Change in Person Trips on Cambridge and Outer Villages Cordon

Cordon 3 - Cambridge and Outer Villages

Change in person Trips
Peak Hour

N

	AM	PM	AM	PM
Car	-58	-148	-457	-41
PT	87	201	231	79

W

	AM	PM
Car	-164	-104
PT	472	179
Car	-176	-197
PT	196	373

		TOTAL AM	TOTAL PM
OUT	Car	-269	-683
	PT	394	887
IN	Car	-850	-292
	PT	1003	367

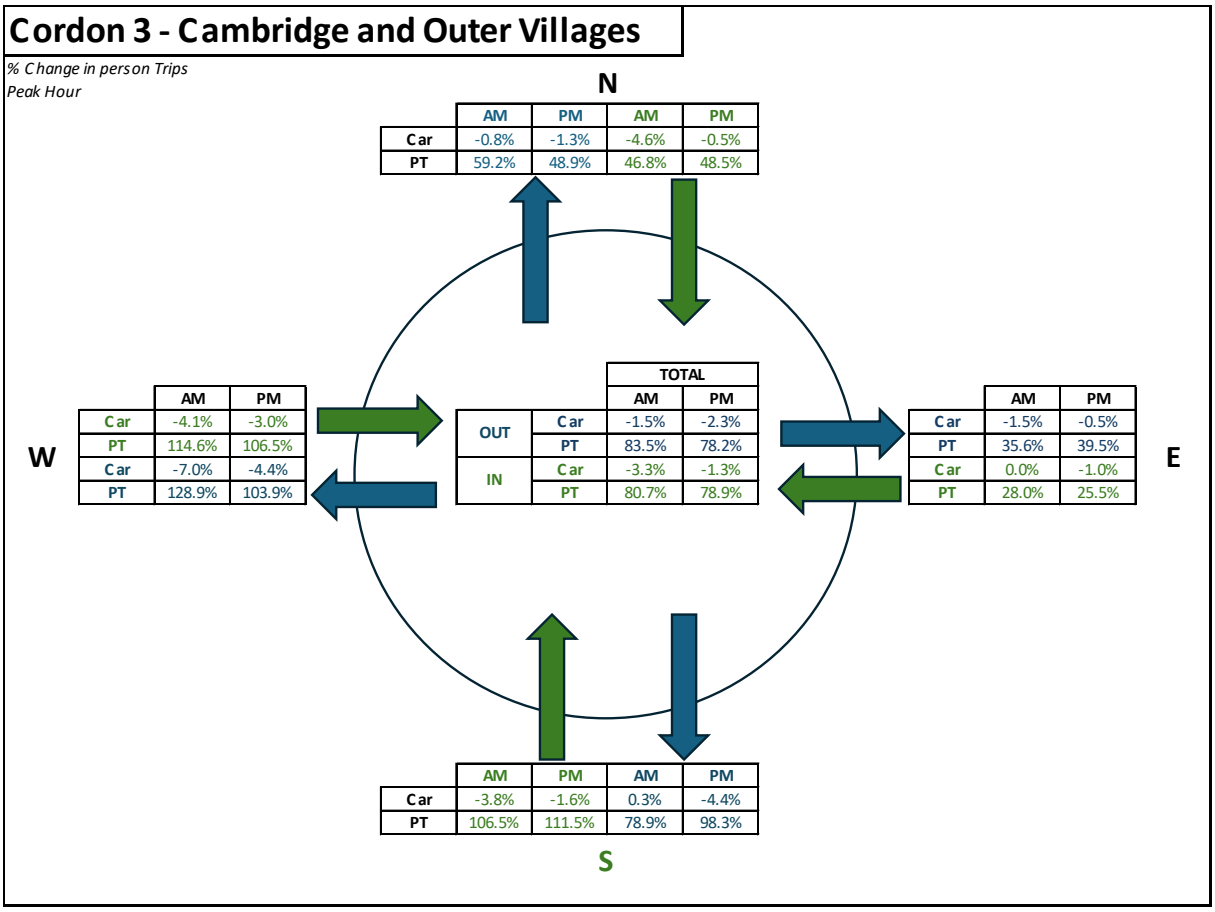
E

	AM	PM
Car	-50	-33
PT	21	30
Car	0	-48
PT	21	12

S

	AM	PM	AM	PM
Car	-229	-99	15	-305
PT	279	97	90	283

Figure 3-9: Percentage Change in Person Trips on Cambridge and Outer Villages Cordon



3.1.8 Across the three cordons, it is generally shown that there would be a decrease in car trips and an increase in PT trips in Cambridge.

3.1.9 In the Inner Cambridge Cordon, car trips generally decrease by about 20% across both time periods/directions, with PT increasing by about 40%. This change is most significant in the east, and the west in the outbound direction, whilst the change is least significant in the south.

3.1.10 In the Outer Cambridge cordon, the increase in public transport is most pronounced in the outbound direction in the AM, and the inbound direction in the PM, which is against the typical commuting flow with over 100% increase. The general change is most significant in the west of the city with over 100% in both directions in both peaks. The decrease in car trips is generally much smaller and shows the least change in the east of the city.

3.1.11 In the Cambridge and Outer Villages cordon, the increase in public transport is around 80% in both time periods/directions, with the decrease in car trips only between 1% and 4%. The change in PT is most significant in the west and south of the city with over 98% increase in both directions in both peaks for both areas. Again, car trips show the least change in the east of the city.

3.2 Journey Time Comparisons

3.2.1 Highway and public transport journey times have been extracted from CaPCAM for each of the strategic development sites to and from the city centre.

3.2.2 The car journey times are based on the average journey time across the modelled peak hour and on a typical day. They will not take account of any day-to-day variation that may occur and which may be typical within a congested network.

3.2.3 Public transport journey times within CaPCAM are based on timetabled times. Where buses/MRT are segregated from general traffic, their journey times would be expected to be more predictable and less subject to day-to-day variation than car journey times.

3.2.4 The journey time outputs are presented in Table 3-5 from each strategic site to the city centre and in Table 3-6 from the city centre to each strategic site.

Table 3.5: Strategic Sites to City Centre Journey Time Comparisons

From Strategic Site	To City Centre							
	Journey Time - Car (Minutes)				Journey Time – Public Transport (Minutes)			
	AM Peak		PM Peak		AM Peak		PM Peak	
Name	DM	DS	DM	DS	DM	DS	DM	DS
North West Cambridge	18	28	13	15	24	24	24	24
Cambridge East	24	25	18	22	16	14	16	14
Babraham Research Campus	30	31	25	26	59	43	59	43
Cambridge Biomedical Campus	14	16	20	19	22	09	22	09
Land Adjacent to A11 and A1307 at Grange Farm Site	35	35	29	29	33	16	33	16
Slate Hall Farm, Junction 25, A14	24	30	18	20	40	35	40	35
Cambourne North	36	47	26	32	48	28	48	28
Cambourne	34	35	31	32	42	28	42	28
Northstowe	27	33	19	22	58	56	50	50
Bourn Airfield	47	51	30	34	42	30	42	30
Waterbeach	22	25	16	18	39	29	39	29
Genome Campus	54	55	44	46	No Path	No Path	No Path	No Path

Table 3.6: City Centre to Strategic Sites Journey Time Comparisons

To Strategic Site	From City Centre							
	Journey Time - Car (Minutes)				Journey Time – Public Transport (Minutes)			
	AM Peak		PM Peak		AM Peak		PM Peak	
Name	DM	DS	DM	DS	DM	DS	DM	DS
North West Cambridge	15	26	20	30	26	25	26	25
Cambridge East	19	21	21	21	15	14	15	14
Babraham Research Campus	25	28	26	26	41	46	41	36
Cambridge Biomedical Campus	22	25	20	19	22	11	22	11
Land Adjacent to A11 and A1307 at Grange Farm Site	28	31	30	30	33	17	33	17
Slate Hall Farm, Junction 25, A14	21	26	27	34	48	35	48	35
Cambourne North	27	41	34	48	47	28	47	28
Cambourne	31	33	34	34	42	42	42	42
Northstowe	20	20	27	28	47	47	47	47

To Strategic Site	From City Centre							
	Journey Time - Car (Minutes)				Journey Time – Public Transport (Minutes)			
	AM Peak		PM Peak		AM Peak		PM Peak	
Name	**DM**	**DS**	**DM**	**DS**	**DM**	**DS**	**DM**	**DS**
Bourn Airfield	38	38	40	42	47	30	47	30
Waterbeach	15	16	21	21	42	28	42	28
Wellcome Genome Campus[4]	48	48	54	55	100	51	No Path	No Path

3.2.5 The journey time comparison demonstrates that the GCTS Do Something package delivers substantial benefits for public transport accessibility between Cambridge city centre and the majority of strategic growth locations. Across the assessed sites, public transport journey times are generally reduced by between 10 and 20 minutes, with the largest benefits observed on the western and southern radial corridors. By comparison, car journey times show relatively modest increases from most locations, reflecting the targeted priority afforded to public transport.

3.2.6 The greatest public transport journey time improvements are recorded at Cambourne North (47 to 28 minutes) and Grange Farm (33 to 17 minutes) heading away from the city centre, and at Cambridge Biomedical Campus (22 to 9 minutes), Cambourne (42 to 28 minutes), Babraham Research Campus (59 to 43 minutes), Bourn Airfield (42 to 30 minutes) and Waterbeach (39 to 29 minutes) heading towards the city centre. These results indicate that the GCTS provides benefits across a range of locations, including both growth areas close to Cambridge and more peripheral settlements located on key strategic corridors.

3.2.7 Under the Do Something scenario, public transport becomes competitive with, and in many cases faster than, car travel for journeys into Cambridge city centre. In the AM peak, public transport journeys are faster than car journeys from the majority of assessed sites, with the largest advantages observed at Bourn Airfield, Grange Farm and Cambourne North, where public transport journey times are approximately 20 minutes faster than equivalent car journeys. Similar patterns are evident in the PM peak, demonstrating the benefits of the strategy.

3.2.8 Whilst public transport does not outperform the car from every location, the interventions substantially reduce the gap between modes and improve overall travel choice. Locations such as Babraham Research Campus, Slate Hall Farm and Waterbeach continue to exhibit longer public transport journey times than car travel, although the difference is materially reduced. Northstowe demonstrates more limited journey time improvements within the modelling, suggesting that further enhancements to local connectivity and access to the wider public transport network may be required to maximise the benefits of the strategy. Additional interventions have been considered within the STEP analysis, but not within CaPCAM.

3.2.9 The car journey time results should be considered alongside the wider transport objectives of the GCTS. Although highway journey times increase modestly for some movements, this is accompanied by significant public transport improvements that enhance accessibility, network efficiency and travel choice. The findings demonstrate a shift towards a more balanced transport system in which public transport and active travel becomes increasingly competitive for journeys to and from Cambridge city centre.The journey time benefits presented represent only one component of the overall user benefits associated with the interventions. The provision of high-quality public transport infrastructure is also expected to improve journey time reliability, service resilience and passenger comfort, cumulatively increasing confidence in public transport as a viable travel choice.

[4] Public transport, AM Peak DM and DS measured using STEP Tool journey time analysis. These were not modelled in CaPCAM for Wellcome Genome Campus due to modelling constraints.

3.2.10 Overall, the results demonstrate strong alignment with the objectives of the GCTS. The Do Something package delivers significant public transport journey time savings across much of the strategic growth area, improving access to Cambridge city centre while enhancing the competitiveness of public modes. The strategy therefore broadens travel choice and creates conditions in which public transport represents an increasingly attractive option for accessing key employment, education and service destinations.

4 Summary of Key Findings

4.1 Overview

4.1.1 This report has presented a comparative assessment of the GCTS using outputs from the CaPCAM strategic transport model together with accessibility analysis undertaken using the STEP tool. The analysis has considered how the proposed GCTS intervention package performs relative to a Do Minimum scenario and the extent to which it supports the strategy's overarching objectives of improving connectivity, enhancing travel choice and supporting growth across Greater Cambridge.

4.1.2 The evidence demonstrates a strong and consistent relationship between the accessibility outcomes identified through STEP and the demand and movement patterns represented within CaPCAM. Whilst the two tools perform different functions, they provide complementary evidence that the GCTS intervention package improves public transport connectivity between strategic growth locations, Cambridge and a wide range of employment, education, healthcare and transport destinations. Across most sites, the Do Something scenario broadens the range of destinations that can be reached within reasonable journey times and strengthens modelled public transport demand along the same strategic corridors.

4.1.3 The analysis indicates that the benefits of the GCTS extend beyond improving access to Cambridge city centre. Enhanced connectivity is evident between growth locations and major employment areas such as the Cambridge Biomedical Campus, Cambridge Science Park, Cambridge East, Babraham Research Campus and other key destinations across the wider Cambridge travel-to-work area. The strategy therefore supports a more distributed and resilient pattern of travel, enabling access to opportunities across the region rather than relying solely on radial movements into the city centre.

4.2 Desire Line Analysis

4.2.1 The desire-line analysis demonstrates that the Do Something scenario generally results in stronger and more geographically extensive public transport movement patterns than the Do Minimum. In many locations, particularly Cambourne North, Grange Farm, Cambridge Biomedical Campus, Babraham Research Campus, Bourn Airfield and Cambridge East, the interventions provide a clear step-change in accessibility and public transport attractiveness. A smaller number of locations, such as Slate Hall Farm and Northstowe, demonstrate more modest improvements within the currently modelled assumptions, although sensitivity testing indicates that further targeted interventions could unlock additional benefits and strengthen travel opportunities.

4.3 Mode Share Analysis

4.3.1 The mode share analysis provides further evidence that the intervention package supports a shift towards non-car travel. Across the modelled cordons, public transport person trips increase significantly under the Do Something scenario, whilst car trips generally reduce. The strongest changes are observed on strategic corridors serving Cambridge and the wider growth area, demonstrating that improved accessibility is reflected in corresponding changes in travel behaviour. These findings support the GCTS objective of providing a better choice of modes without constraining access to jobs, services and opportunities.

4.4 Journey Time Analysis

4.4.1 Journey time analysis reinforces this conclusion. Public transport journey times improve substantially across many of the strategic growth locations, with reductions of up to 20 minutes observed on several key corridors. In many cases, public transport becomes

competitive with, or faster than, car travel for journeys to and from Cambridge city centre. Although some highway journey times increase modestly, this reflects the potential reprioritisation of network capacity at key locations to facilitate public transport and is accompanied by significant improvements in accessibility, network efficiency, travel choice and public transport competitiveness.

4.5 Overall Conclusions

4.5.1 Taken together, the evidence demonstrates that the GCTS supports the creation of a more connected and accessible transport network capable of supporting planned growth across Greater Cambridge. The strategy increases the range of realistic travel options available to residents, workers and visitors, providing enhanced access to opportunities whilst supporting wider objectives relating to development, economic growth and travel choice.

4.5.2 Importantly, the analysis should be viewed as a strategic assessment of the direction and scale of change that could be achieved through the GCTS. The modelling assumptions are intentionally high level, and individual interventions will require further development, design and appraisal as they are progressed. Nevertheless, the combined STEP and CaPCAM evidence provides a robust and proportionate basis for concluding that the GCTS intervention package delivers meaningful improvements in connectivity, broadens travel choice and creates the conditions necessary to support growth across Greater Cambridge over the long term.

Appendix A Transport Interventions Modelled in CaPCAM

Transport Intervention	Do Minimum	Do Something
Cambourne to Cambridge High Quality Public Transport Corridor / Scotland Farm P&R / Travel Hub	x	x
Cambridge South West Travel Hub	x	x
Cambridge Eastern Access (Phase 1)	x	x
Cambridge South Station	x	x
New Station at Waterbeach New Town	x	x
Waterbeach to Cambridge High Quality Public Transport Corridor	x	x
Cambridge South East High Quality Public Transport Corridor	x	x
East West Rail	x	x
Bus priority measures on Histon Road, Milton Road, and 'City Centre to Rail Station'		x
Public transport journey time improvements where bus priority measures are implemented		x
Francis Crick Avenue Enhancements		x
Cross-City MRT		x
Civic Quarter – ban right turn from Grand Arcade		x
Waterbeach to A11 Travel Hub MRT		x
Cambourne North to Newmarket Travel Hub via City Centre MRT		x
Orbital MRT		x
Local highway authority 20mph initiative		x